Michigan Agricultural Statistics 2004-2005

NASS
FACT FINDERS FOR AGRICULTURE
UNITED STATES DEPARTMENT OF AGRICULTURE

USDA, NASS,
Michigan
Field Office

Michigan
Department of
Agriculture

Michigan Department Of Agriculture 2004 Annual Report

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Michigan Agricultural Statistics 2004-2005

USDA, NASS, Michigan Field Office

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Executive Office
Dan Wyant, Director

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GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF AGRICULTURE
LANSING

DAN WYANT
DIRECTOR

July 2005

The Michigan Department of Agriculture respectfully submits its 2004 Annual Report to the citizens and stakeholders of Michigan. This annual report is a record of the year's accomplishments and initiatives that form the foundation for a strong food and agriculture industry. This report, combined with the 2004-2005 edition of Michigan Agricultural Statistics, outlines the important facets of Michigan agriculture, our state's second largest industry.

In 2004, the department priorities continued to be:

- Food Safety and Security
- Animal and Plant Health and Protection
- Environmental Stewardship
- A Viable Agriculture Economy
- Consumer Protection
- Homeland Security

These priorities were aligned with the Governor's priorities of Education, Economy, Environment, Health Care and Homeland Security, and the State of Michigan values of Integrity, Inclusion, Excellence and Teamwork.

Throughout the year, the department faced many complex challenges, and realized many successes. The increased emphasis on the need to protect our food, land and water resources against the very real threat of bioterrorism has made the department's mission even more important in today's world. Additionally, the emergence of plant and animal diseases across the globe and right here in our state poses a challenge for our state's food and agriculture industry.

The Michigan Department of Agriculture is committed to helping Michigan's agricultural community thrive, ensuring a fair and honest marketplace for Michigan citizens; protecting Michigan's people, animals, farmland and water; and, as always, safeguarding the quality of our food.

I hope you find this summary of the department's 2004 accomplishments informative and valuable. If you have any questions or comments, or would like additional information, please contact the department toll-free at 800-292-3939, or e-mail us at mda-info@michigan.gov.

Sincerely,

Dan Wyant
Director

NASS
FACT FINDERS FOR AGRICULTURE
UNITED STATES DEPARTMENT OF AGRICULTURE
in cooperation with the
Michigan Department of Agriculture

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September 2005

Agriculture plays a vital role in Michigan's economy. The state's 55,200 farmers produce more than 200 agricultural commodities, one of the most diverse in the nation. Cash receipts at the farm gate exceeded $4.3 billion in 2004, an all time high. Based on agriculture linked benefits, this generates an annual economic impact to the state of $55 billion and 1 million jobs. It can be stated without question, "Agriculture Counts".

Thank you for contributing to this year's Michigan Agricultural Statistics publication, a product of the partnership between the Michigan Department of Agriculture (MDA) and USDA, National Agricultural Statistics Service. Voluntary reporting is a critical link in providing factual information to Michigan's agricultural community. Without input from growers and agribusinesses, we could not accurately show how much you give to this state.

A few changes you need to be aware of: for the first time and only in Michigan, Census of Agriculture information is available by legislative district. This can be accessed at www.nass.usda.gov/mi. Due to further state budget cuts, the hay county estimates data series will be discontinued. Many surveys can now be completed using Electronic Data Reporting (EDR) on the Internet. In the past, we have been known as Michigan Agricultural Statistics Service (MASS); that has changed. Our federal connection will be highlighted in our new title, USDA, NASS, Michigan Field Office. Within MDA we will be identified as "Agricultural Statistics".

Our mission continues to be: serve agriculture with timely, accurate, and unbiased information. As we work with you toward that goal, let us know how our office and enumerator staff can better and more efficiently serve you.

Sincerely,

David D. Kleweno
Director

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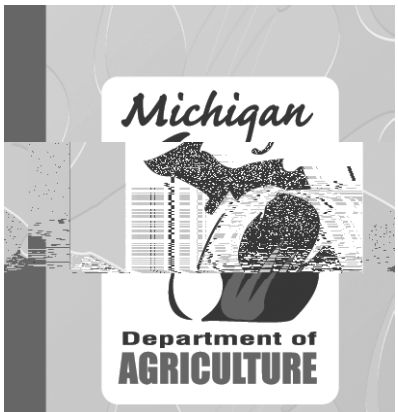

Michigan Department of Agriculture

Annual Report

Fiscal Year 2004

(October 1, 2003 - September 30, 2004)

Jennifer M. Granholm
Governor

Dan Wyant
Director

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A Snapshot of Michigan's Food & Agriculture Industry

Agriculture in Michigan contributes $55 billion annually to the state's economy, making it the second-largest industry. Production agriculture, food processing and related businesses employ about 1 million Michigan residents.

Michigan produces over 200 commodities on a commercial basis, making the state second only to California in agricultural diversity.

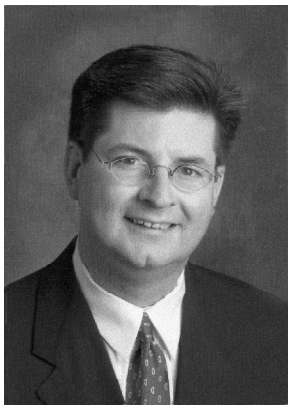
Michigan leads the nation in the production of 12 commodities (including tart cherries, blueberries, cucumbers for processing, geraniums and many varieties of dry beans) and ranks in the top 10 of 25 other commodities.

Field crops (corn, dry beans, soybeans, sugarbeets, hay, wheat) are the largest segment of Michigan agriculture, according to production valued at more than $1.3 billion annually. They are followed by the dairy industry valued at $1billion annually and the floriculture and nursery industry at about $609 million annually.

Michigan exports about one-third of its agricultural commodities each year. In 2004, the state exported more than $919 million of agricultural products. Agricultural exports account for approximately 25 percent of the value of Michigan farm receipts. Michigan ranks 5th and 8th nationally in exports of fruits and vegetables. Michigan's largest export commodity is soybean and soy products, which was valued at $202 million in 2004. A total of 12,400 jobs were supported by Michigan's agricultural exports in 2004, according to U.S. Department of Agriculture figures.

Michigan has about 10.1 million acres of farmland, and the state is home to 53,200 farms averaging 190 acres each. There has been significant growth in the number of small farms over the past few years as well as large farms. More than 35 percent of the state's total farmland is in some form of preservation agreement.

Michigan Department of Agriculture
Summary of Accomplishments



MDA Director Dan Wyant

Director's Summary

The Michigan Department of Agriculture (MDA), created in 1921, serves, protects and promotes the food, agricultural, environmental and economic interests of the people of Michigan.

The department operates on an approximate total budget of $95 million ($31 million from the general fund) and 600 full-time employees, and oversees or administers a diverse array of programs that in some way impact all of us, every day. Each division of MDA strives to reach program goals that reflect the department's main priorities of:

- Food Safety and Security
- Animal and Plant Health and Protection
- Environmental Stewardship
- A Viable Agriculture Economy
- Consumer Protection
- Homeland Security

These priorities have been aligned to ensure consistency with the Governor's priorities of Education, Economy, Environment, Health Care and Hometown Security, and the State of Michigan values of Integrity, Inclusion, Excellence and Teamwork.

In addition to staff located at the downtown Lansing office, MDA maintains seven regional offices and two laboratories. MDA's field staff plays an important role in helping MDA meet its mission through service to the citizens of Michigan. Located throughout the state, local experts are available to offer assistance to industry, residents and consumers quickly and efficiently. In most cases, problems are solved at a regional level, allowing businesses to continue serving their customers effectively in accordance with state laws and regulations. MDA has also established an office in Atlanta to address bovine tuberculosis in Northeast Michigan; and has added Emerald Ash Borer staff at four of MDA's regional offices to effectively respond to this exotic pest devastating Michigan's ash resources.

MDA employees are proud to serve the citizens of Michigan and equally proud of the role they play in assuring the safety, economic viability and environmental stewardship of Michigan's food and agriculture industry. This report highlights MDA's key achievements during Fiscal Year 2004 (October 1, 2003 through September 30, 2004).

The department successfully implemented and enhanced programs to protect and preserve Michigan's food and agriculture industry and our state's natural resources. During FY 2004, MDA:

- Partnered with Oakland, Wayne and Macomb counties and the City of Detroit to develop a process for responding to imminent health hazards. The process, "Emergency Action Plans for Retail Food Establishments," was developed as a result of experiences during the Blackout of August 2003 that affected a large portion of the Midwest and Eastern U.S. and parts of Canada. The process has become a national model, and was used by the Centers for Disease Control and Prevention (CDC) for clean-up efforts in hurricane-ravaged Florida in 2004. The process includes an Emergency Action Plan manual, industry training, improved communication systems, and testing components.

- Launched a new initiative to further reduce the risk of foodborne illness, which focuses on the five behaviors and practices identified by the CDC as causing or contributing to most foodborne illness. These behaviors and practices include poor personal hygiene, food from unsafe sources, inadequate cooking, improper holding temperatures, and contaminated equipment. MDA plans to reduce the prevalence of these risk factors in food establishments by 25 percent by 2011.

- Attained bovine tuberculosis split state status from the federal government, allowing most of Michigan, including all of the Upper Peninsula, to move to stage 4 of the 5-stage federal TB eradication program, one stage below TB-free status.

- Continued to test livestock for bovine TB in Michigan, focusing resources on the area in Northern Lower Michigan where TB has been found; there were no new cases of bovine TB in cattle in Michigan in the April 2003 to April 2004 testing cycle.

- Expanded the electronic identification cost-share program to include livestock producers in the Upper Peninsula, and increased surveillance and regulatory enforcement of livestock moving into the U.P. Implemented gamma interferon testing for bovine TB, which reduced staff time needed for testing and improved responsiveness to producers. These added measures paved the way for Michigan to apply for Stage 5 Bovine TB-free status for the Upper Peninsula.

- Secured and utilized federal funds for the continued fight against Emerald Ash Borer (EAB) in Michigan to maintain the necessary infrastructure for handling response efforts; expand survey efforts to pinpoint the areas of infestation; enforce and expand the quarantine to prevent artificial spread of EAB; provide sanitation and disposal options; continue research into the pest's biology and identify possible control options; and ensure community and homeowner outreach and awareness through public meetings, brochures, billboards, signage and more.

- Implemented a new detection system statewide in the continued battle against EAB. The detection tree project , developed based on recommendations from the EAB National Science Advisory Panel, established more than 10,000 detection trees in a grid system strategically located in every township at varying density rates in each county, with the exception of those in the known generally infested area. The trees were "girdled" - a process that removes a ring of bark around the trunk - to stress the tree and therefore attract any beetles that may have been present. The trees were also treated with a sticky substance to trap the insects. Surveyors peeled the bark off the detection trees in the fall to look for larvae and signs of infestation. This detection tree project helped identify previously unknown outlier infestations and made it possible to determine the extent of the initial infestation in southeast Michigan.

- Marked the first Emerald Ash Borer Awareness Week, declared by Governor Jennifer Granholm as the week of May 24, 2004. Activities during the week were geared toward raising public awareness of EAB and the steps everyone can take to prevent its spread, as well as fostering a cooperative spirit among citizens, communities, government and industry, to reduce the risk the insect poses to the 700 million ash trees blanketing the state.

- Verified the first "environmentally assured" farmsteads under the Michigan Agriculture Environmental Assurance Program's (MAEAP) Farmstead System. The farms are located in Alpena and Kalamazoo counties. MAEAP continues to be one of the state's most innovative initiatives for preventing agriculture-related pollution. Nearly 3,000 farmers and technical assistance providers have attended MAEAP Phase I Education Sessions, with more than 200 farms either verified or moving toward verification under the program.

- Protected Michigan's groundwater resources by collecting and properly disposing of unwanted or outdated pesticides and mercury at 15 permanent drop-off sites through the Michigan Clean Sweep Program. Michigan celebrated the collection of the one millionth pound of pesticides through the program since its inception in 1995.

- Increased the number of acres of farmland permanently protected in Michigan through three programs that work to preserve farmland and open spaces: the Farmland and Open Space Preservation Act, commonly known as P.A. 116; the Purchase of Development Rights (PDR) program; and the Michigan Agricultural Preservation Fund and Board. The state holds more than 45,000 P.A. 116 agreements, preserving over 3.5 million acres of farmland. This equals about 35 percent of Michigan's 10.1 million acres of agricultural production land.

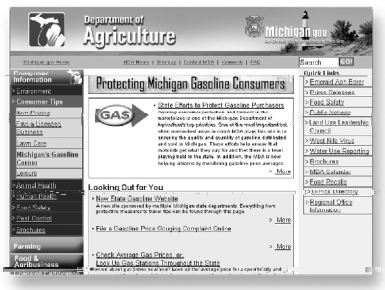
- Acquired the state's first permanent conservation easement located in Chesaning, in Saginaw County, as part of the Conservation Reserve Enhancement Program (CREP). CREP is a voluntary program to implement environmentally sound conservation practices on agricultural land to improve quality and enhance or restore wildlife habitat. The new easements facet of the program allows farmers and other landowners to receive a one-time, up-front payment for entering into a covenant that permanently preserves conservation values and restricts development on enrolled lands.

- Implemented a Water Use Reporting program to help agricultural producers register for and comply with the required annual reporting program, if they have the capacity to withdraw over 100,000 gallons per day.

- Created the Michigan Emergency Veterinary Network or "Vet Net" as part of Michigan's homeland security efforts in the animal health and protection arena. Michigan's Vet Net, one of the first such programs in the nation, was made possible by federal homeland security dollars and funding from MSU CVM. Vet Net is a comprehensive education and training program geared toward the state's nearly 3,600 licensed veterinarians to enhance their awareness, preparedness and response to animal disease-related emergencies.

- Celebrated the first exports ever of Michigan apples to Mexico, after nearly a decade of work by the Michigan apple industry to meet Mexican selling requirements. Development and expansion of export markets are critical components to ensuring the future profitability of our state's growers and farmers and the long-term viability of agriculture in Michigan.

- Launched the May Day to Labor Day gasoline inspection project to answer Governor Jennifer M. Granholm's call for increased gasoline monitoring during last summer's peak driving season. Inspectors increased monitoring efforts by 30 percent during the project, surpassing their goal of a 20 percent increase. Inspectors found that 29 percent of gasoline tested failed to meet quality standards, which included testing octane levels, sediment and water in the gas. Inspectors also found that 12 percent of the stations tested fell short of gas quantity standards. From the inspection results, 50 fines/consent agreements were issued, with the rest of the locations being warned that they were in violation of quantity or quality laws. The vast majority of violations were not intentional, but due to improper upkeep and maintenance of devices. MDA is the state agency responsible for regulating gasoline sold in Michigan for quality and quantity standards. The department conducts various types of routine, complaint and undercover inspections at the state's 5,100-plus licensed retail gas stations. About five billion gallons of gas are sold in Michigan annually, ranking the state 7th nationally in gasoline consumption.

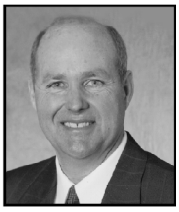


- Unveiled two mobile emergency supply units and equipped MDA veterinarians with personal emergency response kits, to enhance emergency preparedness efforts and bolster MDA's agrisecurity capabilities. The trailers and kits ensure that Michigan stands ready to quickly and effectively mobilize and respond to potential animal health situations.
- Served as community partners and maintained a positive organizational culture through special employee activities and programs that also tie to the Governor's Visions and Values. Employees raised funds for the Michigan Harvest Gathering; Youth Livestock Scholarship Funds at the Michigan State Fair and U.P. State Fair; and the State Employees Combined Campaign. Staff also raised funds and coordinated agriculture-related activities for students at Walnut Street School in Lansing, a school MDA adopted 10 years ago. Walnut activities included field trips, mentoring, classroom reading days, providing turkeys for a Thanksgiving celebration, and hosting school families in need as part of Operation Santa during the holidays. MDA employee contributions to the school have averaged more than $4,000 per year for the past 10 years.

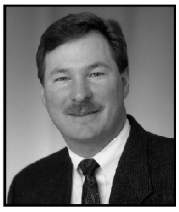
Michigan Commission of Agriculture

William Pridgeon, Chair
(517) 335-3403


James E. Byrum


James Maitland


Ann Jousma-Miller


Douglas Darling


Dale Norton

Members of the Michigan Commission of Agriculture are appointed by the Governor to establish policies and provide administrative direction for the Michigan Department of Agriculture. The five Commission members are appointed for four-year terms, with confirmation by the Michigan Senate. The Commission holds meetings that are open to the public for attendance and comment. Meetings are held in the Lansing area and throughout the state.

Commissioner William Pridgeon, of Montgomery, chaired the Commission in 2004. Commissioner James Maitland, of Williamsburg, served as vice-chair and Commissioner James Byrum, of Onondaga, served as secretary. Doug Darling, of Maybee, continued service on the Commission. Governor Granholm appointed Ann Jousma-Miller, of Gladstone, in December 2003.

The Michigan Commission of Agriculture met monthly in 2004 with the exception of May, August, October and December. Commission meetings were held in Lansing in February and November, and Saginaw in June, with remaining meetings held in East Lansing. The Commission met in conjunction with Agriculture and Natural Resources Week at MSU and Ag Expo at MSU.

Prominent issues during 2004 were Emerald Ash Borer, Bovine TB, Generally Accepted Agricultural Management Practices (GAAMPs), Chronic Wasting Disease and Gasoline Inspection.

Commission staff prepared meeting notices, agendas, minutes and director's reports for each meeting.

Executive Office

Dan Wyant, Director
(517) 373-1052

MDA's Executive Office oversees the administrative and policy issues of the department, provides internal and external communication services, and coordinates communication and response activities for state agricultural and homeland security emergencies. The Executive Office consists of the director, deputy director, director of agricultural policy, legislative liaison, communications director, public information officer, media support, communications and emergency management staff, and administrative support staff.

Administrative Section

MDA Director Dan Wyant served as the chief executive officer of the agency in 2004. The director was appointed by the Michigan Commission of Agriculture in October of 1996, and works with them on policy issues. The director also is a member of Governor Jennifer Granholm's Cabinet. During FY 2004, Wyant also represented Michigan on the National Fruit and Vegetable Advisory Committee, and served on the Governor's Land Use Leadership Council and Chronic Wasting Disease Task Force. The director also serves as chair of the Michigan Grape and Wine Industry Council and holds a seat on the Michigan State Fair Advisory Board.

MDA's deputy director, Keith Creagh, manages the day-to-day operations of the department, working closely with all the division directors and key program staff to oversee the functions of MDA.

The director of agriculture policy, Christine White, works with the director and other key personnel to review, revise and propose department programs and policies, and also serves as the key contact for federal issues and congressional contacts.

The legislative liaison, Brad Deacon, is MDA's link to the Michigan Legislature and the Michigan Office of Regulatory Reform. The liaison assists the Legislature in assessing and preparing legislation connected with agriculture. IIn 2004, MDA participated in several notable pieces of legislation. Governor Granholm signed into law the creation of the Grain Insurance Fund to protect producers in the event of a business failure. The Governor also signed bills to prohibit the release of aquatic invasive species, including genetic variants of those species. Licensing deadline requirements were written into a number of MDA programs, and the labeling requirement for ethanol was removed. Also, the Governor signed legislation to change notification requirements for pesticide application in schools and day care centers.

Office of Communications

Sara Linsmeier-Wurfel, Director
(517) 373-1104

The Office of Communications (OC) provides professional internal and external information, education and communication for the employees, department, stakeholders and general public. OC staff works on a wide range of communication activities to create and maintain a public identity for MDA, including creating key communication pieces, coordinating communication efforts with media relations efforts, planning media and special events, developing talking points on various programs and issues, and aligning communication efforts with the department's priorities and the Governor's Cabinet Action Plan initiatives. Staff works closely with MDA divisions and the Emergency Management Section to coordinate crisis/urgent communication plans and corresponding activities for a variety of issues that the department addresses throughout the year. Staff members serve as liaisons to MDA divisions to help them meet their communication goals, and provides writing, editing

and design services for booklets, brochures, newsletter and annual reports. OC also provides graphic arts services for divisions, including the development and production of displays, advertisements, posters, logos, ceremonial checks, certificates, banners, signage, maps, chartsand PowerPoint presentations. OC promotes internal communication through special "A-Team" events and activities and employee meetings, and through the use of the department's Internet and Intranet Web pages. During FY 2004, OC:

- Served as liaison with the Governor's Communications Office and with Public Information Officers in other state government agencies, and served on numerous joint communications committees with federal, state and local agencies, and with university, industry and other stakeholder groups on food, agriculture, public health and conservation issues and programs.
- Developed and implemented various crisis/urgent communications plans and corresponding activities for a variety of the issues that the department addressed throughout the year, including Bovine Spongiform Encephalopathy, Emerald Ash Borer , West Nile virus, Chronic Wasting Disease, Bovine Tuberculosis, and Food Safety.
- Spearheaded message and information development for a variety of department issues, programs and activities.

- Created and updated communication tools to combat the spread of Emerald Ash Borer, including brochures, door hangers and posters; banners and educational displays; and press releases and advisories. Co-chaired the EAB Communication Committee, working with partners to develop a coordinated and effective communication strategy for the EAB eradication effort. Coordinated media events, took photos and wrote web articles about key components of the response effort, including firewood blitzes, survey activities, EAB Awareness Week, the detection tree project, establishment of new marshalling yards, tree removal projects, and quarantine issuances and expansions.
- Maintained the department's Internet site to provide cost-effective, easily updated information. Many publications were distributed electronically via the Internet, saving printing and distribution costs and time. MDA's Web site pages are viewed more than 3 million times per year in 2004.
- Enhanced and maintained the department's Intranet site that shares important and interesting internal information with MDA staff. The Intranet is the department's primary means of communicating issues to all staff statewide. The department's Intranet Web site is used to help keep MDA staff informed of priorities, events, issues and changes within the department. Online communication tools accessed by staff via the Intranet include a division filing cabinet for sharing electronic files and information; Ask the Director; the MDA People Page for sharing personal and professional accomplishments; and the MDA Employee Directory with contact information for all department employees.
- Served as liaisons to MDA divisions, and researched and advised divisions on how to meet division and department communication needs.
- Represented the department on the Communications Team for the MI 360 evaluation project coordinated by the Office of Great Workplace Development.

- Provided writing, editing and design services to divisions for booklets, brochures and newsletters. Topics included: Emerald Ash Borer, Chronic Wasting Disease, Bovine TB, West Nile virus, Right to Farm, Generally Accepted Agriculture and Management Practices, biosecurity, human health and food safety, groundwater protection, thoroughbred racing, fiscal stewardship, venison processing, analytical service testing fees, market development, and more.
- Provided graphic arts services for all divisions, including development and production of logos, ceremonial checks, original art for displays at the Michigan State Fair, certificates, banners, maps, charts, Power Point presentations, advertisements, posters, pictorial displays and more.
- Coordinated employee activities as part of MDA's Employee Recognition/Awards Ceremony, Special Events Committee events, and "A-Team" events, aimed at improving internal communication and team building.
- Coordinated the 2004 State Employee Michigan Harvest Gathering fundraiser for the Food Bank Council of Michigan. State employees donated over $31,000 and 91,000 pounds of food in 2004.
- Partnered with Walnut Street School in Lansing to help connect urban kids with their food and agriculture roots. MDA employees adopted Walnut Street School 10 years ago, and have hosted field trips to farms and horse shows, served as mentors and guest classroom readers, provided computer equipment and books for the school, sponsored Thanksgiving meals at the school, and sponsored school families in need as part of Operation Santa during the holidays.
- Established a videoconferencing network which connects ten MDA locations statewide, including Regional Offices, laboratories, U.P. State Fair and the Office of Racing Commissioner. OC staff also maintains a satellite TV system in Constitution Hall to receive information in emergency situations; and a NOAA weather radio system to track developing storms that could affect MDA employees and the agriculture industry. Staff also maintained and provided training and direction for a public meeting notice board, electronic "smart board" and computer systems in conference rooms, and provided audio/visual assistance to the Executive Office and other divisions, as needed.
- Distributed over 100 press releases and media advisories to local, state and national media outlets using an electronic fax/email system; and made over 3,000 contacts with media resulting in extensive state and national exposure for the activities and programs of MDA. MDA's media faxing/email database includes 8,377 media outlets and can target distribution by 18 categories, including type of media (TV, radio, print), subject, region and county.

Emergency Management Section

Brad Deacon, Manager
(517) 335-3403

The Emergency Management section coordinates MDA's response to serious incidents involving disasters or threats to food or animal safety and/or agricultural economic viability, emergency management and emergency response capabilities. During FY 2004, the section:

- Coordinated MDA's response to serious incidents involving disasters or threats to food or animal safety and/or

agricultural economic viability. Of these incidents, seven disaster requests were submitted to the Secretary of USDA.

- Coordinated participation of department emergency management staff in two drills and one exercise for the Palisades Nuclear Power Plant in July and August.
- Developed continuous in-house emergency management training and exercising throughout the department. About one-fourth of MDA staff participated in some level of Incident Command System Training. Emergency Management staff coordinated approximately one exercise per month during FY 2004, including orientations, drills and table top exercises.
- Helped implement new department initiatives on Homeland Security, including establishment of protocols for emergency response based on the threat level, and representation on Homeland Security boards and committees.
- Coordinated continued development of MDA's emergency response capabilities to meet the challenges posed by threats to Homeland Security. Represented the department on the Michigan Homeland Security Task Force, and chaired the Agriculture and Food Supply Subcommittee of the Critical Infrastructure Protection Committee.
- Participated in the State Homeland Security Assessment process on both the local and state levels.
- Represented MDA on the Michigan Hazard Mitigation Coordinating Council, participating on the Planning Committee, and the Michigan Emergency Planning and Community Right to Know Commission.

Agriculture Development Division

Bob Craig, Director
(517) 241-2178

The Agriculture Development Division assists the Michigan food and agriculture industry in developing new and enhanced domestic and international markets for Michigan food and agricultural products. It also serves as a catalyst in expanding value-added agriculture initiatives and marketing efforts to attract, expand or retain food processing and agriculture support businesses in Michigan. These activities support job retention and creation in the agri-business sector throughout Michigan, and contribute to economic stability. During FY04, AgD:

- Worked with Michigan growers, food processors, commodity boards and others to successfully complete the $3.75 million USDA Specialty Crops Block Grant program with close-out on September 30, 2004. MDA initially received these one-time federal funds in September 2001. MDA took advice from specialty crop growers and selected projects in areas that included marketing, nutrition, pest and disease control, research and new product development. More than 80 percent of these grant dollars were redistributed to sub-recipients including: international marketing companies and commodity boards; specialty crop commodity organizations and growers; new Julian-Stille Value-added Agriculture Program grants to growers, food processors, commodity boards and companies; and the Select Michigan marketing program.

Overall outcomes of this block grant program touched more than 20,000 growers through nearly 100 private organizations and companies and generated 213 new jobs over three years, while helping retain 1,184 jobs. The program leveraged more than $2 million in matching funds from individual grant recipients. A complete reporting of Michigan's block grant projects can be found at the National Association of State Departments of Agriculture's Web site, www.nasda.org.

- Assisted the Michigan Apple Committee in developing new markets for fermented and distilled Michigan apple beverage products by wineries, microbreweries and cider makers, with a projected 2,000 to 5,000 jobs created or retained.

- Provided the State Senate Agriculture, Forestry and Tourism Committee with survey results and impacts from all Michigan USDA Specialty Crop Block Grant recipients along with a copy of the NASDA February 2004 progress report entitled, "Improving the Competitiveness of Specialty Crop Agriculture." The State Senate adopted a resolution urging the U.S. Congress to provide another round of funding of these grants, and sent it to the Michigan Congressional Delegation and USDA Secretary Veneman.

- Provided Specialty Crops Block Grant seed money to the Michigan Bean Commission to fund research on the effects of dry edible beans for fighting cancer and AIDS.

- Worked with MDA Pesticide and Plant Pest Management Division staff and the Michigan Economic Development Corporation to attract and establish a portable sawmill in Monroe County to process Emerald Ash Borer infested logs into marketable garden tool handles and other products. Crook-Miller Company, of Hicksville, Ohio, installed the mill and created Emerald Mills, Inc., to operate the facility. Twelve Michigan employees were hired in the initial start-up phase in the fall.

- Assisted the Michigan Asparagus Advisory Board and Michigan-based food processors, including Honee Bear Canning, with the developed of a new Individually Quick Frozen value-added asparagus product in a microwaveable container that is now being manufactured and sold commercially in Wal Mart Supercenters across the nation. This new product has provided a much needed boost to the Michigan asparagus industry.

- Celebrated the start-up of production at a sweet cherry double bleaching and finishing plant in Buckley, enabling sweet cherries to be used in producing maraschino cherries and other products in Michigan. Previously, more than half of Michigan's sweet cherries had to be shipped to Canada for double bleach processing due to inadequate capacity in-state. This project was partially funded by a 2002 Julian-Stille Value-added Agriculture Grant to Leelanau Fruit Company. The Buckley facility is unique in Michigan in that it has a large MDEQ-licensed disposal well to handle spent brine for this facility and others in an environmentally sound manner.

- Working with MDA PPPM staff, provided marketing assistance and regulatory phytosanitary inspection to the Michigan apple industry, which opened the Mexican market for shipments of fresh Michigan apples, resulting in one month's sales totalling $250,000 in 2004 and more expected in the future. This is the first time Michigan apples have been marketed in Mexico since NAFTA was instituted in 1994.

- Provided $50,000 through the MDA International Market Development Grant Program to eight Michigan food and agricultural organizations. These grants leveraged additional federal and private resources to develop or enhance overseas markets.

- Promoted Midwestern wines, including two Michigan wineries, at the London Wine and Spirits Show through Mid-America International Trade Council (MIATCO).

- Facilitated chef training and education in several Mexican cities as part of international market development efforts. Staff coordinated three seminars in 2004, promoting processed apple, blueberry, cherry and cranberry (ABCC) products for the baking industry. Since 2002, the ABCC program has resulted in training of 600 Mexican chefs, reached 9,000 trade and consumer contacts, and resulted in sales of $200,000 for Michigan companies. Four Michigan companies exhibited at ExpoPan in Mexico City, resulting in $35,000 in sales at the show and anticipated sales of $200,000.

- Participated in the Association of Convenience Stores (NACS) Buyers' Mission, providing seven Michigan companies with the opportunity to meet convenience store buyers.

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- Assisted Michigan firms in applying and qualifying for federal funds to reimburse their export development costs. Through membership in MIATCO, MDA enables Michigan food producers and processors to receive reimbursements of up to 44 percent of their export market development costs in the USDA Branded Market Access Program.

- Coordinated participation of eight Michigan firms in the Michigan pavilion at the Food Marketing Institute/U.S. Food Export Showcase in Chicago, the largest grocery store trade show in the world. Over 300 contacts were made by companies, with expected sales over $1.3 million. Additionally, three Michigan companies participated in the Chicago Fancy Foods show held concurrently with FMI at McCormick Place in Chicago.

- Represented the MDA Director at over 95 percent of regular, special and annual meetings for Michigan's 15 legislatively established commodity groups, and worked with the Assistant Attorney General on statutory issues and unpaid or unremitted assessment funds. Through producer-run committees, nearly $14 million in producer dollars was spent on various promotion, research and marketing activities for their respective commodities. Staff chaired several meetings with commodity executives and the Director and worked with several commodity groups to implement 2002 program changes adopted by the Michigan Legislature in Public Act 232 of 1965, as amended, the Agricultural Commodities Marketing Act.

- Received a final Agricultural Tourism report from Western Michigan University supported by a Federal State Market Improvement Program grant from USDA.

- Developed and distributed the 2004-2005 Farm Market, U-Pick and Ag Tourism Directory. The Directory provides a listing of many Michigan farm markets, farmers' markets, u-pick operations and other agricultural tourism entities. It is also available as a searchable database at www.michigan.gov/mda.

- Received funding for the Select Michigan program through a cooperative partnership among USDA (Rural Business Enterprise Grant), commodity organizations, Michigan Integrated Food and Farming Systems, individual food businesses, retailers and MDA. The goals of the program are to increase marketing opportunities for, and awareness and purchases of, Michigan locally grown food products.

- Expanded the Select Michigan program to include the Detroit market in addition to Grand Rapids. Asparagus, blueberries, peaches, carrots, onions, apples, organic foods, potatoes, seasonal vegetables, wine, apple juice, canned apples, whitefish, sugar and chestnuts were featured in scheduled promotions during the year. The Select Michigan campaign used eye-catching point-of-sale materials, including stickers, posters, banners and display cards. In-store tastings and demonstrations, radio promotion and magazine editorial also supported the program objectives.

- Worked with several major Michigan food retailers – Spartan Stores, Meijer, Kroger, Farmer Jack, and Super K-Mart -- to incorporate the Select Michigan message into their marketing materials. Growers, farm markets, restaurants and other businesses that grow, process or promote Michigan food products are also using the Select Michigan logos.

- Implemented activities of the Michigan Grape and Wine Industry Council (MGWIC), a 10-member council established by the legislature to support the growth of the Michigan wine industry. Assisted by research, education and promotion programs of the MGWIC, the Michigan wine industry continues to grow. Sales of Michigan wine increased 63 percent over the past seven years. In 2003, the Council established a goal of increasing wine grape acreage in the state nearly ten-fold over the next 20 years, from 1,400 acres in 2003 to 10,000 acres by 2024.

MICHIGAN Grape & Wine INDUSTRY COUNCIL

- Hosted an annual meeting of the Michigan wine industry, with over 120 participants. A highlight for the year was the completion of the Web-based Start-Up Guide and resource kit, "Wine Industry Resources for Michigan," which is a valuable resource for new and existing members of the industry.

Animal Industry Division

Steven L. Halstead, DVM, MS, Director and State Veterinarian
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The Animal Industry Division (AID) safeguards the health and welfare of livestock and domestic animals in Michigan and, through these efforts to protect domestic animals, protects the health of Michigan's citizens. The division conducts surveillance for animal disease, diseases transmitted to humans by animals, and food safety hazards, to protect the health of Michigan residents. The division is responsible for administering reportable animal disease programs and overseeing toxic substance contamination incidents relating to animal health. AID also enforces the humane treatment of animals through the licensing and regulation of animal shelters, pet shops and riding stables. The state veterinarian administers the division, and supervises animal disease surveillance and eradication programs throughout the state.

The division remained very active in animal health programs in FY 2004. Major progress was made in the Bovine Tuberculosis Eradication Project; in examining Michigan's privately owned cervidae for the presence of Chronic Wasting Disease; and in advancing Michigan's animal health emergency management preparation. During FY 2004, AID:

- Established Split State Status in the State/Federal Cooperative Bovine TB Eradication Project. The entire Upper Peninsula and majority of the Lower Peninsula were designated Stage 4 (Modified Accredited Advanced) in the five-stage program, with the North Eastern region of the Lower Peninsula (formerly the Surveillance and Infected zones) designated Modified Accredited.

- Applied for TB-Free status, Stage 5 of the five-stage program, for the Upper Peninsula.

- Conducted 147,369 bovine, 4,876 caprine (goat), and 165 bison individual animal tests for TB using MDA, USDA, and fee-basis private veterinary practitioners. One cattle herd was found infected with bovine TB in early FY 2004; as with all previously identified infected herds this herd was located in the known affected area of Northeast Michigan, now known as the Modified Accredited Area. As of December 31, 2004, 1,013,000 animals had been tested for

- Followed up on 40 animals diagnosed positive for rabies.
- Maintained Pseudorabies Stage V Free Status for Michigan swine.
- Maintained Brucellosis Certified-Free State Status for cattle and swine.

Environmental Stewardship Division

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The Environmental Stewardship Division (ESD) provides leadership and administers programs that promote environmental stewardship of agricultural and other natural resources, ensuring that farming operations protect land and water resources, and public health. A summary of FY 2004 program accomplishments follows:

- Assisted Michigan landowners in establishing 4,052 Conservation Reserve Enhancement Program (CREP) contracts representing 47,896 acres. Landowners enrolled 23,352 acres in Grass Filter Strips, and 1,723 acres in Riparian Forest Buffers. These 25,255 acres of corridor conservation practices are reducing agriculturally related sediment, phosphorus, and nitrogen loading on over 2,000 miles of Michigan watercourses (streams, drains, rivers, and lakes) – equal to the distance from Saginaw, Michigan, to Los Angeles, California. Landowners also enrolled 9,768 of wetland restorations, 712 acres of shallow water area for wildlife, 7,702 acres of whole filed grass plantings, and 892 acres of field windbreaks.

- Awarded $7.5 million in Clean Michigan Initiative grants to purchase permanent conservation easements on over 4,500 acres.

- Issued four easements using state funded grants totaling $180,000, permanently protecting 75 acres of farmland in conservation practices

- Reimbursed producers for 100 percent of costs incurred for establishing conservation practices that control or exclude livestock access to surface waters through the Livestock Access Program, a state-sponsored component of CREP. By the end of FY04, the program installed 30 limited access livestock crossings, 55 alternative watering sources, 138,000 feet of exclusionary fencing, and 2007 acres of wildlife habitat.

- Administered grants and facilitated education, training, capacity building, local resource assessment, strategic planning, annual budget preparations, and the development of annual work plans for 83 conservation districts.

- Continued the Michigan Agriculture Environmental Assurance Program's (MAEAP) Livestock System on-farm verification process. Over 2,500 producers and technical assistance providers attended Phase 1 educational sessions. Thirty-three livestock farms were verified in 2004.

- Developed Progressive Planning, a system of helping farmers begin work toward a Comprehensive Nutrient Management Plan (CNMP) and eventual Livestock System verification. The system is being implemented by over 100 trained local coordinators from diverse MAEAP partners throughout the state. Over 120 interested farmers have enrolled.

- Continued the MAEAP Farmstead System on-farm verification, with 20 farms verified in FY04 (26 farms to date). Trained 33 Technicians to develop farm-specific action plans to address on-farm environmental risks.

- Developed a MAEAP Cropping System evaluation tool, designed to provide farmers with accurate information about how field-based management practices affect environmental resources. This tool provides information needed to be in conformance with applicable Michigan Right-to-Farm guidelines and in compliance with applicable state and federal environmental regulations.

- Worked one-on-one with over 650 farmers through the Michigan Groundwater Stewardship Program (MGSP) to identify groundwater risks and to develop plans to reduce those risks. Groundwater Technicians implemented a wide variety of groundwater stewardship practices, including 411 abandoned well closures, 303 emergency plans, 254 pesticide spill kits, and 30,970 acres of pre-sidedress nitrate testing.

- Recycled 38,420 pounds of properly rinsed pesticide containers at agri-business sites throughout the state, through the Michigan Pesticide Container Recycling Program.

- Collected, removed, and properly disposed of more than 197,000 pounds of pesticides and mercury. Celebrated the collection of the one millionth pound through the Clean Sweep program.

- Sampled 283 drinking water wells at no charge to well owners through the MDA Groundwater Monitoring program. The program continues to focus on sampling wells in areas surrounding contaminated wells to help ensure public health. Also screened 3,323 wells for atrazine and nitrate contamination.

- Worked one-on-one with 106 golf courses, through the Michigan Turfgrass Environmental Stewardship Program (MTESP), to identify on-course environmental risks and to develop plans to reduce those risks. Three additional golf courses were certified through the MTESP (which provides for the highest degree of environmental stewardship), and 25 courses participated in one-day MTESP training sessions.

- Responded to and abated 24 accidental spills of agrichemicals (pesticides and fertilizers) and manure. In most cases, the product was recovered and land-applied at agronomic rates, avoiding costly waste disposal costs.

- Worked with 7,680 individuals (one-on-one or in small groups) to complete home risk assessments using the Home*A*Syst tool. MGSP AmeriCorps members worked with residents to identify groundwater risks around the home, yard, and garden, creating an action plan to lower any identified risks. MSU Center for Evaluative Studies indicates changes in practice are being made around the home after completing a session with a MGSP AmeriCorps member. For example, 36 percent of respondents now identify or plan to start identifying a pest before selecting a pesticide; 34 percent have stopped or are planning to stop storing unused or unwanted pesticides in their home or garage; and 42 percent now test or will start testing their well water annually.

- Recruited and trained 407 community volunteers to participate in groundwater stewardship outreach. MGSP AmeriCorps members train these volunteers to work with hardware stores and garden centers to provide point-of-sale education to staff and customers, serve on local groundwater stewardship teams, and participate in other local groundwater protection projects. In 2004, these individuals volunteered 1,709 hours toward local groundwater stewardship efforts.

- Administered the Forestry Assistance Program (FAP), which funds 20 foresters covering 46 counties. They provide education and one-on-one technical assistance to private landowners and communities regarding local forest health issues and sustainable forest management. Conservation district resource professionals made 1,800 on-site assistance contacts with landowners representing 81,000 acres; referred 21,000 acres for harvest; facilitated actual timber harvests on 6,368 acres valued at $2.3 million; and coordinated reforestation tree planning on 4,000 acres. Foresters set and monitored 2,300 traps to assist in the Emerald Ash Borer eradication project.

- Processed the renewal of 3,856 farmland and open space preservation agreements, securing 308,480 acres from development. A total of 44,000 agreements are protecting more than 3.5 million acres. Legislative changes in 2001 improved the incentives for enrollment, resulting in an increase from an average of 155 new applications annually in the years 1997-2000 to 262 new applicants in 2004.

- Permanently protected 466.32 acres of farmland through the purchase of additional farmland development rights easements at a cost of $659,400. Four additional easements were donated, protecting an additional 343 acres. This brings the number of acres permanently protected in Michigan to 16,200, as of September 30, 2004.

- Worked with the Michigan Agricultural Preservation Fund Board in the development and adoption of an application process and scoring system for making grants to local government purchase of development rights programs.

- Inspected and licensed 3,997 individual living units at 824 locations, yielding an approved capacity to house 22,609 migrant farm workers. Migrant Labor Housing staff surveyed and sampled approximately 600 water supplies serving the housing sites. Staff also administrated $255,000 through the migrant labor housing construction grant program, resulting in producers investing $1,049,000 in housing construction projects. Construction grants for improvements were awarded to 37 migrant housing providers in 13 counties, resulting in 91 improved units. Grants for new construction projects were awarded to four migrant housing providers in two counties for a total of 33 new living units. In support of licensing activities, 30 surveys were conducted of suspected or known housing sites for which no license applications were filed, and 36 housing complaints were investigated. In each case, action was initiated to license, vacate, abate the problem, or refer the complaint to another agency having jurisdiction. Staff provided testimony and documentation to assist local government in the successful prosecution of an operator of unlicensed migrant labor housing, resulting in conviction with a fine and jail time.

- Administered 30 Intercounty Drain Projects with an estimated cost of $10.8 million. A total of 421,525 acres were served by these projects, affecting 109 miles of drains.

- Responded to 144 drain maintenance requests in 42 different counties, improving approximately 746 miles of drains serving almost 1,540,000 acres of multiple use watersheds. Over $4.4 million was derived from private and public special assessments and grant monies from the Clean Michigan Initiative, Section 319 of the Clean Water Act and the Federal Hazard Mitigation Grant Program, for these drain maintenance projects.

- Implemented the first year of Water Use Registration for agricultural withdrawals for quantities greater than 100,000 gallons per day, as required by P.A. 148 of 2003. Approximately 1,155 water users registered to receive the required annual reporting forms.

- Responded to nine complaints of low capacity residential wells being affected by high capacity irrigation wells. This is a new program initiated by state law, P.A. 177 of 2003. Of the nine complaints, eight were resolved with water supplies being restored; one was not verified.

- Responded to 121 new environmental and nuisance complaints in 47 counties through the Right to Farm complaint response program.

- Developed 39 Manure Management System Plans covering 12,302 animal units and 16,852 acres of cropland. Nearly three miles of streambank fencing was installed and dozens of other conservation practices implemented.

- Received 33 verification requests for Site Selection and Odor Control for New and Expanding Livestock Facilities. These requests covered 60,916 animal units, six requests for new facilities and 27 for expanding facilities in 17 counties.

- Provided education and assistance to encourage the increased use of biosolids (nutrient rich by-products of wastewater treatment) recycling and application. Currently, 174 Michigan waste treatment facilities apply 87,923 dry tons of biosolids on agricultural cropland.

- Participated in the annual MSU Ag Expo biosolids demonstration plot and display tent to provide biosolids information to producers.

- Distributed biosolids information packets to all Michigan Conservation District offices to provide producers and the public updated biosolids information.

- Partnered with the Michigan Water Environment Association to develop and update industry members on information and technology for biosolids land application.

- Developed four quarterly newsletter issues of “Amendments,” a newsletter that aims to improve awareness of the Michigan Biosolids Program.

Fairs, Exhibitions & Racing Division

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The Fairs, Exhibitions and Racing (FER) Division oversees Michigan's state, county and local fairs; county horse racing programs; horse racing breeding and owner assistance programs; and producer security services. The division also administers grant programs for the fairs, the horse racing industry, and related organizations. FER staff, during 2004:

- Assisted the 89 county and state fairs with premium support and matching funds. In 2004, FER staff managed the allocation of 62.3 percent of the total $2.4 million premiums paid for competitive exhibits at all fairs throughout the state.

- Awarded and supervised $120,000 in competitive livestock grants to 33 organizations. The program provides funding to increase the development and promotion of adult and youth involvement in the animal agriculture industry.

- Managed $2.14 million in purse and administrative funds for the 28 county harness racing fairs hosting over 600 races. Staff administered more than $2.7 million for supplements and breeders awards to thoroughbred and standardbred breeders and owners. Standardbred and thoroughbred tracks across the state received over $2.3 million in race purses for futurity and sire stakes races.

- Completed drug testing on horses at 12 draft horse pulls and 65 county fair harness race days. Of the 1,141 samples collected at races, only six tested positive for illegal drugs. Three of the 58 samples collected at the draft horse pulls tested positive for illegal drugs.

- Worked with the Michigan Thoroughbred Owners and Breeders Association to expand the Youth Horse Racing Program. FER staff worked with volunteers at four county fair locations to host the program for approximately 70 youth participants. As in 2003, a championship race at Mount Pleasant Meadows, a premier pari-mutuel racetrack in Michigan, concluded the season. More than 20 of the season's participants competed at the championship race.

- Managed the Upper Peninsula State Fair. FER Division Director Barbara Hensinger served as the acting fair manager during the search for a new fair manager. In mid-August, Scott Staelgraeve joined the team as the new manager. As in previous years, Lansing FER staff assisted the Escanaba FER staff in the financial management, and premium payment process, and provided administrative assistance. FER staff also assisted Animal Industry Division staff with livestock exhibits and sample collection for drug screening. New in 2004 was the "Growing U.P. Farmers" exhibit which drew thousands of children, educating them on the production process of agricultural products from seed to consumer. Additionally, 13 community members participated in the first annual "U.P. Survivor" contest, competing in challenges from showing swine to eating cherry pie. Both new events were successful entertainment for fairgoers at the Upper Peninsula State Fair.

- Assisted with the Michigan State Fair, which ran from August 11 through August 21, 2004. As in previous years, FER staff served as superintendent of the Agriculture Building which houses agricultural entries, exhibits and vendors during the fair; collected samples for drug screening & DNA comparison of champion livestock; and, in conjunction with the Animal Industry Division, assisted the livestock superintendents with animal health checks.

- Worked with the Youth Livestock Auction committees at the Michigan State Fair and Upper Peninsula State Fair to coordinate the auctions. MDA staff also contributed to the success of the auctions by raising over $6,100 internally, which was used to purchase swine at both auctions. The swine were then donated to the Food Bank Council of Michigan.

- Worked with the Michigan Youth Livestock Scholarship Fund to award seven $1,000 scholarships to youth exhibitors at the Michigan State Fair. The fund also provided $21,000 in educational awards to over 125 exhibitors in 2004.

- Successfully completed recommended changes for fair premiums and horse racing programs, and closed regulations 808, 811, 812, 814, 817, 820 and 823 in 2004. Regulations 813 and 816 remain open and continue to be restructured.

- Partnered with the fair and festival industry to present workshops to fair and festival management at their conventions on subjects such as animal health issues and ethics, livestock drug testing, premium regulation changes and how to implement them, water safety issues on fairgrounds, and non-profit budgeting and accounting.

- Continued to lead a task force to study water safety issues at fairgrounds. In 2004, an additional five studies were completed. Each fair was visited twice, once prior to the fair and again during the fair. The team, including personnel from MDA's Food & Dairy and Environmental Stewardship Divisions, the Michigan Department of Environmental Quality, and local health departments, evaluated the water quality including: water supply, distribution system, cross-connection control, abandoned wells, hand washing and drinking water, sewage collection/treatment, animal washing, manure management and chemical use/storage.

- Added the Producer Security Services Section to FER in 2004. This section regulates the enforcement of the Grain Dealers Act; provides review services for department-wide producer security regulation; and administers the Agricultural Marketing and Bargaining Act and the Farm Produce Insurance Authority. In 2004, staff regulated 250 grain elevators, including 11 out-of-state grain brokers; established the Farm Produce Insurance Authority Board; and launched promotional programs while providing administrative support for the insurance program.

Finance & Administrative Services Division

David Bruce, Director
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The Finance and Administrative Services Division (FAS) administers business processes for the department, including budget, accounting, auditing, procurement, fiscal stewardship, resource management, facility management, fleet management, travel arrangements and mail operations. During 2004, FAS:

- Surveyed customers to determine division financial needs.
- Closed the Accounting books with 159 less staff hours than in 2003, and 314 fewer hours than in 2002.
- Added reference materials to shared drives and the department's Intranet (classification structure, agency object codes).
- Developed and offered budget liaison orientation and training workshop.
- Facilitated the elimination of split pay roll at fiscal year-end.
- Piloted the statewide credit card receipts solution (CPEAS) and rolled it out to the Michigan State Fair and U. P. State Fair.
- Reviewed and streamlined document retention procedures.
- Expanded electronic invoice processing to include IKON in October 2003 and Detroit Edison in September 2004.
- Met vehicle reduction requirements of Executive Directive 2003-18.
- Assisted in the development, implementation and monitoring of the department's budget.
- Designed and worked toward implementation of the department's new Electronic Weekly Activity Reporting System (EWARS).
- Implemented a new strategy for reviewing and responding to "Risk Management" as it relates to the Biennial Assessment.
- Designed, implemented and executed a voluntary contract with 26 vendors for removal of ash trees for public and private landowners in southeast Michigan, in support of the Emerald Ash Borer Program. This is the first time a contract of this nature has been put together.

Food & Dairy Division

Kathy Fedder, Director
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The mission of the Food and Dairy Division (FDD) is to protect public health and ensure a wholesome food supply, while working to maintain a viable food and dairy industry. To this end, the division enforces food, beverage and dairy laws in Michigan. FDD conducts regular inspections of food and dairy products and facilities. The division licenses food service ands retail food establishments. Inspectors visit and examine restaurants, farms, grocery stores and other food-producing manufacturing and sales establishments. FDD keeps consumers and stakeholders informed of recalls, illness outbreaks and other food and dairy-related issues. All of its duties and functions are geared to a single goal: food safety. In 2004, FDD accomplished the following:

- Conducted 28,041 inspections at food and dairy facilities; licensed 28,300 food service establishments and 13,298 retail food establishments; and conducted over 1,002 enforcement actions to address food safety violations, including restaurants and cafeterias. Conducted 1,957 plan reviews and investigated 1,146 non-illness and foodborne illness complaints.

- Provided four Foodborne Illness Response STrategy (F.I.R.ST.) training sessions for local and state regulators who investigate foodborne illness outbreaks. Improved coordination during outbreak responses to identify outbreaks early, implement control measures promptly, and prevent human illness. Added training on detecting international contamination.

- Developed a foodborne illness outbreak tabletop exercise, which was piloted in four local health agency jurisdictions. This tabletop exercise, recently published on the Michigan Department of Community Health's MI-TRAIN, let local health staff members work together, practicing their response to an outbreak situation and implementing procedures learned from F.I.R.ST training.

- Along with Fairs, Exhibitions and Racing Division staff, FDD visited five fairs to identify and reduce public health and environmental risks associated with potable water provided by fairgrounds.

- Created and distributed materials to producers and consumers, including updated regulations. Created on-going materials and education for food safety including numerous articles in newspapers; extensive radio and TV. Conducted a public information campaign "Food Safety is Everyone's Bag," piloted in Detroit, to encourage consumers to use the 1-800- 292-3939 hotline to report food safety violations they see in grocery and convenience stores.

- Partnered with the Michigan Department of Community Health, the National Food Safety and Toxicology Center at Michigan State University, and food and agricultural industry stakeholders. Using federal monies and stakeholder in-kind contributions.

- Sponsored a tabletop exercise that brought in over 100 participants to run through simulated challenges faced by the food industry when responding to incidents of intentional contamination of the food supply.

- Partnered with the University of Michigan School of Public Health to conduct a survey for environmental health professionals who serve as regulators for the food service industry and investigators during suspected foodborne illness outbreaks. Other partners in the effort included the Michigan Department of Community Health, the Michigan Association of Local Public Health, and the Environmental Health Divisions of Michigan's 45 local public health agencies.

- Developed and pilot-tested two training programs where industry managers and regulators were learning side-by-side. The *Emergency and Food Security Management for the Foodservice Industry* program was developed in partnership with the Michigan Restaurant Association and the National Restaurant Association Educational Foundation. The *Crisis Management and Food Security Training for Small Volume Meat and Poultry Processors* was developed in partnership with MSU Extension, the American Association of Meat Processors, and the Michigan Meat Association. Both training programs are available for stakeholders, as requested.

- In response to the Great Blackout of August of 2003, co-partnered with the Oakland, Wayne, Macomb and City of Detroit public health departments to create, print and publish online *Emergency Action Plans for Retail Food Establishments* to respond to imminent health hazards. (This is a model to the nation; the Centers for Disease Control and Prevention (CDC) requested a copy while it was still being produced to use in the clean-up in hurricane-ravaged Florida.) The project includes an Emergency Action Plan (EAP) manual for each food operator, industry training, improved communication systems, and testing for the EAPs.

- Enrolled in the voluntary Food and Drug Administration's National Retail Food Regulatory Program Standards and began training food section field staff according to these standards.

- Continued to enforce statutes prohibiting the production and sale of raw milk and continued to educate consumers and producers about the risks associated with raw milk consumption.

- Shared information on 90 recalls and recall expansions affecting Michigan with food inspectors, local health officials and the general public. In June 2004, an outbreak due to Salmonella enteritidis, involving 29 laboratory confirmed cases spread over 12 states and parts of Canada, was identified. Staff from FDD, public health agencies and the FDA conducted a joint investigation that identified raw almonds originally processed in California as the source. FDD staff audited 106 Michigan food establishments that received the almonds to verify that recalls were effectively removing contaminated product from commerce. Information on 28 recalls of almonds or products containing almonds was shared with food safety regulators and consumers, through e-mail and the Internet.

- Worked closely with dairy processors to provide safe, wholesome dairy products to consumers, including 7,415 farm inspections.

- Continued to ensure food safety in Michigan's restaurants through a partnership between MDA and Michigan's 45 independent local health departments. MDA provides statewide program policy and direction as well as consultation and training services to local health department sanitarians. Local health department performance is evaluated every three years in conjunction with the Michigan Local Public Health Accreditation Program. The Accreditation Program helps assure accountability for the nearly $8.25 million allocated by the state to local health departments to conduct the food service sanitation program.

- Along with Governor Jennifer Granholm, set a goal to reduce the occurrence of the five behaviors and practices identified by the CDC as being the most prevalent contributing factors of foodborne illness. The goal is 25 percent reduction by 2011. The program includes baseline, midcourse, and final surveys; training; and industry support components.

- Changed Standard Operating Procedures (SOPs) for license applicants prior to opening a new food service establishment, to reflect increased emphasis on the five CDC identified risk factors.

- Created the Food Safety Training Database to assist the food industry and regulators in obtaining food safety training. The training database can be searched by location, specific language, course type, target audience, and the instructor's name.

- Developed a uniform license application and inspection report form for statewide use for Temporary Food Service Establishments.

- Presented six training courses for sanitarians at 13 locations across the state. A total of 290 local health department sanitarians spent over 2,270 combined classroom hours learning about Michigan's Food Law, Temporary Food Establishments / Special Transitory Food Units, Plan Review, Plumbing / Cross-Connections, and Accreditation Self-Assessment.

- Issued certificates to 19 local health department standardized trainers.

- Evaluated 21 local health departments. The week-long evaluation process includes both office and field components.

Human Resources Division

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The Human Resources Division (HR) supports department personnel in a variety of program areas. The division is responsible for the selection, hiring and compensation of department employees, as well as the administration of employee benefits, position classification, labor relations and training. HR oversees programs that ensure equal employment and equitable representation of groups within the department's work force. Programs include: recruitment, student programs, career seminars, reasonable accommodation coordination, sexual harassment complaint investigations, health and safety coordination, and compliance with the Americans with Disabilities Act (ADA). During FY 2004, HR:

- Collaborated with the Michigan Department of Civil Service to implement the new Human Resources Service Center. This program is jointly sponsored by the Executive Office; the Michigan Departments of Civil Service, Management and Budget, and Information Technology; and the Office of the State Employer, as a part of the Human Resources Optimization Project.

- Coordinated, with the Pesticide and Plant Pest Management Division, the implementation and administration of the Emerald Ash Borer Response Project.

- Coordinated and processed the hiring of 326 employees throughout the year. This included 85 full time employees; 31 non-career employees such as students and fruit/vegetable inspectors; and 310 special personal service contractual employees in State Fair operations, conservation services, and horse racing operations.

- Coordinated and conducted numerous training programs throughout the year. These included training in the areas of discriminatory harassment, workplace violence, performance management, targeted selection, and supervisory training.

- Collaborated with the Office of Great Workplace Development to conduct a pilot of the MI 360 evaluation project.

- Coordinated an annual Employee Recognition Ceremony to honor employees for their commitment to state government. Employees were recognized for years of service, promotions and special achievements. Awards included the Commission Awards for Excellence and Employee of the Year.

- Collaborated with the Office of the State Employer in the negotiation process for four primary collective bargaining agreements covering approximately 75 percent of all MDA employees.

Laboratory Division

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The Laboratory Division performs scientific and analytical services that support MDA programs. The laboratory also performs tests and offers technical consultation services for other state and federal agencies, as well as fee-based services to Michigan industry and private citizens. The Laboratory Division consists of two world-class facilities: the William C. Geagley Analytical Laboratory in East Lansing, Michigan, and the E.C. Heffron Metrology Laboratory in Williamston.

The Geagley Laboratory performs more than 300 different biological, chemical and physical tests on a routine basis. The laboratory examines food samples, beverages, pesticides, seeds, fertilizers, gasoline, and animal feeds to ensure a safe food supply, verify labels, ensure compliance with state and federal regulations and to guarantee product quality. The Geagley Laboratory also monitors food and animal feed for contaminants; tests blood and urine from competing race horses for performance altering drugs; and tests livestock samples in order to prevent the spread of infectious diseases.

The E. C. Heffron Metrology Laboratory renders ultra-precise mass, volume and length calibration certification for Michigan businesses, and houses the consumer protection programs for Weights and Measures and Motor Fuels Quality. The metrology laboratory also conducts regulatory services, calibrating standards used for enforcement by the Michigan Departments of Treasury and Agriculture, Michigan State Police, and all county road commissions. The tests and analyses conducted by the metrology laboratory assure that weights and measures in Michigan comply with national standards, making items eligible for international trade, and preventing economic fraud and deception.

During FY 2004, the Laboratory Division:

- Applied for and was selected for membership in FDA's Food Emergency Response Network (FERN) in the areas of both chemical and microbiological analyses at the Geagley Laboratory. FERN is a network of federal and state food laboratories that have the expertise and capability of testing foods for select agents that could be used in a terrorist attack on the food supply.

- Developed a Memorandum of Understanding (MOU) between the MDA and MDCH Laboratories detailing individual responsibilities related to a food security threat or crisis. The agreement also detailed support that each laboratory would provide the other in the event of a chemical or biological incident.

- Identified performance indicators for all division sections and began measuring performance in order to evaluate program effectiveness. Submitted a FY 04 Performance Indicator report to the Executive Office detailing division-wide level of performance.

- Successfully completed an upgrade of the Weights and Measures Field Inspection Software Program.

- Continued to work with a vendor to configure new Laboratory Information Management software to meet the division's needs.

- Released the first ever Geagley Laboratory Users Guide to aid customers in their interaction with Laboratory Division staff and analytical programs.

- Continue to configure and implement eWARS, a web based activity reporting system, for the division.

- Eliminated standard supplies to allow each section to more effectively monitor usage, adjust purchases as the volume and type of work activity changes, and control expenditures.

- Continue to modify operating procedures to meet Executive Directives issued by the Governor as well as provide supplies, equipment and services to meet section's operational needs.

- Applied for Homeland Security Funding and was approved to purchase video surveillance equipment for the Geagley facility. This hardware and software has been installed and will be operational in 2005.

- Completed a greenhouse glazing and mechanical project. All new Lexon glazing was installed in place of the old glass, along with new vent mechanical systems. New computerized environmental controls were also installed, with a new weather station. A complete masonry restoration and caulking project was also completed on the greenhouse.

- Contracted with an architectural firm to complete a study of the Motor Fuels Quality Laboratory to identify deficiencies and make recommendations to address environmental problems. Also included in the study were recommendations necessary for expansion of both gasoline and diesel fuel testing. Highlights of the report included, but were not limited to, replacement of the roof membrane, reconfiguration of the roof to allow for roof drains, increased air conditioning, and expansion of the fuel sample storage area. These renovations will ensure the laboratory will have the capabilities of safely and efficiently performing tests on motor fuels in anticipation of future program expansions

- Worked with DMB and an architectural firm to identify and correct an air balancing problem with three 100 percent exhausted Bio-Safety hoods that were decertified due to operational deficiencies. Work to correct the problem commenced in January, 2005.

- Performed over 170,000 tests on animal blood for the reportable diseases of brucellosis, equine infectious anemia, pseudorabies, Johne's disease, anaplasmosis and bluetongue. Approximately 46,000 of these were service samples bringing in revenue to the state.

- Performed surveillance testing of ticks for the indication of Rocky Mountain spotted fever.

- Continued to provide testing for a Johne's disease demonstration project, as part of a cooperative agreement with MSU and MDA's Animal Industry Division. The lab expects to receive and test approximately 4,000 of these samples during the ongoing project.

- Celebrated the section's successful completion of all annual federal proficiency and check test samples.

- Solved a serious brucellosis testing problem by tracing back to a defective batch of anti sera that had been provided by NVSL.

- Performed over 110,000 tests on over 20,000 samples in Equine Drug Testing (EDT) section in support of the Office of Racing Commissioner's regulation of pari-mutuel horseracing. Over 13,000 of these samples were submitted specifically for Total Carbon Dioxide (TC02) testing. The TC02 testing program has been operating since 1998 and over this past year, only one positive sample was found and reported, indicating the program continues to have the desired effect on controlling abuses related to "milkshaking" in race horses.

- In cooperation with the Fairs, Exhibitions and Racing Division, performed drug testing on approximately 1,200 harness horses racing at fairs and exhibitions throughout Michigan during the summer months.

- Participated in the "split-testing program" which offers confirmatory testing of samples that have been called "positive" for drugs in other states.

- Provided drug testing of animals at various livestock shows throughout Michigan and surrounding states to help ensure integrity in livestock competitions. This program has grown due to outreach efforts by the division at the annual Livestock Fair Shows Education Conference.

- Analyzed approximately 1,400 dairy, 400 meat, 12 smoked fish, 25 bottled water, 800 animal feed and 450 fertilizer samples for compliance to labeling and food safety requirements. Fourteen requests for analytical testing on food products were received from law enforcement agencies across the state. Over 7,200 test results were generated on these samples.

- Expanded commodity testing programs on feed to include screening for the presence of ruminant protein in animal feed and meat and bone meal. This testing is important in the efforts to keep BSE (or Mad Cow Disease) out of the U.S. An analyst received microscopic training to provide for confirmation of suspect positive samples.

- Renewed and fulfilled a partnership agreement with FDA for mycotoxin or pesticide testing of animal feeds.

- Obtained funding through a CDC grant to hire one technician to assist in emergency response to food safety emergencies.

- Participated in national workshops discussing the development of new analytical methods and techniques for the analysis of heavy metals in fertilizer and drugs in animal feed. Our participation in internationally sponsored collaborative studies to validate related methods for routine use is scheduled for FY 2005.

- Provided heavy metals analysis for cheese survey samples submitted by the Food & Dairy Division.

- Through the laboratory's Information Services Group, ensured accurate, timely sample test results with a one-day turnaround for 45,000 fee-generating samples for the Animal Disease Surveillance section; typed, proofed and distributed Reports of Analysis for 1,700 official samples for Microbiology and Food, Feed and Fertilizer sections; and distributed 22,000 EDT reports and 5,218 Pesticide and Environment, Food, Feed and Fertilizer, including Liquor Control, and the Motor Fuels Quality sections. Daily reports were also provided to Finance and Administrative Services for billing of testing fees for over 46,000 fee-generating tests.

- Through ISG, provided test result information for customers, backup for sample receiving functions, and phone and reception coverage for the Geagley Laboratory.

- Retained the Microbiology Section's accreditation to ISO 17025 Quality Standards in the field of biological testing through the American Association for Laboratory Accreditation (A2LA). Annual review took place in April.

- Continued work on two federally funded programs – Microbiology Data Program (MDP) and Antimicrobial Efficacy Testing. The MDP program received and tested (*for Salmonella* and *E. coli*) over 1,000 samples of fresh vegatables. Three additional commodities were added to the program during the year; green onions, parsley and cilantro. The Antimicrobial Efficacy Testing

- Tested approximately 1,900 gasoline samples for octane, oxygenates, vapor pressure, sulfur content, and distillation range. Of those, 118 were found not to meet requirements for AKI Octane number, 81 were found to not meet requirements for ASTM D-86 Distillation Range, and 45 samples were found that contained visible water.

- Obtained an additional ISL automated distillation apparatus. The unit now has 3 ISL Units and has salvaged the older ADA-V units. The MFQ Analysis Unit is in the process of acquiring a new GC/OFID for improved analyses of alcohol content.

- During the ozone monitoring period of June through September, monitored hydrocarbon vapor by performing vapor pressure analyses on samples collected in remote locations. This combined effort of the lab's analytical staff and MFQ inspectors enabled the division to examine more distribution locations, and allowed field staff more time to complete the Governor's May Day to Labor Day review of gasoline stations.

- Upgraded equipment and procedures for disposing of leftover gasoline, which was needed because of the increased number of gasoline samples collected for testing. The section purchased and installed a new gasoline distribution tank with electronic pump. Leftover fuel is being dispensed into state vehicles rather than through a costly hazardous waste disposal system. This process provides cost savings to the state through the reduction of fuel purchases.

- Monitored gasoline volatility at over 719 gasoline dispensing facilities to ensure that highly volatile fuels are not being sold in Southeastern Michigan reducing contribution to air pollution during summer months. This helped the area maintain National Ambient Air Quality Standards.

- Issued two Stop Sale Orders for selling non-compliant fuels with an additional nine firms self-correcting problems before stop sales were issued.

- Collected approximately 1,550 food samples for the Pesticide and Microbiological Data Programs (PDP, MDP) and the Triazole Sampling Project in FY04. Almost 70 percent of these samples were shipped to other states for analysis per the transshipping arrangement with USDA-PDP participants.

- Received 1,067 samples for pesticide residue analysis from food warehouses throughout the U.S., comparable to the 1,056 received in FY03. A total of 800 samples were reported after conducting 2,180 tests, with over half found to contain some pesticide residue, all but two well below federal tolerances.

- Completed the testing of onions and began testing of strawberries. A new method was developed and validated for the analysis of triazoles and their metabolites in strawberries in addition to validating them with the new QuEChRS method implemented in FY03. This increased the number of extractions performed in FY04 by 50 percent and increased the number of screening tests by almost 40 percent.

- Analyzed strawberries for 135 percent more pesticides than those analyzed in onions. Many of these pesticides present additional analytical challenges due to their relatively new arrival on the market. The program continues to work toward meeting the variable needs of EPA in collecting data for food safety decision makers and the registration of pesticides.

- Participated and performed well in five proficiency tests covering five commodities, an increase of almost 70 percent over FY03. Tests included one from USDA-PDP and four from FAPAS, an international proficiency testing program. Three internal proficiency checks were conducted by the Quality Assurance Section covering two commodities and 20 analytes. One internal proficiency check identified the need to re-evaluate and raise the limit of detection for a pesticide.

- Completed a review of the Pesticide Data Program's Quality Manual and all previously written Standard Operating Procedures. In addition, five new SOPs were written. Audits of the section tripled in FY04 as compared to FY03, six times the number done in FY02.

- Received 170 samples related to pesticide misuse investigations.

- Completed all samples related to an EPA funded worker protection project. The project provided pesticide exposure data on farm workers that enter fields after the application of pesticides.

- Continued screening of groundwater samples from farming properties for nitrates and triazine residues. Detection can indicate over-application of fertilizers and herbicides. Over 3,600 samples were tested.

- Received 18 dairy samples for pesticide residue analyses.

- Received 25 pesticide products and 16 disinfectant products for label claim verification. This activity is funded through EPA Cooperative Agreement.

- Completed or revised all EPA required Quality Documents and submitted them to the U.S. EPA Region 5 Headquarters. Documents included the Antimicrobial Chemistry Quality Assurance Project Plan (QAPP), the QAPP for FIFRA Pesticide Programs and the overall Quality Management Plan (QMP).

- Participated in five check sample tests evaluating proficiency in detecting many different pesticide compounds. Results were exceptional in all the sets.

- Received 424 agricultural, lawn and vegetable seed samples submitted by Pesticide and Plant Pest Management Division (PPPM) inspection staff for Michigan Seed Law compliance. A non-compliance rate of 19.1 percent was determined due to the failure to meet labeled claims or improper labeling.

- Examined 69 wild bird food samples for Michigan Feed Law compliance.

- Tested 1,840 voluntary compliance samples from farmers, seed distributors, state and federal agencies and others. Seed quality was assessed for compliance with Michigan seed quality standards or contractual specifications.

- Participated in a cooperative agreement with the enforcement of the USDA Federal Seed Act (FSA). There were 63 interstate seed samples examined for FSA compliance.

- Continued quality testing with acceptable turnaround time and consultation with customers at the Geagley Laboratory in an attenuated fashion.

- Conducted 9,400 weights and measures (W&M) device inspections at 2,400 establishments. Investigated over 1,002 complaints involving allegations of short weight, short measure and item pricing violations. Eighteen percent of the commercial devices inspected failed to meet the requirements of state law.

- Issued 36 W&M warning letters and held 16 industry compliance meetings.

- Issued 50 consent agreements for weights and measures violations, with fines and penalties of $311,850 assessed.

- Fully implemented a new W&M service registration program, with 317 service persons and 116 service agencies registered.

- Received continued accreditation for the E.C. Heffron Metrology Laboratory to the National Voluntary Laboratory Accreditation Program (NVLAP) and a Certificate of Measurement Traceability from the National Institute of Standards and Technology (NIST). NIST named the E.C. Heffron Metrology Laboratory as a regional small volume prover calibration laboratory and provided both technical and monetary support for the setup and accreditation of these calibrations.

- Tested over 8,600 commercial, law enforcement, and official legal metrology standards.

Agricultural Statistics

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Agricultural Statistics is responsible for compiling Michigan's official agricultural information database, which was established under a formal agreement between Michigan and the U.S. Department of Agriculture's National Agricultural Statistics Service (NASS).

Agricultural Statistics conducts numerous surveys and routinely prepares forecasts and estimates on acreage, yield and production of Michigan field crops, fruits and vegetables. Crop-weather information is provided weekly during the growing season to reflect current crop conditions and development progress. Agricultural Statistics also estimates Michigan's livestock, poultry and dairy populations, and tracks related commodity prices. The estimating program provides information on agricultural land values, farm numbers, land in farms, expenditures and labor. Growing areas, production and value of Michigan's floriculture industry are published annually. Another significant survey component involves collection of agriculture pesticide use data. Agricultural Statistics also conducts the Michigan Census of Agriculture every five years; supplemental surveys are periodically performed for aquaculture, irrigation, horticulture, and land ownership. During 2004, Agricultural Statistics:

- Provided county estimates for 14 major crop and livestock commodities as part of a cooperative program with MDA.

- Published the results of the Rotational Fruit Inventory, which included data on the acreage, varieties, and rootstock of Michigan fruit crops. Results were also published on questions which measured the impact that abandoned orchards have on current operations. The complete publication was put on the Internet, and an 8-page highlights release was sent to producers.

- Published the 2002 Census of Agriculture, which is conducted every five years. Preliminary information was released in February and final results were released in June. A publication containing county highlights and a profile for each county was released in September.

- Prepared a special Michigan Farm Facts publication to provide a graphical snapshot of Michigan's agricultural industry based on the census of agriculture.

- Provided support and the infrastructure necessary for growers to earn pesticide recertification credits for completing chemical use surveys. The PPPM Division approved three surveys in which growers could receive one credit for completing the survey. Many growers have expressed appreciation for this survey incentive and benefit.

- Collected chemical use information on soybeans, winter wheat, and eight vegetable crops. Survey data will be used to evaluate chemical use levels for the U.S. Environmental Protection Agency, to use in setting worker safety standards and in administering the Food Quality Protection Act (FQPA).

- Published the results of the Farm and Ranch Irrigation Survey, a part of the Census of Agriculture. Data were published on crops irrigated, sources of irrigation water, energy costs, and investments made in equipment and land improvements. These data will be used extensively in establishing the state's water policy with respect to agricultural use.

- Released the annual statistics bulletin, which included details of 2003 production, stocks, inventory, disposition, utilization and prices of agricultural commodities. The publication included MDA's annual report, Michigan rankings, record highs and lows, county estimates, and chemical usage data. A four-page Highlights publication was produced to communicate the value of Michigan agriculture to as widespread an audience as possible.

- Worked with the National Association of State Departments of Agriculture (NASDA), using telephone and field enumerator staff located throughout the state and employed by NASDA, to assist in collecting data from farmers and agribusinesses.

The Office of Racing Commissioner

Robert Geake, Racing Commissioner
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The Office of Racing Commissioner (ORC) is an independent agency within MDA that regulates pari-mutuel horse racing in Michigan, in accordance with the state's Horse Racing Law and the rules of the Racing Commissioner.

The Racing Commissioner, appointed by the Governor for a four-year term, prescribes rules, regulations and conditions under which all pari-mutuel horse racing meets are conducted in the state.

The ORC allocates race dates and issues track, race meeting and occupational licenses. The office also collects license and track revenues, appoints stewards and veterinarians to represent the state, approves track-appointed officials, and monitors the daily conduct of horse racing. ORC also conducts equine and human drug testing programs, and investigates any irregularities in racing

that may lead to formal hearings and sanctions. ORC functions primarily as a regulatory agency, but also focuses on improving and promoting horse racing in Michigan. Christine White was appointed Acting Racing Commissioner in January 2005, replacing Robert Geake, whose term expired December 31, 2004. During FY 2004, the ORC:

- Implemented a new rule providing for an Administrative Fee for all certified horsemen organizations.
- Expanded the use of broadband Internet connectivity improving the efficiencies associated with the issuance of occupational licenses at Michigan's race tracks.
- Approved the transfer of track license for Great Lakes Downs to Richmond Racing Co., LLC, continuing the presence of thoroughbred racing in Michigan.
- Held public hearings in the consideration of a new track license to be issued in the Detroit Metropolitan area.
- Issued a new track license to Platinum Partners, LLC, to construct a race track in Windsor Township in the greater Lansing area.
- Granted live racing dates for 2005, resulting in the scheduling of 538 dates of live horse racing at Michigan's seven licensed pari-mutuel facilities.
- Conducted a statewide emergency management exercise to ascertain the readiness of Michigan's race tracks.
- Maintained a significant regulatory presence at the race tracks, conducting 18,791 equine and human drug tests to determine compliance with ORC rules and regulations.
- Continued to improve the simulcast tax deposit program for the seven pari-mutuel tracks in the state. This program expanded the amount of time saved for employees at the tracks, the ORC, the Michigan Department of Treasury, and MDA. Increased the reconciliation and monitoring capabilities of ORC.
- Promoted public awareness of Michigan horse racing by participating in the MSU Horse Expo, Novi Stallion Expo, Michigan Parade and a horse racing exhibit at the 2004 Michigan State Fair in Detroit.

Pesticide & Plant Pest Management Division

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The Pesticide and Plant Pest Management (PPPM) Division, is responsible for the enforcement of laws and regulations pertaining to the manufacture and distribution of agricultural products, the sale and use of pesticides, exotic pest interception and control, pest management, fruit and vegetable inspection and groundwater protection. In cooperation with multiple federal agencies, and under the authority of both state and federal laws, the PPPM division administers programs to protect human health and the environment from potential risks related to the improper use of pesticides. The division also oversees programs to control exotic pests, certify nursery stock and other plant material for interstate shipment, inspect and grade fruits and vegetables, and certify commodities for export. PPPM also ensures consumer protection through proper storage and labeling of agricultural products such as feed, seed, fertilizer and animal remedies. During fiscal year 2004, the PPPM division recorded many significant accomplishments. Of note are the great strides made in the attempt to control and eradicate the Emerald Ash Borer. During FY 04, PPPM:

- Completed its second full year in the battle against Emerald Ash Borer which continues its menacing campaign against the state's 700 million ash trees, and the ash resources in Ohio, Indiana and Ontario. While initially little was known about the beetle, the EAB multi-agency cooperative response project – encompassing the Michigan Departments of Agriculture (MDA) and Natural Resources (DNR); the U.S. Department of Agriculture (USDA) Animal and Plant Health Inspection Service; the U.S. Forest Service; and Michigan State University (MSU) - has been able to make tremendous strides in learning more about the pest and its biology and also in survey/detection, containment, outreach and education efforts.

- Continued EAB detection and survey activities, including: inspecting 1,955 "high risk" sites, including nurseries, campgrounds, and sawmills; surveying and recording 70,030 total visual survey data points covering 500,000+ acres; and responding to 3,355 calls via the state's toll-free EAB hotline, leading to 447 warranted follow-up investigations.

- Developed and implemented a statewide EAB detection program to act as an early warning system for potential EAB infestations. More than 10,000 trap trees were strategically located in every township at varying densities in each of Michigan's 83 counties, except those in the known generally infested area. EAB larvae and adults were collected from approximately 150 trap trees, identifying seven new county infestations outside the 13-county quarantine and alerting Michigan officials to areas where containment and eradication efforts are needed.

- Focused EAB regulatory activities on enforcing the quarantine and increasing compliance. Regulatory activities included monitoring the movement of ash products, conducting regular inspections and investigations.

- Updated the EAB quarantine based on survey data collection and analysis on March 25, August 15 and December 27, 2004. These amendments were based upon the extensive survey efforts conducted in 2004, which have provided a clearer picture of where the beetle exists in our state. It also ensures that the state's strategy and quarantine are responsive to changing information and based on the best available science and data.

- Conducted 17 investigations of potential EAB quarantine violations, with five leading to legal action or prosecution to date.

- Established firewood checkpoints along major interstates leading out of EAB regulated areas during key travel holiday weekends, including Memorial Day and Labor Day, and again at the beginning of firearm deer hunting season. These events provided an opportunity for staff to have contact with thousands of travelers and confiscate illegally moved firewood.

- Expanded sanination/disposal activities to remove and dispose of EAB infested dead and dying ash trees, an important component in containing and reducing the spread of this destructive pest. Activities included: cutting and properly disposing of approximately 192,000 infested or at-risk trees in outlier sites across the state; continuing or starting operation of eight disposal sites in southeast Michigan; safely disposing of more than 200,000 tons of ash materials; expanding approved "value added" activities to turn collected material into marketable ash products, such as lumber, railroad ties, and tool handles; and continuing review of additional wood processors to meet containment objectives, enhance quarantine compliance and provide community assistance.

- Developed EAB response strategies based upon site-specific information, including location, geography of the area and distribution of the pest. Strategies included the removal of all ash trees located within a half-mile radius of the last known EAB infestation in an outlier area, thereby eradicating the insect and infestation; and conducting a 200-yard cut of ash trees in key control areas, thereby suppressing the infestation to minimize further spread.

- Detected numerous isolated EAB infestations outside the known generally infested area. Prioritized outlier infestations based on: pest populations; location; risk of spread; and national/international significance. Control and eradication activities have impacted approximately 8,300 property owners.

- Developed a detailed EAB outreach and education system for each impacted area, outlining the state's response plan and providing one-on-one question and answer opportunities for impacted residents and businesses. This included a series of public meetings, media updates and 'tag-alongs.'

- Coordinated activities of the EAB Communications Committee, whose membership includes communications and outreach professionals from each of the state's Cooperative Response Project partners, to ensure coordinated, consistent information.

- Conducted an intensive public hearing and public input/comment process leading MDA to determine the beetle a Michigan public nuisance at control and eradication sites.

- Produced and disseminated numerous outreach and education materials to stakeholders.

- Appointed 13 education outreach facilitators through MSU Extension in counties most impacted by EAB.

- Conducted legislative and local official tours and briefing sessions regarding the latest EAB news and efforts.

- Hosted numerous EAB informational booths, educational seminars, workshops and group discussions at the state and national level, including a workshop for green industry professionals and local planners in February and a symposium in October.

- Initiated a major communication effort, with Governor Jennifer M. Granholm's declaration of May 24-30 as "Emerald Ash Borer Awareness Week" as its centerpiece.

- Conducted a paid advertising campaign utilizing billboards along major northbound interstates, radio public service announcements, and trade publications to underscore the "Don't move firewood" message.

- Provided 54 grants totaling more than $855,000 to communities within the 13 EAB quarantined counties. More than 10,000 trees will be replanted through these grants.

- Provided 11 grants totaling more than $201,000 to communities located in EAB outlier areas throughout Michigan. More than 1,800 trees will be replanted through these grants.

- Assisted EAB grant recipients with urban/community forestry management.

- Assisted property owners impacted by EAB through one-on-one technical assistance site visits, phone consultations and restoration educational materials.

- Inspected and certified more than 11,000 acres of nursery stock and more than 19,000 acres (699 fields) of commercial Christmas tree farms for compliance with interstate and international trade requirements.

- Issued 2,149 federal phytosanitary certificates for exports of agricultural commodities. Commodities certified for export included beans and grain, fruits and vegetables, logs and lumber, and propagative plants and plant parts.

- Inspected 41 high-risk production nurseries and collected 1,435 samples across 29 host species as part of the National Nursery Survey to detect Ramorum blight, also known as Sudden Oak Death. The top three species analyzed were rhododendron, viburnum and lilac. A total of 231 additional samples were taken at 24 retail sites to look for 10 specific exotic pest species, including *P. ramorum*.

- Collected specimens of the perennial "Sunny Border Blue" Veronica from a Michigan nursery. The samples were found to be infected with a rust fungus not previously known to occur in the U.S. The disease was identified as Veronica rust, *Puccinia veronicae-longifoliae*.

- Detected an exotic beetle, *Callidiellum villosulum*, (brown fir longhorned beetle), in natural wood trunks of artificial Christmas trees imported from China. USDA confirmed the identity of specimens collected by MDA staff. As a result of prompt action, a national recall was issued for these types of trees.

- Conducted 358 inspections at facilities producing or distributing animal feeds. PPPM inspectors have been inspecting feed manufacturing facilities throughout the state for compliance with FDA Bovine Spongiform Encephalopathy (BSE) regulations since 1998.

- Investigated five complaints alleging feed-related animal deaths or illnesses, problems with feed quality, or adulteration. Collected and submitted 663 samples to ensure feed safety and label guarantees.

- Conducted 238 seed inspections at facilities producing or distributing seed. Inspectors issued 74 violation notices and removed $632,476 worth of violative seed products from the channels of trade.

- Submitted for testing 9,687 fruit tree samples from Hilltop Nursery, LLC, of Hartford, for Prunus Necrotic Ring Spot Virus (PNRSV) and Prunus Dwarf Virus (PDV). Only 0.9 percent of the samples tested positive for these viruses while all of the 2,000 virus-indexed trees did not develop symptoms.

- Submitted for testing 700 samples, representing 990,000 plants in 95 varieties, from three commercial blueberry nurseries under the blueberry virus certification. All samples tested

negative for the target viruses (TRSV and ToRSV). As part of this program, 1,745 blueberry bushes were tested and tagged in the mother-block nursery of Tower View Nursery.

- Reviewed 37 biotechnology applications and import permits in cooperation with USDA-APHIS. In FY04, MDA, under an agreement with USDA-APHIS, approved two permits for field trial studies, nine for interstate movement, and 26 for both field trials and interstate movement. Biotechnology activities took place in eight counties. Under the PPQ program, 15,000 hibiscus cuttings and 23 hydrangea plants were released from post-entry quarantine.

- Tested 126 dry bean samples of which 77 were certified and 49 were non-certified. Six samples (2.6 percent) of certified seed and five (10.2 percent) of non-certified seed were positive for bean blight. All certified seed samples tested negative for common bean mosaic virus (CBMV).

- Processed a total of 367 seed corn samples representing 22,495 acres from seven growers, for fungal, bacterial and viral diseases. Samples were collected and delivered to the MDA pathology lab by field inspectors from PPPM and the Michigan Crop Improvement Association (MCIA). Twenty-eight of the seed cornfields submitted for certification tested positive for Stewart's wilt (*Erwinia stewartii*) while another 34 tested positive for Goss' wilt (*Clavibacter michiganensis subsp. nebraskensis*).

- Tested (for export requirement) 35 potato samples from eight growers for Potato Virus Y strain n (PVYn). All samples tested negative for the virus.

- Processed a total of 1,707 samples of various plant species and genera known to be susceptible to Phytophthora ramorum from 66 facilities. *P. ramorum* is a plant pathogenic protist that has been reported in a number of states and poses a threat to the nation's oak trees. All Michigan samples tested negative for *P. ramorum* and the disease has not been reported in the state. This disease is referred to as ramorum blight or sudden oak death.

- Coordinated the gypsy moth cooperative suppression program, resulting in the treatment of 24,581 acres in 11 counties. The program provided relief to residents and communities in heavily infested areas including one national lakeshore.

- Conducted 2,942 shipping-point inspections for quality prior to shipment for export, domestic or government purchase. During FY04, Fruit and Vegetable Inspection staff conducted 1,294 market inspections helping resolve disputes on the quality and/or condition of produce received in Michigan from other states or foreign countries. In addition, 17,113 process inspections were conducted on cherries, grapes, apples, blueberries, and peppers when received at state processing plants.

- Fruit and Vegetable Inspection staff conducted three USDA/MDA Good Handling Practices (GHP) audits at two apple and one blueberry packing shed. The GHP audit is a new volunteer program to minimize microbial food safety hazards for fresh fruits and vegetables.

- Submitted 17 requests to EPA for emergency exemptions to allow the use of an unregistered pesticide to control an emergency pest problem, in accordance with Section 18 of the Federal Insecticide, Fungicide and, Rodenticide Act (FIFRA). MDA also submitted a Section 18 request for 10 products to control Asian Soybean Rust.

- Conducted pesticide product and use-related inspections and investigations, including 153 pesticide use investigations, 35 of which occurred in agricultural situations; 85 planned use inspections, 50 of which occurred at commercial applicator facilities; 31 pesticide-producing establishment inspections; 29 federal marketplace inspections; 43 restricted use pesticide audits; and 1,266 compliance monitoring contacts/inspections.

- Investigated the detection of ethylene dibromide (EDB) in well water at a farm in Mattawan, Michigan. This was the site where Grape Root Nematode was first detected in 1983 and eradication efforts included the use of EDB.

- In conjunction with state partners, participated in the West Nile virus (WNV) Core Work Group, coordinating state WNV surveillance, and outreach and response activities.

- Administered 13,674 examinations to individuals seeking pesticide applicator certification or registration credentials, and approved 855 seminars for recertification credits, allowing 1,489 applicators to renew their credentials through continuing education programs.

- Conducted more than 428 sanitation inspections of Michigan's grain elevators and feed manufacturing facilities to ensure the safety and integrity of stored raw grain commodities and animal feed products.

- Continued a partnership with state agencies and stakeholders to advise agricultural dealers and farmers on how to deter illicit use of anhydrous ammonia and ammonium nitrate, while protecting its safe, intended use.

- Conducted more than 255 inspections and issued 121 notices for fertilizer and liming materials found to be in violation of the fertilizer and liming laws. This resulted in the interception and removal of about $70,000 worth of violative fertilizer and liming products from distribution.

- Submitted 622 fertilizer samples to ensure label guarantees and a wholesome food supply. Issued 20 warning letters and two informal hearing notices to manufacturers with significant fertilizer sample violation rates.

- Conducted annual inspections of commercial facilities storing bulk pesticides and fertilizers to ensure all commercial facilities storing bulk agrichemicals in Michigan have containment, proper security measures and emergency plans in place. Tank failures occurred at three state storage facilities; however, the secondary containment inspected by PPPM prevented more than 500,000 gallons of liquid fertilizer from being released into the environment.

- Partnered with the Groundwater Monitoring Program to monitor water quality at bulk storage facilities by collecting 50 well samples. This project will better determine the nature and extent of pesticide and fertilizer contamination in groundwater, if any, at bulk agrichemical facilities.

- Conducted outreach activities to inform staff, industry, and producers about the newly implemented Regulation 642, On-Farm Fertilizer Bulk Storage. This regulation became effective in August 2003, and establishes a statewide standard for the storage and handling of bulk liquid fertilizer on the farm.

- Initiated an advisory workgroup to develop and review proposed fertilizer bulk storage regulation amendments that focus on current containment technology and regulatory needs. Entered into three compliance agreements for the implementation of a bladder system as an alternative design, stipulating that firms follow the technical specifications and standards in the proposed amendments.

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Rank in U.S. agriculture by selected commodities, 2004

Rank	Item	Unit	Quantity	Percent of U.S.	Leading state
			Thousands	*Percent*	
1	Beans, dry, black	Cwt	1,290	69.0	Michigan
	Beans, dry, cranberry	Cwt	130	72.2	Michigan
	Beans, dry, light red kidney	Cwt	212	26.2	Michigan
	Beans, dry, navy	Cwt	970	45.3	Michigan
	Beans, dry, small red	Cwt	261	43.4	Michigan
	Blueberries	Pounds	80,000	35.2	Michigan
	Cherries, tart	Pounds	149,000	70.0	Michigan
	Cucumbers (for pickles)	Tons	172.5	29.4	Michigan
	Flowering hanging baskets	Number	5,050	11.4	Michigan
	Geraniums (seed and cuttings)	Pots	21,827	22.0	Michigan
	Impatiens	Flats	2,309	18.4	Michigan
	Petunias	Flats	1,662	15.1	Michigan
2	Beans, dry, all	Cwt	3,145	17.7	North Dakota
	Carrots (fresh market)	Cwt	1,302	4.9	California
	Celery	Cwt	1,232	6.6	California
	Hosta	Pots	1,825	13.1	South Carolina
	Marigolds	Flats	815	13.3	California
3	Apples	Pounds	760,000	7.3	Washington
	Asparagus	Cwt	290	17.0	California
	Beans, dry, dark red kidney	Cwt	80	11.7	Minnesota
	Cucumbers (fresh market)	Cwt	1,295	13.4	Florida
	Grapes, Niagara	Tons	19.4	30.7	Washington
	Other potted perennials	Pots	21,215	10.4	California
	Vegetable type bedding plants	Flats	573	7.7	California
4	Beans, snap (processing)	Tons	61.3	7.4	Wisconsin
	Carrots (processing)	Tons	32.5	7.6	Washington
	Cherries, sweet	Tons	24.7	8.7	Washington
	Grapes, all	Tons	62.5	1.0	California
	Grapes, Concord	Tons	34.9	9.8	Washington
	Squash	Cwt	1,120	14.4	California
	Sugarbeets	Tons	3,439	11.5	Minnesota
	Tomatoes (processing)	Tons	108.5	0.9	California
5	Plums	Tons	2.5	3.4	California
	Pumpkins	Cwt	1,008	10.1	Illinois
6	Maple syrup	Gallons	80	5.3	Vermont
8	Milk	Pounds	6,315,000	3.7	California
10	Potatoes	Cwt	13,650	3.0	Idaho
11	Corn, for grain	Bushels	257,280	2.2	Iowa
	Soybeans	Bushels	75,240	2.4	Illinois
14	Hogs, as of Dec. 1, 2004	Head	950	1.6	Iowa
	Wheat, winter	Bushels	40,960	2.7	Kansas
22	Hay, all	Tons	3,270	2.1	Texas
	Cash receipts	Dollars	4,312,320	1.8	California
31	Cattle, as of Jan. 1, 2005	Head	1,010	1.0	Texas

Number of farms and land in farms by economic sales class, 2000-2004 [1]

Year	Economic sales class					Total	Average size of farm
	$1,000-$9,999	$10,000-$99,999	$100,000-$249,999	$250,000-$499,999	$500,000+		
	1,000 farms	*1,000 farms*	*1,000 farms*	*1,000 farms*	*1,000 farms*	*1,000 farms*	
2000	29.4	16.5	3.6	2.0	1.5	53.0	
2001	30.7	15.5	3.4	1.9	1.5	53.0	
2002	31.7	15.1	3.2	1.8	1.5	53.3	
2003	31.7	15.1	3.2	1.8	1.5	53.3	
2004	31.4	15.0	3.1	1.9	1.8	53.2	
	Million acres	*Million acres*	*Million acres*	*Million acres*	*Million acres*	*Million acres*	*Acres*
2000	1.97	2.70	1.78	1.57	2.13	10.15	192
2001	1.98	2.68	1.70	1.58	2.18	10.12	191
2002	1.99	2.66	1.63	1.59	2.22	10.09	189
2003	2.00	2.60	1.65	1.59	2.25	10.09	189
2004	1.90	2.60	1.60	1.60	2.40	10.10	190

[1] USDA estimates of farm number and land in farms are based on the definition "a farm is any establishment from which $1,000 or more of agricultural products were sold or would normally be sold during the year."

Farm real estate: Values and cash rents, 2001-2005

Year	Farm real estate average value per acre	Cropland	
		Average value per acre	Average cash rent per acre
	Dollars	*Dollars*	*Dollars*
2001	2,280	1,980	60
2002	2,470	2,150	60
2003	2,680	2,350	60
2004	2,920	2,550	62
2005	3,150	2,750	62

Farm Income

Net farm income in 2004 rose 42 percent to a record high $1.06 billion. That includes $215 million of government payments. The total agriculture output was $5.07 billion dollars, up 12.4 percent from 2003. Production expenses were $2.54 billion in 2004, up 3.6 percent from the previous year.

Preliminary cash receipts from 2004 marketings of Michigan crops, livestock and livestock products totaled $4.31 billion, up 11.1 percent from 2003. Michigan ranked twenty-second nationally in total cash receipts.

Crop receipts, at $2.57 billion, were up 3.5 percent from 2003. Increases were noted in the market value of fruit crops, vegetables, and nursery/floriculture marketings. Livestock cash receipts were up 24.5 percent from a year earlier to $1.75 billion.

In 2004, the top ten Michigan commodities ranked by cash receipts were milk, corn, soybeans, annual bedding plants, cattle and calves, hogs, woody ornamentals, wheat, sugarbeets, and blueberries.

Government payments, 2000-2004 [1]

Program	2000	2001	2002	2003	2004
	1,000 dollars	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Conservation programs	16,842	21,335	28,193	32,084	34,284
Production flexibility contract payments	87,564	68,405	59,438	-5,402	-104
Direct payments	NA	NA	1,684	122,094	89,512
Loan deficiency payments	112,565	101,666	24,332	897	56,377
Miscellaneous programs	17,713	17,962	[2] 39,619	[2] 67,928	[2] 26,721
Supplemental Funding	[3] 146,372	[3] 143,398	NA	NA	NA
Milk income loss payments	NA	NA	37,215	37,984	8,442
Total	381,056	352,766	190,481	255,585	215,232

[1] Source: U.S. Department of Agriculture, Economic Research Service.
[2] Programs included are marketing loan gains, ad hoc payments, counter cyclical payments, and miscellaneous payments; CAT, NAP, and repayments are no longer included.
[3] Provided by the Omnibus Supplemental Appropriations Act of 1999 and the Emergency Assistance Provisions of Agriculture Appropriation 2000.

Value added to the economy by the Michigan agricultural sector 2000-2004 [1]

Item [2]	2000	2001	2002	2003	2004
	Million dollars	*Million dollars*	*Million dollars*	*Million dollars*	*Million dollars*
Final crop output	2,015.4	1,888.1	2,250.9	2,403.8	2,634.7
Food grains	78.4	99.4	94.4	142.3	128.1
Feed crops	344.6	405.8	438.1	501.4	518.9
Oil crops	324.5	293.0	364.0	434.1	423.4
Fruits and tree nuts	238.5	214.7	155.1	250.3	296.7
Vegetables, potatoes, dry beans	402.6	349.6	400.7	443.3	439.1
All other crops	609.1	654.3	712.8	708.9	760.1
Home consumption	7.0	6.6	6.3	5.1	3.8
Value of inventory adjustment [3]	10.7	-135.3	79.6	-81.6	64.4
Final animal output	1,314.6	1,511.2	1,286.2	1,451.4	1,732.1
Meat animals	458.7	442.9	371.7	385.1	501.5
Dairy products	729.5	883.1	733.3	795.7	1,020.4
Poultry and eggs	104.2	124.8	133.3	170.3	174.4
Miscellaneous livestock	47.1	47.2	51.7	50.8	49.5
Home consumption	2.6	2.4	2.3	5.0	7.8
Value of inventory adjustment [3]	-27.4	10.7	-6.1	44.7	-21.6
Services and forestry	548.9	679.1	595.3	654.3	700.6
Machine hire and custom work	31.6	59.0	35.8	29.9	29.7
Forest products sold	10.0	10.0	11.9	11.9	11.9
Other farm income	139.0	213.9	123.8	172.4	210.4
Gross imputed rental value-farm dwellings	368.3	396.2	423.8	440.1	448.6
Final agricultural sector output	3,878.9	4,078.4	4,132.5	4,509.6	5,067.4
less: Purchased inputs	2,242.5	2,433.0	2,304.6	2,450.1	2,538.7
Farm origin	671.5	721.6	708.0	780.9	824.5
Feed purchased	342.2	368.2	344.2	410.9	460.4
Livestock and poultry purchased	54.9	55.4	42.0	40.7	39.4
Seed purchased	274.4	297.9	321.9	329.3	324.6
Manufactured inputs	689.1	706.4	680.8	712.5	778.9
Fertilizers and lime	241.2	265.3	232.6	251.8	293.2
Pesticides	233.2	221.1	225.3	236.9	246.6
Petroleum fuel and oils	159.8	160.7	149.9	170.5	177.4
Electricity	54.9	59.3	73.0	53.3	61.7
Other intermediate expenses	881.9	1,005.0	915.8	956.7	935.4
Repair and maintenance of capital items	276.5	376.4	297.8	258.5	315.6
Machine hire and custom work	72.2	116.6	72.5	51.6	49.3
Marketing, storage, and transp. Expenses	123.0	96.2	120.3	84.8	117.2
Contract labor	14.9	25.0	20.0	32.5	37.3
Miscellaneous expenses	395.3	390.8	405.2	529.4	416.0
plus: Net government transactions	132.6	99.9	-45.8	21.6	-13.6
plus: Direct Government payments	381.1	352.8	190.5	255.6	215.2
less: Motor vehicle reg. And licensing fees	8.6	9.9	8.7	7.4	6.6
less: Property taxes	239.9	242.9	227.6	226.6	222.2
Gross value added	1,769.0	1,745.3	1,782.0	2,081.0	2,515.1
less: Capital consumption	577.1	592.8	614.0	631.7	667.0
Net value added	1,191.9	1,152.5	1,168.0	1,449.4	1,848.1
less: Payments to stakeholders	831.6	806.6	834.7	706.9	791.2
Employee compensation (total hired labor)	563.0	553.2	573.8	462.9	547.5
Net rent received by nonoperator landlords	3.6	9.5	24.1	17.9	12.3
Real estate and nonreal estate interest	265.0	243.9	236.8	226.0	231.4
Net farm income	360.3	345.9	333.3	742.5	1,056.9

[1] Source: U.S. Department of Agriculture, Economic Research Service.

[2] Final sector output is the gross value of the commodities and services produced within a year. Net value-added is the sector's contribution to the National economy and is the sum of the income from production earned by all factors-of-production. Net farm income is the farm operator's share of income from the sector's production activities. The concept presented is consistent with that employed by the Organization for Economic Cooperation and Development.

[3] A positive value of inventory change represents current-year production not sold by December 1. A negative value is an offset to production from prior years included in current-year sales.

Cash receipts by commodity groups and selected commodities 2000-2004 [1]

Item	2000	2001	2002	2003	2004
	1,000 dollars	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
Total cash receipts	3,337,131	3,514,867	3,455,009	3,882,079	4,312,320
Total livestock and products	1,339,468	1,498,038	1,289,953	1,401,811	1,745,883
Meat animals	458,683	442,850	371,705	385,053	501,549
Cattle and calves	255,892	227,930	204,587	207,722	262,757
Hogs	200,485	212,599	164,324	173,671	234,992
Sheep and lambs	2,306	2,321	2,794	3,660	3,800
Dairy (milk)	729,495	883,120	733,260	795,690	1,020,380
Poultry and eggs	104,230	124,843	133,282	170,298	174,416
Eggs	56,464	61,063	63,237	93,613	94,256
Turkeys	40,460	56,700	62,832	68,760	69,560
Other	7,306	7,080	7,213	7,925	10,600
Miscellaneous livestock	47,060	47,225	51,706	50,770	49,538
Honey	3,240	3,694	7,762	6,782	5,095
Mink pelts	1,719	1,445	1,809	1,744	2,045
Trout	1,037	823	663	691	790
Other	41,064	41,263	41,472	41,553	41,608
Total crops	1,997,663	2,016,829	2,165,057	2,480,268	2,566,438
Field crops	937,592	941,341	1,074,920	1,271,529	1,255,960
Corn	295,917	346,105	383,009	438,795	458,050
Dry beans	75,340	24,669	50,068	62,989	54,814
Hay	45,379	56,232	50,337	57,745	56,726
Soybeans	324,092	292,548	363,489	433,442	422,684
Sugarbeets	106,514	112,056	122,393	124,780	124,780
Wheat	77,613	98,841	93,871	141,787	127,506
Other	12,737	10,890	11,753	11,991	11,400
Vegetables	327,279	324,975	350,635	363,897	384,329
Asparagus	18,075	12,516	11,703	19,278	18,708
Beans, snap	16,778	15,614	16,321	11,208	18,660
Carrots	19,292	25,358	19,934	21,907	17,899
Celery	13,421	12,650	14,441	17,641	18,819
Corn, sweet	13,430	11,880	16,800	14,193	13,904
Cucumbers, fresh	25,192	24,200	20,520	20,890	30,174
Cucumbers, pickles	38,700	30,843	30,153	36,180	35,363
Onions	9,127	8,124	9,851	12,562	11,519
Peppers, green, fresh	10,395	8,008	9,600	9,900	13,572
Potatoes	87,362	91,478	93,143	92,892	87,186
Pumpkins	8,448	6,336	13,056	14,308	13,104
Squash	9,333	15,254	22,365	15,314	16,240
Tomatoes, fresh	18,115	13,230	12,810	16,456	26,208
Tomatoes, processing	6,804	8,432	10,458	10,408	8,789
Other	32,807	41,052	49,480	50,760	54,184
Fruit	238,523	214,682	155,113	250,255	296,689
Apples	91,304	78,217	67,091	74,927	95,160
Blueberries	55,140	49,840	52,240	63,105	97,210
Grapes	24,156	10,110	14,760	24,830	18,740
Peaches	11,340	12,503	4,452	7,790	10,274
Strawberries	6,145	4,682	5,228	6,320	4,005
Sweet cherries	10,290	11,092	2,222	10,795	16,311
Tart cherries	36,370	44,412	7,192	57,938	49,861
Other	3,778	3,826	1,928	4,550	5,128
Miscellaneous crops	17,670	20,086	21,611	37,033	20,251
Floriculture and nursery	476,599	515,745	562,778	557,554	609,209

[1] Source: U.S. Department of Agriculture, Economic Research Service.

Soybean production costs and returns, excluding direct Government payments, 2002-2003

Item	United States		Northern Crescent [1]	
	2002	2003	2002	2003
	Dollars per planted acre	*Dollars per planted acre*	*Dollars per planted acre*	*Dollars per planted acre*
Gross value of production	210.64	233.61	213.96	194.46
Operating costs:				
Seed	25.45	27.42	25.65	27.46
Fertilizer	6.79	7.39	10.39	11.00
Soil conditioners	0.11	0.12	0.23	0.25
Manure	0.40	0.46	1.48	1.75
Chemicals	17.12	16.92	17.29	16.96
Custom operations	6.16	6.32	8.99	9.37
Fuel, lube, and electricity	6.98	8.73	8.27	10.30
Repairs	9.76	9.77	11.28	11.14
Purchased irrigation water	0.12	0.12	0.00	0.00
Interest on operating capital	0.61	0.41	0.70	0.47
Total, operating costs	73.50	77.66	84.28	88.70
Allocated overhead:				
Hired labor	1.84	1.90	3.14	3.26
Opportunity cost of unpaid labor	15.59	16.11	21.02	21.76
Capital recovery of machinery and equipment	43.30	43.43	49.03	48.44
Opportunity cost of land (rental rate)	80.74	81.93	69.13	69.41
Taxes and insurance	5.66	5.80	7.18	7.43
General farm overhead	11.37	11.66	13.61	14.10
Total, allocated overhead	158.50	160.83	163.11	164.40
Total, costs listed	232.00	238.49	247.39	253.10
Value of production less total costs listed	-21.36	-4.88	-33.43	-58.64
Value of production less operating costs	137.14	155.95	129.68	105.76
Supporting information:				
Yield (bushels per planted acre)	40	36	41	30
Price (dollars per bushel at harvest)	5.20	6.56	5.18	6.50
Enterprise size (planted acres) [2]	268	268	135	135
Production practices: [2]				
Irrigated (percent)	9	9	3	3
Dryland (percent)	91	91	97	97

[1] Includes NE Minnesota, Wisconsin, Michigan, NE Ohio, Pennsylvania, New York, and New England.
[2] Developed from survey base year, 2002.

Livestock and products: Marketing year average prices received by farmers, 2000-2004

Marketing year	All hogs per cwt	All beef per cwt [1]	Cows per cwt [2]	Steers and heifers per cwt	Milk cows per head [3]	Calves per cwt	Market eggs per dozen	All milk wholesale per cwt	Turkeys per pound [4]
	Dollars	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*
2000	40.70	56.00	38.10	63.60	1,350	102.00	0.419	12.90	0.34
2001	41.70	58.80	41.70	66.10	1,460	109.00	0.437	15.20	0.35
2002	30.70	54.20	39.00	60.50	1,580	104.00	0.403	12.10	0.35
2003	35.00	63.00	41.60	72.00	1,370	92.50	0.595	12.60	0.36
2004	45.90	68.70	50.40	76.60	1,640	109.00	0.562	16.30	0.37

[1] Combined price for "Cows" and "Steers and Heifers."
[2] Beef cows and cull dairy cows sold for slaughter.
[3] Sold for dairy herd replacement only. Prices published January, April, July, and October.
[4] Data not available prior to 1999.

Livestock and products: Monthly prices received by farmers, 2004-2005

2003-2004 Marketing years	All hogs per cwt	Beef cattle per cwt [1]	Cows per cwt [2]	Steers and heifers per cwt	Milk cows per head [3]	Calves per cwt	Market eggs per dozen	All milk wholesale per cwt
	Dollars	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*
2003								
December	33.60						0.770	
2004								
January	34.10	64.60	45.00	73.00	1,450	90.00	0.840	13.30
February	39.40	64.50	47.00	72.00		95.00	0.780	13.60
March	43.40	66.30	46.00	75.00		95.00	1.030	15.30
April	43.10	67.60	48.00	76.00	1,600	100.00	0.590	18.00
May	49.30	72.60	53.00	81.00		110.00	0.450	19.70
June	52.20	75.00	54.00	84.00		120.00	0.500	19.00
July	54.40	71.80	55.00	79.00	1,800	117.00	0.410	16.90
August	53.80	70.40	55.00	77.00		120.00	0.350	15.20
September	51.30	69.50	52.00	77.00		117.00	0.360	15.60
October	51.10	66.90	48.00	75.00	1,700	118.00	0.280	15.70
November	51.40	66.90	48.00	75.00		115.00	0.450	16.20
December		66.90	48.00	75.00		115.00		16.80
2004								
December	51.40						0.520	
2005								
January	([4])	69.30	49.00	78.00	1,700	118.00	0.350	16.40
February		70.30	50.00	79.00		120.00	0.035	15.70
March		73.00	52.00	82.00		125.00	0.320	15.70
April		76.30	56.00	85.00	1,850	130.00	0.260	15.40
May		77.70	56.00	87.00		135.00	0.240	15.00
June		76.30	56.00	85.00		137.00	0.270	14.60
July								
August								
September								
October								
November								
December								

[1] Combined price for "Cows" and "Steers and Heifers."
[2] Beef cows and cull dairy cows sold for slaughter.
[3] Sold for dairy herd replacement only. Prices published January, April, July, and October.
[4] Monthly prices no longer published due to program changes.

Dry edible beans: Percent of sales by month, 1999-2004

Month	1999-00	2000-01	2001-02	2002-03	2003-04
	Percent	*Percent*	*Percent*	*Percent*	*Percent*
September	49	10	5	12	25
October	17	23	13	27	14
November	3	14	23	16	18
December	3	28	18	4	8
January	3	10	11	4	4
February	1	4	9	2	4
March		5	7	8	6
April	3	1	4	2	3
May	2	2	2		10
June	3	1	2	3	3
July	5	1	1	4	3
August	11	1	5	18	2

Corn: Percent of sales by month, 1999-2004

Month	1999-00	2000-01	2001-02	2002-03	2003-04
	Percent	*Percent*	*Percent*	*Percent*	*Percent*
October	20	9	9	15	7
November	19	14	27	23	20
December	8	12	8	10	21
January	15	12	10	14	13
February	4	7	4	8	8
March	7	7	3	6	6
April	4	6	5	6	5
May	4	4	3	6	3
June	4	5	5	3	5
July	4	11	10	4	4
August	6	7	9	3	4
September	5	6	7	2	4

Hay: Percent of sales by month, 1999-2004

Month	1999-00	2000-01	2001-02	2002-03	2003-04
	Percent	*Percent*	*Percent*	*Percent*	*Percent*
June	17	12	18	16	13
July	10	12	17	13	12
August	9	8	16	8	11
September	3	5	6	5	8
October	7	7	6	7	7
November	8	10	7	8	8
December	14	12	6	11	8
January	10	8	6	9	8
February	9	9	6	9	8
March	6	8	4	6	7
April	5	6	4	5	6
May	2	3	4	3	4

Oats: Percent of sales by month, 1999-2004

Month	1999-00	2000-01	2001-02	2002-03	2003-04
	Percent	*Percent*	*Percent*	*Percent*	*Percent*
July	17	9	19	16	9
August	35	37	19	50	55
September	11	6	4	7	8
October	7	3	3	5	6
November	1	4	2	1	2
December	4	4	6	2	2
January	2	9	5	2	2
February	3	8	2	1	2
March	6	4	28	5	5
April	3	3	2	4	5
May	3	4	6	6	1
June	8	9	4	1	3

Soybeans: Percent of sales by month, 1999-2004

Month	1999-00	2000-01	2001-02	2002-03	2003-04
	Percent	*Percent*	*Percent*	*Percent*	*Percent*
September	8	6	2	5	3
October	33	25	25	30	40
November	7	11	20	9	7
December	7	9	6	9	11
January	12	14	9	10	11
February	3	6	4	9	6
March	7	5	6	5	6
April	4	7	2	7	4
May	3	8	2	5	2
June	4	5	7	6	3
July	4	3	9	3	5
August	8	1	8	2	2

Wheat: Percent of sales by month, 1999-2004

Month	1999-00	2000-01	2001-02	2002-03	2003-04
	Percent	*Percent*	*Percent*	*Percent*	*Percent*
July	42	32	50	49	42
August	18	15	18	19	33
September	2	12	7	8	5
October	2	6	4	6	3
November	1	1	2	1	3
December	1	3	4	1	3
January	12	11	4	4	5
February	2	6	3	2	3
March	12	5	1	1	3
April	3	5	4	2	
May	2	2	1	2	
June	3	2	2	5	

Crops: Marketing year average prices received by farmers, 2000-2004 [1]

Year	Corn per bushel	Winter wheat per bushel	Oats per bushel	Soybeans per bushel	Dry beans per cwt	Navy beans per cwt	Fall potatoes per cwt	All hay per ton	Alfalfa hay per ton
	Dollars	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*
2000	1.90	2.11	1.30	4.54	13.70	NA	6.70	62.50	64.50
2001	1.97	2.43	1.80	4.47	24.60	NA	7.65	70.50	73.50
2002	2.34	3.28	1.80	5.62	15.30	NA	7.80	84.50	86.50
2003	2.37	3.25	1.65	7.30	19.30	NA	7.05	93.00	97.00
2004	1.80	3.00	1.60	5.05	22.80	NA	6.70	93.50	97.00

[1] Marketing year average prices received by farmers are based on monthly prices weighted by monthly marketings during specific periods. Prices do not include allowance for CCC loans outstanding, purchases by the government, or deficiency payments.

Crops: Monthly prices received by farmers, 2004-2005

2003-2004 Marketing years	Corn per bushel	Winter wheat per bushel	Oats per bushel	Soybeans per bushel	Dry beans per cwt	Navy beans per cwt	Fall potatoes per cwt	All hay per ton	Alfalfa hay per ton
	Dollars	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*
2003									
June								92.00	95.00
July		3.11	1.79				8.25	92.00	95.00
August		3.27	1.53				5.65	85.00	90.00
September		3.19	1.52	6.16	18.40	17.50	5.40	85.00	90.00
October	2.06	3.21	1.51	6.55	18.70	17.70	5.30	79.00	85.00
November	2.09	3.50	1.63	6.96	18.80	17.60	6.70	94.00	100.00
December	2.23	3.65	1.96	7.06	19.00	20.00	7.05	96.00	100.00
2004									
January	2.35	3.56	1.88	7.25	18.80	17.10	7.15	96.00	100.00
February	2.62	3.75	([2])	8.21	20.50	18.60	7.40	101.00	105.00
March	2.78	3.64	2.07	9.01	21.10	19.60	7.90	97.00	100.00
April	2.92	3.74	2.07	9.57	20.10	18.30	8.60	109.00	115.00
May	2.82	3.63	2.07	9.54	21.40	20.00	8.65	95.00	100.00
June	2.77	3.18	2.09	9.01	19.90	19.90	([1])		
July	2.42			8.24	20.90	20.00			
August	2.38			7.18	19.20	18.90			
September	2.29								
2004									
June								84.00	90.00
July		3.05	1.66				7.35	84.00	90.00
August		3.04	1.55				5.80	95.00	95.00
September		3.06	1.59	5.76	22.00	22.80	5.50	89.00	90.00
October	2.13	2.91	1.49	5.41	23.60	24.60	5.80	98.00	99.00
November	1.92	2.80	1.95	5.38	23.70	24.80	6.80	104.00	105.00
December	1.88	2.83	2.11	5.47	23.60	24.80	6.95	99.00	100.00
2005									
January	2.00	2.81	2.21	5.36	27.10	26.10	7.15	104.00	105.00
February	1.86	2.95	2.15	5.31	22.30	23.15	7.40	97.00	100.00
March	1.94	3.21	2.23	6.06	23.50	25.60	7.95	96.00	100.00
April	1.88	3.09	2.12	5.97	23.50	25.90	8.50	99.00	100.00
May	1.93	3.00	2.01	6.04	25.20	23.90	8.75	93.00	95.00
June	2.00	3.03	1.65	6.55	23.50	24.30	([1])	78.00	85.00
July									
August									
September									

[1] Insufficient sales to establish a price.
[2] Price not published to avoid disclosure of individual firms.

Prices paid by farmers, 2001-2005 [1]

Item	Unit	2001	2002	2003	2004	2005
		Dollars	*Dollars*	*Dollars*	*Dollars*	*Dollars*
Dairy feed, 16% protein [2]	Ton	184	184	190	216	188
Hog concentrate, 38-42% protein [2]	Ton	290	298	313	393	332
Soybean meal, 44% protein [2]	Cwt	11.00	11.50	11.70	17.40	11.90
Gasoline, unleaded, bulk [2]	Gallon	1.48	1.40	1.64	1.76	2.21
Diesel fuel [2]	Gallon	1.15	1.00	1.28	1.32	1.97
Tractor, 110-129 hp [3]	Each	63,000	63,700	63,800	65,700	68,500
Tractor, 200-280 hp, 4-wd [3]	Each	127,000	132,000	133,000	141,000	142,000
Planter, row crop, 8-row [3]	Each	28,800	29,000	30,000	32,000	31,400
Grain drill, press, 23-25 openers [3]	Each	18,500	23,100	20,300	22,600	25,200
Combine, self-prop. W/ grain head, large cap. [3]	Each	152,000	156,000	159,000	180,000	192,000
Ammonium nitrate [4]	Ton	243	180	224	243	269
Muriate of potash 60-62% K_2O [4]	Ton	167	161	162	178	242
Superphosphate, 44-46% P_2O_5 [4]	Ton	229	215	238	261	295
Anhydrous ammonia [4]	Ton	408	254	368	387	429
Atrazine, 4#/gallon [3]	Gallon	12.50	12.20	12.30	12.20	12.40
Roundup, 4#/gallon EC [3]	Gallon	44.50	43.50	43.30	39.70	33.80
Harness, Surpass, 6.4-7#/gallon [3]	Gallon	68.90	68.10	68.20	71.40	67.60
Dual, 8#/gallon EC [3]	Gallon	94.50	99.00	104.00	106.00	108.00
Captan, 50% WP [3]	Pound	3.61	3.76	3.50	3.52	3.65
Ziram, 76% WP [3]	Pound	2.82	2.82	2.70	2.67	2.86
Guthion, 50% WP [3]	Pound	9.87	10.60	10.60	10.70	10.80
Imidan, Prolate, 50% WP [3]	Pound	6.98	7.30	7.40	7.45	8.32

EC=Emulsifiable concentrate. WP=Wettable powder.
[1] Regional and U.S. data only. Published in April.
[2] Lake States=MI, MN, WI.
[3] United States.
[4] North Central Region=IL,IN, IA, MI, MN, MO, OH, WI.

Farm production expenses, 2000-2004

Item	2000	2001	2002	2003	2004
	Million dollars	*Million dollars*	*Million dollars*	*Million dollars*	*Million dollars*
Feed purchased	342.2	368.2	344.2	410.9	460.4
Livestock and poultry purchased	54.9	55.4	42.0	40.7	39.4
Seed purchased	274.4	297.9	321.9	329.3	324.6
Fertilizers and lime	241.2	265.3	232.6	251.8	293.2
Pesticides	233.2	221.1	225.3	236.9	246.6
Petroleum fuel and oils	159.8	160.7	149.9	170.5	177.4
Electricity	54.9	59.3	73.0	53.3	61.7
Repair and maintenance of capital items	276.5	376.4	297.8	258.5	315.6
Machine hire and custom work	72.2	116.6	72.5	51.6	49.3
Contract and hired labor expenses	577.9	578.2	593.8	495.4	584.8
Marketing, storage, and transportation expenses	123.0	96.2	120.3	84.8	117.2
Capital consumption	577.1	592.8	614.0	631.7	667.0
Real estate and nonreal estate interest	265.0	243.9	236.8	226.0	231.4
Property taxes	239.9	242.9	227.6	226.6	222.2
Net rent received by nonoperator landlords	3.6	9.5	24.1	17.9	12.3
Miscellaneous expenses	395.3	390.8	405.2	529.4	416.0
Total production expenses	3,891.1	4,075.2	3,981.0	4,015.3	4,219.1

Farm Labor

Hired farm workers: Annual average wage rates, 2000-2004

Year	All hired workers	Field workers	Field and livestock workers
	Dollars per hour	*Dollars per hour*	*Dollars per hour*
2000	8.77	7.87	7.93
2001	8.96	8.15	8.18
2002	9.62	8.62	8.66
2003	9.74	8.42	8.86
2004	9.40	8.32	8.65

Agricultural Exports

Michigan ranked twenty-second in agricultural exports for fiscal year 2004. The table below shows the value of agricultural exports by commodity group. The data are calculated annually by commodity based on each State's share of the U.S. agricultural production. The top five commodities accounted for approximately 75 percent of the State's agricultural exports. The total value of agricultural exports from Michigan in 2004 was estimated at $919 million.

Michigan agricultural exports: Fiscal year 2004

Commodity	Value	Percent of total	Rank in U.S.
	Million dollars	*Percent*	*Number*
Soybeans and products	201.5	21.9	13
Feed grains and products	191.4	20.8	12
Vegetables and preparations	137.0	14.9	8
Fruits and preparations	84.7	9.2	5
Other [1]	81.2	8.8	14
Wheat and products	53.5	5.8	27
Dairy products	48.8	5.3	8
Live animals and meat, excluding poultry	35.4	3.9	21
Hides and skins	26.4	2.9	14
Feeds and fodders	23.7	2.6	24
Seeds	15.0	1.6	19
Poultry and products	13.3	1.4	25
Fats, oils, and greases	7.1	0.8	15
Total	919.0		22

[1] Sugar and tropical products, minor oilseeds, essential oils, beverages other than juice, nursery and greenhouse, wine, and miscellaneous vegetable products.

Source: U.S. Department of Agriculture, Economic Research Service, www.ers.usda.gov/data/fatus.

Agricultural exports from Michigan: Top 10 destinations, 2003-2004

Country	2003	2004
	Thousand dollars	*Thousand dollars*
Canada	228,543	188,492
Mexico	19,889	12,198
Japan	9,031	9,660
Austria	2,457	6,357
France	13,438	5,591
Italy	4,469	3,396
Ukraine	12	3,183
United Kingdom	998	1,716
Guatemala	539	961
South Korea	880	920

Source: U.S. Department of Commerce, International Trade Administration, www.ita.doc.gov.

Agricultural Chemical Usage

The 2004 chemical use summaries for vegetables and field crops provide pesticide use data on 7 Michigan vegetable crops and winter wheat. Vegetable chemical use statistics are published every other year, alternating with fruit chemical use statistics. Information is provided from a survey funded by the USDA Pesticide Data Program to provide reliable pesticide use statistics and to enhance the quality of information on pesticide residues in food. This data series addresses the increased public interest in agricultural chemical use and provides the means for government agencies to respond effectively to food safety and water quality issues. The entire series of chemical usage statistics since 1990 for Michigan and the U.S. can be found on the NASS website at http:/www.usda.gov/nass/. A list of associated trade names is provided following the chemical application tables as an aid in reviewing the data. The list does not mean to imply use of any specific trade name.

Asparagus: Agricultural chemical applications, 2004 [1]

Agricultural chemical	Area applied	Applications	Rate per application	Rate per crop year	Total applied
	Percent	*Number*	*Pounds per acre*	*Pounds per acre*	*1,000 lbs*
Herbicides					
2,4-D	15	1.1	0.88	0.93	2.2
Diuron	91	1.8	1.21	2.18	30.7
Glyphosate	89	1.5	0.80	1.21	16.7
Linuron	4	1.2	0.78	0.94	0.6
Metribuzin	70	1.6	0.48	0.77	8.5
Paraquat	25	1.2	0.56	0.67	2.6
S-Metolachlor	8	1.2	1.19	1.42	1.7
Terbacil	3	1.3	0.27	0.35	0.2
Insecticides					
Carbaryl	85	3.1	0.66	2.04	27.0
Fungicides					
Chlorothalonil	58	2.5	1.28	3.26	29.2
Mancozeb	36	2.3	1.46	3.36	19.0

[1] Planted acres in 2004 were 15,500 acres.

Snap Beans, Processing: Agricultural chemical applications, 2004 [1]

Agricultural chemical	Area applied	Applications	Rate per application	Rate per crop year	Total applied
	Percent	*Number*	*Pounds per acre*	*Pounds per acre*	*1,000 lbs*
Herbicides					
Bentazon	65	1.1	0.43	0.47	5.5
EPTC	18	1.0	2.59	2.59	8.3
Fomesafen	62	1.1	0.11	0.12	1.3
Quizalofop-P-ethyl	8	1.0	0.05	0.05	0.1
S-Metolachlor	71	1.2	0.87	1.03	12.8
Sethoxydim	11	1.0	0.17	0.17	0.3
Trifluralin	18	1.0	0.58	0.58	1.8
Insecticides					
Acephate	56	1.1	0.75	0.85	8.4
Bifenthrin	41	1.3	0.04	0.06	0.4
Dimethoate	25	1.0	0.26	0.26	1.2
Disulfoton	15	1.1	1.02	1.09	2.9
Fungicides					
Vinclozolin	58	1.0	0.53	0.53	5.4

[1] Planted acres in 2004 were 17,700 acres.

Carrots, Fresh: Agricultural chemical applications, 2004 [1]

Agricultural chemical	Area applied	Applications	Rate per application	Rate per crop year	Total applied
	Percent	*Number*	*Pounds per acre*	*Pounds per acre*	*1,000 lbs*
Herbicides					
Linuron	97	2.3	0.60	1.40	6.0
Fungicides					
Chlorothalonil	57	5.1	1.06	5.34	13.3

[1] Planted acres in 2004 were 4,400 acres.

Sweet Corn, Fresh: Agricultural chemical applications, 2004 [1]

Agricultural chemical	Area applied	Applications	Rate per application	Rate per crop year	Total applied
	Percent	*Number*	*Pounds per acre*	*Pounds per acre*	*1,000 lbs*
Herbicides					
2,4-D	1	1.2	1.06	1.27	0.1
Acetochlor	2	1.0	1.54	1.54	0.3
Alachlor	17	1.0	2.00	2.00	3.6
Atrazine	75	1.0	1.04	1.08	8.4
Bentazon	26	1.0	0.53	0.53	1.4
Dimethenamid-P	5	1.0	0.58	0.58	0.3
Glyphosate	3	1.0	0.60	0.60	0.2
Pendimethalin	17	1.0	0.97	0.97	1.7
S-Metolachlor	34	1.1	1.15	1.29	4.6
Insecticides					
Carbaryl	3	3.1	1.29	3.96	1.1
Cyfluthrin	13	1.7	0.03	0.05	0.1
Diazinon	1	1.4	1.82	2.53	0.3
Esfenvalerate	13	1.8	0.03	0.06	0.1
Lambda-cyhalothrin	57	3.4	0.03	0.09	0.5
Methomyl	12	1.9	0.33	0.61	0.8
Permethrin	10	2.8	0.14	0.39	0.4
Thiodicarb	12	2.6	0.62	1.59	2.0
Fungicides					
Mancozeb	2	2.0	1.28	2.57	0.6
Propiconazole	11	1.6	0.11	0.17	0.2

[1] Planted acres in 2004 were 10,500 acres.

Cucumbers, Fresh: Agricultural chemical applications, 2004 [1]

Agricultural chemical	Area applied	Applications	Rate per application	Rate per crop year	Total applied
	Percent	*Number*	*Pounds per acre*	*Pounds per acre*	*1,000 lbs*
Herbicides					
Ethalfluralin	56	1.0	0.62	0.64	2.7
Glyphosate	2	1.4	1.19	1.64	0.3
S-Metolachlor	5	1.2	1.57	1.86	0.7
Insecticides					
Carbaryl	3	1.9	0.70	1.33	0.3
Endosulfan	6	2.0	0.53	1.08	0.5
Esfenvalerate	12	3.1	0.03	0.10	0.1
Permethrin	47	2.9	0.09	0.27	1.0
Fungicides					
Azoxystrobin	63	1.4	0.17	0.23	1.1
Chlorothalonil	87	2.4	1.42	3.39	22.3
Copper hydroxide	90	3.4	0.54	1.87	12.6
Mancozeb	5	4.1	0.91	3.78	1.4

[1] Planted acres in 2004 were 7,500 acres.

Cucumbers, Pickles: Agricultural chemical applications, 2004 [1]

Agricultural chemical	Area applied	Applications	Rate per application	Rate per crop year	Total applied
	Percent	*Number*	*Pounds per acre*	*Pounds per acre*	*1,000 lbs*
Herbicides					
Clomazone	44	1.0	0.16	0.16	2.5
Ethalfluralin	72	1.0	0.70	0.70	17.6
Halosulfuron	25	1.0	0.03	0.03	0.2
Naptalam	5	1.0	1.74	1.74	2.8
Fungicides					
Chlorothalonil	4	1.7	1.19	2.08	3.0
Copper hydroxide	8	1.4	0.58	0.85	2.5

[1] Planted acres in 2004 were 35,000 acres.

Pumpkins: Agricultural chemical applications, 2004 [1]

Agricultural chemical	Area applied	Applications	Rate per application	Rate per crop year	Total applied
	Percent	*Number*	*Pounds per acre*	*Pounds per acre*	*1,000 lbs*
Herbicides					
Clomazone	38	1.0	0.45	0.47	1.4
Ethalfluralin	41	1.0	0.80	0.82	2.6
Glyphosate	7	1.0	0.82	0.83	0.5
Halosulfuron	15	1.1	0.03	0.03	([2])
S-Metolachlor	3	1.0	1.41	1.41	0.3
Insecticides					
Carbaryl	23	3.3	1.14	3.76	6.7
Carbofuran	5	1.0	0.62	0.62	0.2
Endosulfan	16	2.8	0.69	1.94	2.4
Esfenvalerate	17	4.0	0.03	0.13	0.2
Imidacloprid	2	1.0	0.15	0.15	([2])
Malathion	5	1.2	0.86	1.00	0.4
Permethrin	9	1.5	0.13	0.19	0.1
Fungicides					
Azoxystrobin	4	1.8	0.15	0.26	0.1
Chlorothalonil	56	3.3	1.21	3.97	17.3
Copper hydroxide	43	2.8	0.53	1.51	5.1
Mancozeb	6	1.8	0.64	1.15	0.5
Mefenoxam	7	1.4	0.16	0.22	0.1
Myclobutanil	22	2.0	0.09	0.19	0.3
Thiophanate-methyl	9	1.5	0.31	0.47	0.3
Trifloxystrobin	4	1.2	0.06	0.07	([2])

[1] Planted acres in 2004 were 7,800 acres.
[2] Area applied is less than one percent.

Squash: Agricultural chemical applications, 2004 [1]

Agricultural chemical	Area applied	Applications	Rate per application	Rate per crop year	Total applied
	Percent	*Number*	*Pounds per acre*	*Pounds per acre*	*1,000 lbs*
Herbicides					
Clomazone	29	1.1	0.25	0.26	0.5
Ethalfluralin	43	1.1	0.79	0.85	2.6
Glyphosate	5	1.1	1.04	1.10	0.4
S-Metolachlor	8	1.1	1.52	1.70	0.9
Insecticides					
Carbaryl	25	1.8	0.66	1.17	2.1
Endosulfan	12	1.8	0.62	1.13	0.9
Esfenvalerate	32	2.7	0.03	0.09	0.2
Malathion	4	1.4	1.29	1.75	0.4
Permethrin	35	2.3	0.12	0.28	0.7
Fungicides					
Chlorothalonil	68	2.7	1.35	3.64	17.7
Copper hydroxide	45	3.7	0.52	1.94	6.2
Dimethomorph	7	3.0	0.03	0.09	([2])
Mancozeb	9	3.6	0.89	3.18	2.1
Mefenoxam	12	1.0	0.10	0.11	0.1
Myclobutanil	13	1.6	0.09	0.14	0.1
Thiophanate-methyl	4	1.0	0.16	0.16	0.1
Trifloxystrobin	8	1.5	0.31	0.46	0.3
	2	1.0	0.06	0.06	([2])

[1] Planted acres in 2004 were 7,200 acres.
[2] Area applied is less than one percent.

Fertilizer applications: Winter wheat, 2004 [1]

Fertilizer	Symbol	Area applied	Applications	Rate per application	Rate per crop year	Total applied
		Percent	*Number*	*Pounds per acre*	*Pounds per acre*	*Million pounds*
Nitrogen	N	97	2.2	53	115	73.5
Phosphate	P_2O_5	71	1.2	50	59	27.5
Potash	K_2O	77	1.2	64	75	38.4

[1] Planted acres in 2004 were 660,000 acres.

Agricultural chemical applications: Winter wheat, 2004 [1]

Agricultrual chemical	Area applied	Applications	Rate per application	Rate per crop year	Total applied
	Percent	*Number*	*Pounds per acre*	*Pounds per acre*	*1,000 pounds*
Herbicides					
2,4-D	12	1	0.42	0.42	34
2,4-DP, Dimeth. Salt	5	1	0.52	0.52	16
Acetic acid (2,4-D)	3	1	0.60	0.60	12
Glyphosate	2	1	0.74	0.74	9
Thifensulfuron	20	1	0.01	0.01	2
Tribenuron-methyl	16	1	0.006	0.006	1
Insecticides					
Lambda-cyhalothrin	3	1	0.02	0.02	1
Zeta-cypermethrin	8	1	0.04	0.04	2
Fungicides					
Propiconazole	4	1	0.08	0.08	2
Tebuconazole	8	1	0.11	0.11	6

[1] Planted acres in 2004 were 660,000 acres.

Agricultural chemicals: Common and trade names by class

Herbicides

Common name	Trade name	Common name	Trade name
2, 4-D	several names	Imazethapyr	Pursuit
2, 4-D, Dimeth. salt	several names	Linuron	Linex, Lorox
Acetic acid	several names	Metribuzin	Lexone, Sencor
Acetochlor	Degree Xtra, Harness Xtra, Keystone, TopNotch	Naptalam	Alanap-L
Alachlor	several names	Paraquat	Gramoxone, Starfire
Atrazine	several names	Pendimethalin	Pendimax, Prowl, Prozine, Pursuit
Bentazon	Basagran, Conclude Xtra, Laddok, Manfiest, Pledge	Sethoxydim	BASF Poast, Manifest, Poast, Rezult G
Clomazone	Command, Strategy	S-Metolachlor	Bicep, Cinch, Dual Magnum, Lumax
Dimethenamid-P	G-Max, Guardsman, Outlook	Terbacil	Sinbar
Diuron	Direx, Diurin, Karmax	Thifensulfuron	Ally Extra, Canvas, Harmony, Pinnacle
Ethalfluralin	Sonolan, Curbit, Strategy	Tribenuron-methyl	Ally Extra, Canvas, Express, Harmony, X-TRA (Cheyenne)
Glyphosate	several names	Trifluralin	Preen, Treflan, Tri-4, Trifluralin, Trilin, Trust
Halosulfuron	Permit, Sandea		

Insecticides

Bifenthrin	Brigade, Capture, Discipline, Empower	Imidacloprid	Admire, Marathon, Provado
Carbaryl	Sevin	Lambda-cyhalothrin	Karate, Warrior
Carbofuran	Furadan	Malathion	Cythion, Fyfanon
Cyfluthrin	Aztec, Bayer Adv. Garden Powerforce, Baythroid, Renounce	Permethrin	Ambush, Arctic, Perm-up, Permethrin, Pounce
Diazinon	D-264, Diazinon, D-z-n Diazinon	Thiodicarb	Larvin
Endosulfan	Endosulfan, Phaser, Thiodan, Thionex, Thirethrin	Zeta-cypermethrin	Fury, Mustang
Esfenvalerate	Asana, Curbit, Ortho Bug-B-Gon, Sonalan, Strategy		

Fungicides

Azoxystrobin	Amistar, Quadris (aka Abound), Quilt	Myclobutanil	Nova, Rally
Chlorothalonil	several names	Propiconazole	Artisan Peanut, Bravo, Bumper, PropiMax, Quilt Stratego, Tilt
Copper hydroxide	several names	Pyraclostrobin	Cabrio, Headline, Pristine
Dimethomorph	Acrobat	Tebuconazole	Folicur
Mancozeb	several names	Thiophanate-methyl	Thiophanate Methyl, Topsin
Mefenoxam	Flourish Ultra, Flouronil, Ridomil	Trifloxystrobin	Flint

Commercial fertilizer consumption: 2000-2004 [1]

Item	Year ending June 30				
	2000	2001	2002	2003	2004
	Short tons	*Short tons*	*Short tons*	*Short tons*	*Short tons*
Primary plant nutrients					
Total N	249,543	238,810	240,680	238,296	264,850
N in multi-nutrients	57,104	55,076	55,048	60,449	60,405
Total P_2O_5	87,001	85,873	84,734	85,485	94,352
P_2O_5 in multi-nutrients	84,539	83,794	82,377	83,193	92,225
Total K_2O	202,481	184,568	189,200	189,463	210,479
K_2O in multi-nurtrients	47,828	47,563	41,924	45,298	46,989
Total plant nutrients	539,024	509,251	514,615	513,243	569,680
Average analysis	42.9	42.6	43.1	40.1	41.1
Total nutrients in multi-nutrients	189,471	186,433	179,349	188,940	199,620
Selected single-nutrient materials					
Ammonium nitrate	5,622	6,287	5,405	7,856	6,619
Anhydrous ammonia	56,757	50,984	52,766	39,235	43,551
Nitrogen solutions	265,544	288,641	284,355	285,787	323,712
Urea	126,452	110,001	107,305	107,854	132,493
Ammonium sulfate	22,477	22,164	23,569	25,294	30,376
Concentrated superphosphate	4,966	3,945	4,984	4,515	4,139
Potassium chloride	250,410	221,427	236,720	231,668	259,011
Multiple-nutrient fertilizers					
N-P-K	361,992	366,861	334,670	265,924	294,691
N-P	115,616	122,840	129,900	133,062	142,136
N-K	22,281	24,353	27,096	34,853	33,024
P-K	4,561	4,771	3,831	2,828	3,129
Leading multiple-nutrient grades					
10-34-0	37,385	40,775	44,303	46,717	50,860
18-46-0	34,569	33,232	36,672	37,149	35,938
11-52-0	24,987	26,571	24,636	25,865	34,428
8-18-5		5,675	5,614	8,703	18,675
19-19-19	14,353	13,035	13,989	12,709	16,547
12-12-12	11,564	7,403	7,528	6,641	7,916
Fertilizer consumption by classes					
Dry bulk single-nutrient	452,227	382,845	392,966	443,887	472,774
Dry bagged single-nutrient	7,453	14,862	23,385	40,127	35,943
Fluid single-nutrient	324,357	343,883	339,295	343,115	373,002
Dry bulk multiple-nutrient	259,482	243,576	223,668	231,005	248,576
Dry bagged multiple-nutrient	165,491	188,375	187,396	132,037	150,598
Fluid multiple-nutrient	79,476	86,874	84,433	73,625	73,805
Organics, secondary and micronutrients	39,220	24,729	31,883	84,679	60,845
Total	1,327,707	1,285,144	1,283,026	1,348,475	1,415,544

[1] Source: The Association of American Plant Food Control Officials

Field Crops

Growing Season Weather Summary

Dr. Jeff Andresen, Michigan State University

The 2004 growing season was generally characterized by weather extremes across Michigan, particularly the overabundance of precipitation. During the preceding winter, above average snowfall and snow cover provided protection for most overwintering crops against extreme cold. Colder than normal late winter temperatures kept fall-planted and perennial crops dormant through late March, when an upper air ridging pattern became established across the midwest. This ridge persisted through much of April and brought above normal temperatures and below normal precipitation totals. The abnormally mild and dry weather allowed rapid progress in early spring fieldwork activities and resulted in the completion of a significant portion of summer crop planting by the end of April.

During the first week in May, jet stream flow across North America took on a southwest to northeast configuration with a broad ridge along the U.S. border with Canada. A surface frontal boundary lingered in or near the State and ample Gulf of Mexico moisture transported northward on southerly winds resulted in persistent heavy rain and severe weather on an almost daily basis across Michigan through early June. Rainfall totals for May generally ranged from 4 to10 inches or more, with heaviest totals reported across central and southern sections of the Lower Peninsula. The persistent wet weather led to major planting delays, soil nitrogen losses, and difficulties in post-planting herbicide applications. The length of the planting delays necessitated crop cultivar and variety switches in some cases.

Drier weather finally returned by mid-June, but cloudy and cool conditions slowed crop growth and evapotranspiration rates. The change in weather was associated with the development of an upper air troughing pattern across the Great Lakes region which persisted through much of July and August, resulting in prolonged unusually cool, dry weather. Average temperatures during August generally ranged from 3 to 6 degrees F. below normal, which made the month among the 10 coolest on record. The persistently cool mid-summer and abnormally slow rates of crop growth and development raised concerns about some crops reaching maturity prior to the end of the growing season. This was especially true for late planted crops delayed by earlier wet weather.

During the first week in September, the mean jet stream pattern across the region changed again, with the formation of a large ridge across much of the central and eastern U.S. The upper air ridge persisted for much of the month and led to warmer and drier than normal weather in Michigan. Mean temperatures for the month ranged from 2 to 8 degrees F. above normal, caused a rapid acceleration in crop development, and likely spared growers significant reductions in yield and grain quality that might have occurred if the crops had failed to reach maturity before the end of the growing season. The lack of rainfall led to some crop moisture stress during the late summer especially on lighter soils, but ensured the drydown of mature crops prior to harvest. The first killing freeze of the fall occurred later than normal in northern sections of the State (the beginning of October) and near or slightly before climatological normal dates in southern sections (the first week of October). Relatively dry weather favored crop harvest activities through much of October, but a return of wetter than normal weather in late October and November resulted in major delays.

Overall, for the 5-month May to September period, precipitation totals ranged from slightly below normal levels in northern sections of the State to much above normal in the south. Mean temperatures for the period were deceptively close to normal, the result of the averaging out of prolonged periods of much warmer and much cooler than normal weather. Given the relatively cool temperatures of July and August, seasonal growing degree day accumulations were generally well below normal statewide, especially in northern sections of the State where totals in some locations were more than 20 percent below normal.

Field crops: Acres harvested and value of production, 2000-2004

Item	Unit	2000	2001	2002	2003	2004
Acres harvested	1,000 acres	6,586	6,378	6,386	6,433	6,384
Value of production	1,000 dollars	1,428,519	1,276,403	1,720,760	1,768,563	1,588,393

Grain storage capacity, December 1, 2000-2004

Year	Off farm		On farm capacity
	Facilities	Rated capacity	
	Number	*Million bushels*	*Million bushels*
2000	250	141	240
2001	245	146	240
2002	235	148	240
2003	220	145	240
2004	215	150	250

Field crops: Record highs and lows

Crop	Unit	Record high		Record low		Year estimates started
		Quantity	Year	Quantity	Year	
Barley						
Harvested acres	1,000 acres	303	1932	12	2000,2001,2004	1866
Yield per acre	Bushels	68.0	1985	13.5	1933	
Production	1,000 bu	8,400	1918	546	1866	
Dry Edible beans						
Harvested acres	1,000 acres	690	1930	130	2001	1909
Yield per acre	Pounds	2,100	1999	320	1917	
Production	1,000 cwt	8,585	1963	780	2001	
Corn for grain						
Harvested acres	1,000 acres	2,800	1981	480	1866	1866
Yield per acre	Bushels	134.0	2004	21.5	1917	
Production	1,000 bu	293,180	1982	15,120	1869	
Corn for silage						
Harvested acres	1,000 acres	498	1971	210	2003	1924
Yield per acre	Tons	18.0	2004	4.7	1930	
Production	1,000 tons	5,565	1977	1,542	1930	
Hay, alfalfa						
Harvested acres	1,000 acres	1,444	1950	74	1919	1919
Yield per acre	Tons	4.2	1993	1.1	1934	
Production	1,000 tons	5,040	1985,1986	118	1919	
Hay, all						
Harvested acres	1,000 acres	2,947	1924	780	1866	1866
Yield per acre	Tons	3.8	1993	0.6	1895	
Production	1,000 tons	5,743	1986	1,014	1866	
Oats						
Harvested acres	1,000 acres	1,658	1918	55	2001	1866
Yield per acre	Bushels	70.0	2003	18.5	1921	
Production	1,000 bu	69,388	1946	3,520	2001	
Potatoes						
Harvested acres	1,000 acres	374.0	1895	36.4	1975	1866
Yield per acre	Cwt	330.0	2003	26.0	1887,1916	
Production	1,000 cwt	23,256	1904	3,557	1876	
Soybeans						
Harvested acres	1,000 acres	2,130	2001	1	1930	1924
Yield per acre	Bushels	40.0	1995,1999	8.0	1927	
Production	1,000 bu	78,540	2002	10	1930	
Spearmint						
Harvested acres	1,000 acres	8.7	1954	0.7	1935	1935
Yield per acre	Pounds	50.0	2001,2002	20.0	1965	
Production	1,000 lbs	280	1948	27	1996	
Sugarbeets						
Harvested acres	1,000 acres	190	1999	48	1943,1953	1909
Yield per acre	Tons	21.3	1970	5.5	1916	
Production	1,000 tons	3,534	1999	298	1943	
Wheat, winter						
Harvested acres	1,000 acres	1,515	1953	400	1987	1909
Yield per acre	Bushels	72.0	2000	10.5	1912	
Production	1,000 bu	45,600	1984	7,350	1912	

Barley

Michigan barley growers planted 14,000 acres and harvested 12,000 acres in 2004. Total production was 612,000 bushels, down 22 percent from 2003. The average yield decreased 5 bushels to 51 bushels per acre. Barley planting got off to a good start across the State and stayed comparable with the 5-year average. Cool, wet weather slowed emergence of early plantings, but the crop ultimately caught up with the historical progress. Going into harvest, almost half of the crop was rated good to excellent. Harvest began later than normal, and the early going was slowed by late summer rain showers. Harvest wrapped up by the middle of September.

Barley: Acres, yield, production, and value, 2000-2004

Year	Planted	Harvested	Yield	Production	Price [1]	Value of production
	1,000 acres	*1,000 acres*	*Bushels*	*1,000 bushels*	*Dollars*	*1,000 dollars*
2000	13	12	60	720	1.10	792
2001	15	12	56	672	1.50	1,008
2002	14	13	51	663	1.60	1,061
2003	15	14	56	784	1.70	1,333
2004	14	12	51	612	1.50	918

[1] Marketing year average.

Corn

There were 2.2 million acres planted to corn in 2004, down 50,000 acres from 2003. Grain corn production was 257.3 million bushels, down 1 percent from 2003; 1.92 million acres were harvested for grain. The yield of 134 bushels per acre was up 6 bushels from the 2003 crop. Farmers harvested 265,000 acres of corn for silage with an average yield of 18.0 tons per acre.

Planting of corn in Michigan began in earnest about April 15, a week ahead of average. Extremely wet weather during May slowed progress, and by the end of May it was a week behind normal. Planting was not completed by mid-June, causing some acres originally intended to corn to be switched to soybeans. The yield prospects were above average by early summer. The crop growth progress was about normal despite late planting. About two-thirds of the crop had silked by August 1 compared with a 5-year average of 69 percent. Uneven maturity within fields, however, was common, due to spring flooding. There were no significant moisture shortages. Below normal temperatures throughout August slowed plant growth, and the crop was about 10 days behind the average stage of development as of September 1. Above normal temperatures throughout September significantly improved production prospects. Nearly 90 percent of the corn had dented by Oct. 1, near the normal crop progress. Nearly half of the crop was rated in good-excellent condition. The harvest of corn for grain began the last week of September. It was half completed by Nov. 1, just slightly behind normal. Many producers delayed combining until grain dried further. By the end of the month, nearly 10 percent of the acres remained unharvested. Consistent rainfall during the growing season across virtually all major corn regions resulted in a state record yield.

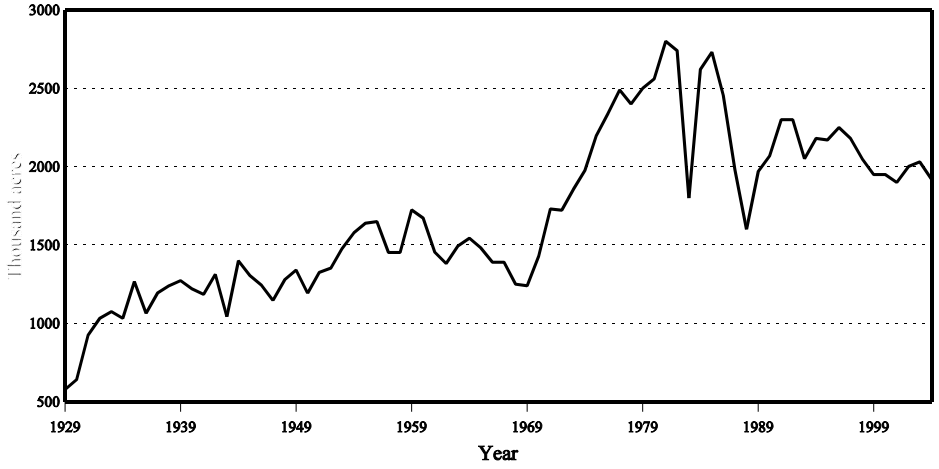
The 2004 corn crop was valued at $463 million, down 25 percent from 2003. Corn continued to be Michigan's number one crop in value of production. The top three counties in corn production in 2004 were Huron, Lenawee, and Tuscola.

Corn: Acres, yield, production, and value, 2000-2004

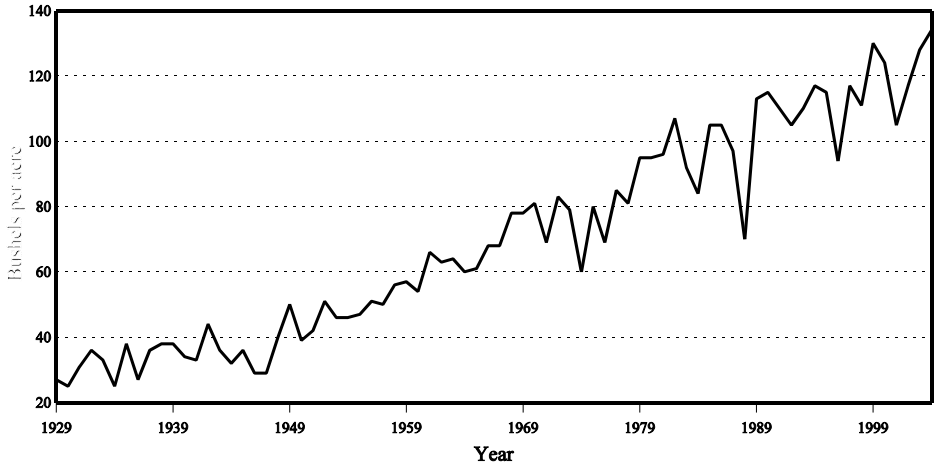
Year	Planted	Harvested	Yield	Production	Price [1]	Value of production
All						
2000	2,200					
2001	2,200					
2002	2,250					
2003	2,250					
2004	2,200					
Grain						
2000		1,950	124	241,800	1.90	459,420
2001		1,900	105	199,500	1.97	393,015
2002		2,000	117	234,000	2.34	547,560
2003		2,030	128	259,840	2.37	615,821
2004		1,920	134	257,280	1.80	463,104
Silage						
2000		230	14.0	3,220		
2001		280	13.0	3,640		
2002		240	15.0	3,600		
2003		210	16.0	3,360		
2004		265	18.0	4,770		

[1] Marketing year average.

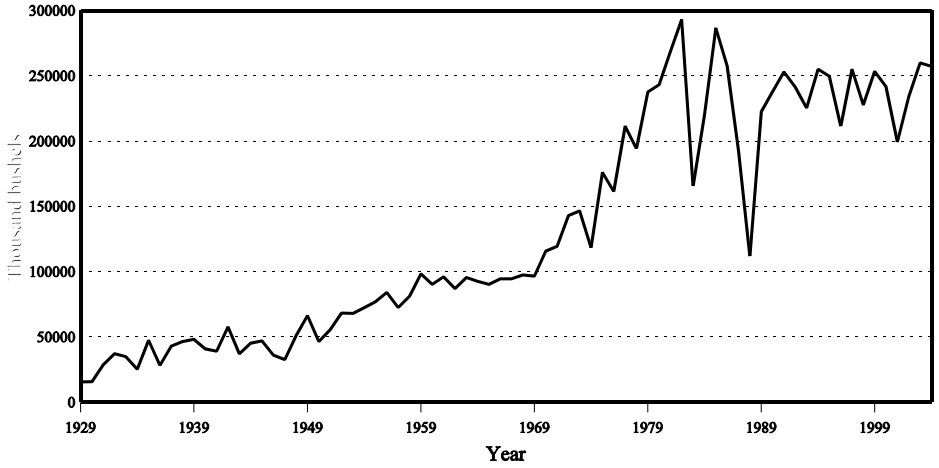
Corn for grain acres, 1929-2004



Corn yield, 1929-2004



Corn production, 1929-2004



Corn for grain: Stocks by quarter, 2000-2004

Crop year	December 1		March 1		June 1		September 1	
	On farm	Off farm	On farm	Off farm	On farm	Off farm	On farm	Off farm
	1,000 bushels	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*
2000	145,000	58,200	90,000	46,800	55,000	24,800	21,000	12,500
2001	120,000	55,700	80,000	46,700	54,000	29,050	16,000	13,600
2002	130,000	59,800	88,000	46,700	40,000	27,600	13,000	9,750
2003	140,000	56,500	77,000	51,300	43,000	34,600	16,000	13,200
2004	140,000	59,000	100,000	48,200	59,000	30,850		

Corn: Percentage of acreage planted, 2000-2004

Year	Month and day					
	April		May			June
	20	30	10	20	30	10
2000	0	5	46	73	85	94
2001	0	14	62	81	93	100
2002	0	9	34	54	81	96
2003	0	11	33	48	83	98
2004	8	34	61	68	77	90
5-year-average	1.6	14.6	47.2	64.8	83.8	95.6

Corn: Percentage of acreage silked, 2000-2004

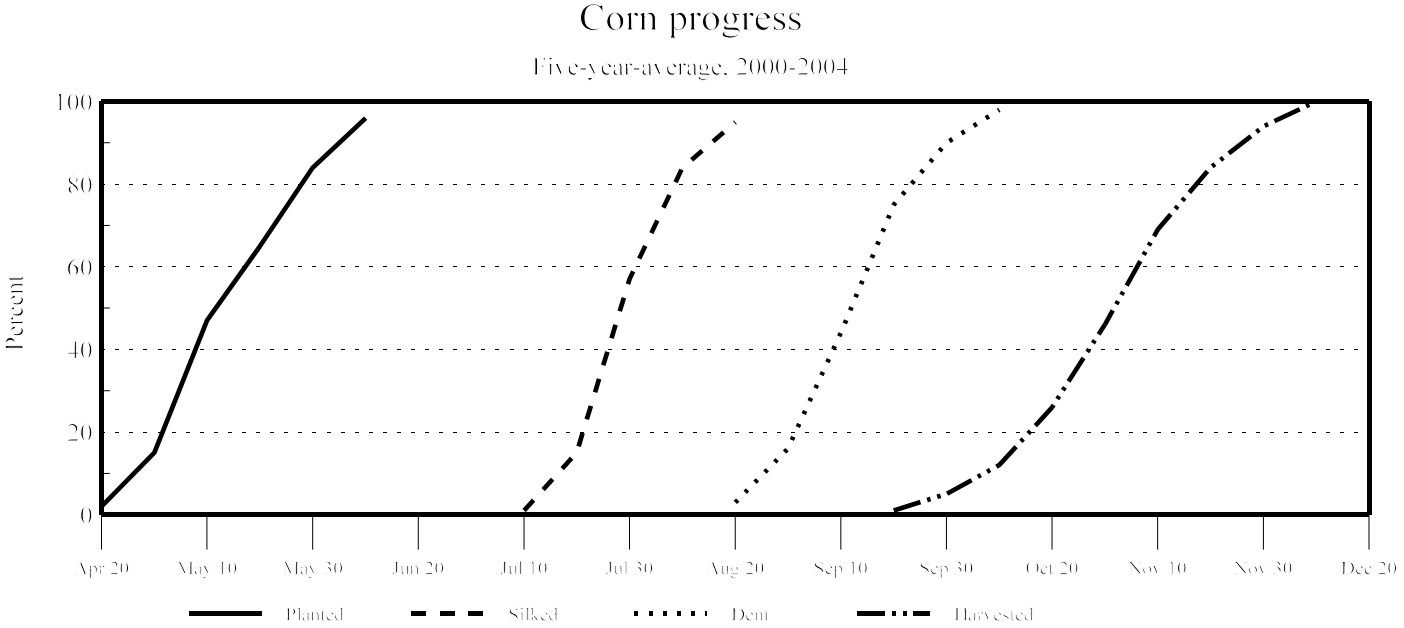
Year	Month and day					
	July				August	
	1	10	20	30	10	20
2000	0	1	15	53	81	94
2001	0	2	22	66	91	100
2002	0	0	8	63	88	98
2003	0	0	3	40	86	98
2004	0	1	27	61	74	86
5-year-average	0.0	0.8	15.0	56.6	84.0	95.2

Corn: Percentage of acreage dent stage, 2000-2004

Year	Month and day						
	August			September			October
	10	20	30	10	20	30	10
2000	0	3	10	33	73	86	98
2001	0	10	25	52	76	93	98
2002	0	2	16	62	96	98	100
2003	0	1	16	40	73	91	99
2004	0	1	11	34	58	82	96
5-year-average	0.0	3.4	15.6	44.2	75.2	90.0	98.2

Corn: Percentage of acreage harvested for grain, 2000-2004

Year	Month and day									
	September			October			November			December
	10	20	30	10	20	30	10	20	30	10
2000	0	0	3	8	24	40	70	81	94	100
2001	0	3	7	14	27	41	62	87	94	100
2002	0	3	8	20	34	63	89	94	97	100
2003	0	0	3	7	19	37	54	78	91	100
2004	0	0	3	13	25	49	68	82	93	100
5-year-average	0.0	1.2	4.8	12.4	25.8	46.0	68.6	84.4	93.8	100.0



Dry Edible Beans

Dry bean planting began the first week of June, normal for Michigan. Good growing conditions were prevalent during the season and over half of the crop rated good to excellent by August. Growing conditions in September were near optimal for the maturing dry bean crop with sun and warm weather helping to overcome the summer's below normal growing degree days. Harvest began the third week in September, later than normal. Continued fair weather aided progress and by the first of October, harvest was ahead of normal at 80 percent of the crop harvested.

Michigan's 2004 total dry bean production was 3.1 million hundredweight (cwt), which represented 18 percent of U.S. production. Michigan ranked second in dry bean production for 2004, compared to third last year. The number one dry bean producer in the nation was North Dakota with 4.8 million cwt, which was lower than normal due to earlier than normal frost conditions.

Dry edible beans: Acres, yield, production, and value, 2000-2004

Year	Planted	Harvested	Yield	Production	Price [1]	Value of production
	1,000 acres	*1,000 acres*	*Pounds*	*1,000 cwt*	*Dol/cwt*	*1,000 dollars*
2000	285	275	1,500	4,125	13.70	56,513
2001	215	130	600	780	24.60	19,188
2002	270	265	1,850	4,903	15.30	75,016
2003	170	165	1,500	2,475	19.30	47,768
2004	190	185	1,700	3,145	22.80	71,706

[1] Marketing year average.

Dry edible beans: Acres, yield, and production, by class, 2000-2004

Class and Year	Planted	Harvested	Yield	Production
	Acres	*Acres*	*Pounds*	*1,000 cwt*
Black				
2000	55,000	53,000	1,580	840
2001	63,000	52,000	640	335
2002	110,000	108,000	1,880	2,030
2003	45,000	43,000	1,580	680
2004	74,000	73,000	1,770	1,290
Cranberry				
2000	26,000	25,000	1,520	380
2001	26,000	12,000	580	70
2002	20,000	19,000	1,530	290
2003	12,000	12,000	1,180	142
2004	9,500	9,000	1,440	130
Great Northern				
2001	8,000	3,500	570	20
2002	3,000	3,000	2,000	60
2003	8,000	8,000	1,680	134
2004	1,000	1,000	1,600	16
Navy				
2000	125,000	120,000	1,500	1,800
2001	65,000	30,000	570	170
2002	85,000	84,000	1,930	1,620
2003	40,000	38,000	1,560	592
2004	55,000	54,000	1,800	970
Pinto				
2000	21,000	20,000	1,450	290
2001	7,000	4,500	510	23
2002	9,500	9,500	1,930	183
2003	11,000	10,500	1,430	150
2004	7,000	6,500	1,710	111
Red kidney, dark				
2000	12,000	12,000	1,520	182
2001	9,000	7,000	430	30
2002	8,500	8,000	1,630	130
2003	9,000	9,000	1,330	120
2004	7,000	6,500	1,230	80
Red kidney, light				
2000	19,000	19,000	1,500	285
2001	18,000	11,000	770	85
2002	15,000	14,500	1,790	260
2003	16,000	15,500	1,540	239
2004	15,000	14,500	1,460	212
Small, red				
2000	8,000	8,000	1,410	113
2001	12,000	6,500	420	27
2002	11,000	11,000	1,890	208
2003	19,000	19,000	1,470	280
2004	15,500	15,000	1,740	261
Other				
2000	19,000	18,000	1,310	235
2001	7,000	3,500	570	20
2002	8,000	8,000	1,530	122
2003	10,000	10,000	1,380	138
2004	6,000	5,500	1,360	75

Hay and Haylage

Michigan hay production was estimated at 3.27 million tons, up 5 percent from 2003. Alfalfa and alfalfa mixtures accounted for 83 percent of all dry hay produced. All hay harvested acres were estimated at 1.10 million, up from 1.05 million in 2003. The average all hay yield was 2.97 tons per acre, the same as 2003. Alfalfa stands overwintered well this past year. There was plenty of moisture for the other hay crop which was ready for harvest by mid to late May. With additional wet weather in June, farmers looked to put up haylage instead of hay as the hay crop was maturing past its prime. From mid-August and into October, dry conditions persisted, limiting the growth of third and fourth crop hay. Alfalfa accounted for 850,000 acres of the total harvested with a yield of 3.2 tons per acre. Other hay accounted for 250,000 acres with a yield of 2.2 tons per acre. Value of the hay crop was $302.9 million, up 3 percent from 2003.

Hay, haylage, and greenchop: Acres, yield, production, and value, 2000-2004

Year	Planted	Harvested	Yield	Production	Price [1]	Value of production
	1,000 acres	*1,000 acres*	*Tons*	*1,000 tons*	*Dollars*	*1,000 dollars*
All dry hay						
2000		1,300	3.33	4,330	62.50	272,040
2001		1,150	3.14	3,610	70.50	253,510
2002		1,100	3.23	3,551	84.50	297,801
2003		1,050	2.97	3,120	93.00	295,240
2004		1,100	2.97	3,270	93.50	302,890
Alfalfa hay						
2000		1,000	3.70	3,700	64.50	238,650
2001		900	3.40	3,060	73.50	224,910
2002		870	3.50	3,045	86.50	263,393
2003		850	3.20	2,720	97.00	263,840
2004		850	3.20	2,720	97.00	263,840
Alfalfa seedings						
2000	140					
2001	100					
2002	125					
2003	130					
2004	135					
Other hay						
2000		300	2.10	630	53.00	33,390
2001		250	2.20	550	52.00	28,600
2002		230	2.20	506	68.00	34,408
2003		200	2.00	400	78.50	31,400
2004		250	2.20	550	71.00	39,050
All haylage and greenchop						
2000		310	5.76	1,785		
2001		340	5.82	1,980		
2002		280	6.05	1,694		
2003		270	5.50	1,486		
2004		367	5.94	2,179		
Alfalfa haylage and greenchop						
2000		280	6.00	1,680		
2001		320	6.00	1,920		
2002		260	6.20	1,612		
2003		250	5.60	1,400		
2004		325	6.20	2,015		

[1] Marketing year average.

Hay: Stocks on farms, 2001-2005

Year	May 1	December 1
	1,000 tons	*1,000 tons*
2001	1,000	3,450
2002	773	2,024
2003	462	1,872
2004	250	1,893
2005	500	

Maple Syrup

Michigan maple syrup production was estimated at 58,000 gallons for the 2005 season, 22,000 gallons below the 2004 output. This was a very short season for Michigan maple syrup producers due to adverse weather conditions. Sap flowed an average of 16 days compard to 26 days in 2004. About 56 percent of the syrup produced was medium in color.

Michigan ranked sixth in maple syrup production in 2004, unchanged from last year and produced about 5 percent of the total U.S. production. Total taps were 390,000 and the syrup yield was 0.149 gallons per tap. In 2004, Michigan producers sold 60 percent of their syrup retail, 23 percent wholesale, and 17 percent bulk. The average price per gallon for 2004 was $38.00 compared with $31.20 in 2003. The value of production for 2004 was $3.04 million, up 7 percent from 2003.

Maple syrup: Taps, yield, production, price, and value, 2001-2005

Year	Taps	Yield per tap	Production	Price per gallon	Value of production
	1,000	*Gallons*	*1,000 gallons*	*Dollars*	*1,000 dollars*
2001	350	0.186	65	29.70	1,931
2002	365	0.205	75	32.50	2,438
2003	360	0.164	59	31.20	1,841
2004	370	0.216	80	38.00	3,040
2005	390	0.149	58	([1])	([1])

[1] Published in June 2006.

Mint

Mint: Acres, yield, production, and value, 2000-2004

Year	Harvested	Yield	Production	Price per pound [1]	Value of production
	1,000 acres	*Pounds*	*1,000 Pounds*	*Dollars*	*1,000 dollars*
Peppermint					
2000	1.0	50	50	9.20	460
2001	1.0	50	50	9.90	495
2002	0.8	50	40	10.00	400
2003	1.1	40	44	11.00	484
2004	1.0	45	45	10.90	491
Spearmint					
2000	1.7	45	77	9.20	708
2001	1.7	50	85	9.80	833
2002	1.6	50	80	9.00	720
2003	1.6	40	64	9.50	608
2004	1.6	45	72	9.30	670

[1] Marketing year average.

Oats

Oat acreage declined in Michigan during 2004. Growers planted 80,000 acres of oats in 2004 compared with 90,000 the year before. Harvested acres, at 65,000, were also down 10,000 from last year. The 2004 oat production was 4.42 million bushels, down 16 percent from the previous year. Yields, at 68 bushels per acre, were off 2 bushels from last year's record high. Dry weather in late April and early May allowed growers to get much of the crop planted ahead of normal. The crop emerged on schedule, but progress was slowed by above normal rainfall. Harvest began the end of July with about half of the crop rated good to excellent. Combining was slowed by cool, damp conditions which kept progress well under the 5-year average. Harvest wrapped up in the middle of September. For 2004, Sanilac county again ranked first in oat production. Montcalm, Isabella, Shiawassee and Huron rounded out the top five counties.

Oats: Acres, yield, production, and value, 2000-2004

Year	Planted	Harvested	Yield	Production	Price [1]	Value of production
	1,000 acres	*1,000 acres*	*Bushels*	*1,000 bushels*	*Dollars*	*1,000 dollars*
2000	95	75	64	4,800	1.30	6,240
2001	70	55	64	3,520	1.80	6,336
2002	80	65	64	4,160	1.80	7,488
2003	90	75	70	5,250	1.65	8,663
2004	80	65	68	4,420	1.60	7,072

[1] Marketing year average.

Potatoes

Michigan's 2004 potato production was 13.65 million hundredweight (cwt) down from 15.02 million in 2003. Planted acres were 43,000 and harvested acres were 42,000. The State's average yield was 325 cwt per acre, down from 2003's record high yield of 330 cwt. Potato planting began in the middle of April. Above normal precipitation in May delayed planting progress and slowed emergence. Several areas were forced to replant. Growers faced varying levels of disease and insect pressure. Potato harvest began in late July and was wrapped up by the end of October.

For 2004, Michigan again ranked ninth among States for potato production. Most Michigan potatoes are whites, which comprised approximately 84 percent of planted acreage, followed by russets and reds at 13 and 3 percent of planted acreage, respectively. Whites are processed for potato chips or sold for table use, while russets are used for french fries and other frozen products.

Fall potatoes: Acres, yield, production, and value, 2000-2004

Year	Planted	Harvested	Yield	Production	Price [1]	Value of production
	1,000 acres	*1,000 acres*	*Cwt*	*1,000 cwt*	*Dollars*	*1,000 dollars*
2000	49.0	47.5	315	14,963	6.70	100,252
2001	46.0	45.0	310	13,950	7.65	106,718
2002	46.5	45.5	305	13,878	7.80	108,248
2003	46.0	45.5	330	15,015	7.05	105,856
2004	43.0	42.0	325	13,650	6.70	91,455

[1] Marketing year average.

Fall potatoes: Stocks by type as percent of total stocks, December 1, 2000-2004

Type	2000	2001	2002	2003	2004
	Percent	*Percent*	*Percent*	*Percent*	*Percent*
White	86	90	88	86	89
Russet	12	9	11	13	10
Red	2	1	1	1	1

Fall potatoes: Production and disposition, 2000-2004

Crop year	Production	Total used for seed	Farm Disposition		Sold
			Seed, feed, and home use	Shrinkage and loss	
	1,000 cwt	*1,000 cwt*	*1,000 cwt*	*1,000 cwt*	*1,000 cwt*
2000	14,963	1,099	250	1,700	13,013
2001	13,950	1,181	245	945	12,760
2002	13,878	1,099	205	1,400	12,273
2003	15,015	1,060	265	1,680	13,070
2004	13,650	([1])	([1])	([1])	([1])

[1] Published in September 2005

Fall potatoes: Stocks, 2000-2004

Crop year	December 1	January 1	February 1	March 1	April 1	May 1
	1,000 cwt	*1,000 cwt*	*1,000 cwt*	*1,000 cwt*	*1,000 cwt*	*1,000 cwt*
2000	8,700	6,900	5,200	3,400	1,500	700
2001	8,200	6,200	4,800	3,200	1,500	400
2002	7,900	6,500	5,600	4,500	2,900	1,000
2003	9,200	7,700	6,200	5,100	3,200	1,500
2004	8,600	6,900	5,300	3,900	2,700	1,100

Soybeans

Michigan soybean production totaled 75.2 million bushels, up 37 percent from 2003. The yield was 38 bushels per acre in 2004. Planted acres remained unchanged from 2003. Harvest acres declined from 1.99 million to 1.98. The soybean planting season started off with dry conditions for early plantings. Heavy rains and saturated soil delayed planting. By June 1, 47 percent was planted compared to a normal of 65 and some water damage was reported. As of August 2, the crop was at 60 percent bloom compared to 77 percent average. Some growers reported problems with aphids. On August 29, 87 percent were setting pods compared to a 94 percent 5-year average. Soil moisture was adequate all summer for the most part but cool conditions slowed development. Growers reported soybean plants were short in some areas. September growing conditions were near optimal for the rapidly maturing soybean crop. Sun and warm weather helped offset the summer's below normal growing degree days and aided dry down of the crop. Harvest began the third week in September, on par with normal. By October 1, 13 percent of the crop was harvested, equal to the 5-year average. As of November 1, 70 percent of the crop was harvested. November harvest progressed slowly due to rains, which made it hard for farmers to get in the fields to finish harvesting. Lenawee, Sanilac, Saginaw, Clinton, and Monroe were the top five counties in soybean production.

Soybeans: Acres, yield, production, and value, 2000-2004

Year	Planted	Harvested	Yield	Production	Price [1]	Value of production
	1,000 acres	*1,000 acres*	*Bushels*	*1,000 bushels*	*Dollars*	*1,000 dollars*
2000	2,050	2,030	36.0	73,080	4.54	331,783
2001	2,150	2,130	30.0	63,900	4.47	285,633
2002	2,050	2,040	38.5	78,540	5.62	441,395
2003	2,000	1,990	27.5	54,725	7.30	399,493
2004	2,000	1,980	38.0	75,240	5.05	379,962

[1] Marketing year average.

Soybeans: Stocks by quarter, 2000-2004

Crop year	December 1		March 1		June 1		September 1	
	On farm	Off farm	On farm	Off farm	On farm	Off farm	On farm	Off farm
	1,000 bushels	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*
2000	30,000	19,800	18,000	9,600	8,500	3,225	2,400	1,220
2001	30,000	20,800	18,000	11,750	7,700	5,450	1,200	1,700
2002	26,000	21,000	16,000	13,450	9,100	5,680	2,800	1,300
2003	18,000	16,900	7,300	8,200	3,200	2,200	900	685
2004	35,000	21,550	22,000	10,500	7,600	6,600		

Soybeans: Percentage of acreage planted, 2000-2004

Year	Month and day						
	May			June			July
	10	20	30	10	20	30	10
2000	12	29	42	63	82	94	100
2001	31	58	75	80	91	96	100
2002	16	26	59	88	98	100	100
2003	7	18	55	83	97	100	100
2004	24	35	45	72	87	97	100
5-year-average	18.0	33.2	55.2	77.2	91.0	97.4	100.0

Soybeans: Percentage of acreage setting pods, 2000-2004

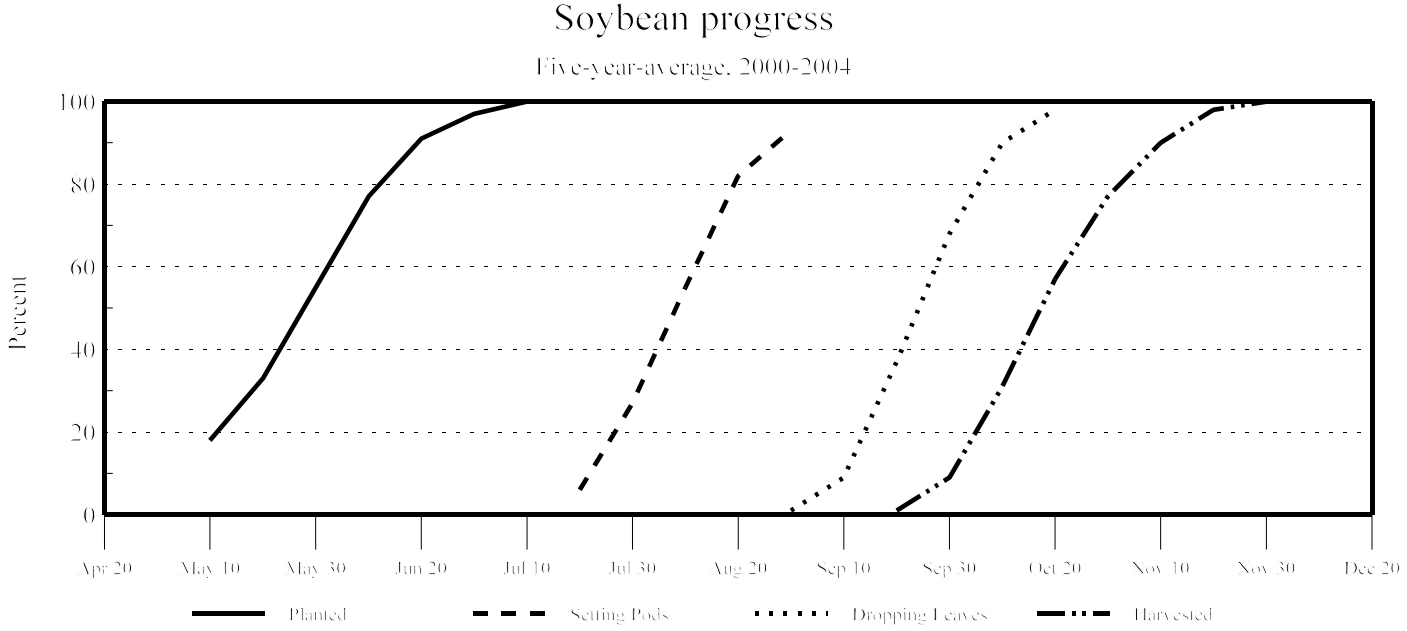
Year	Month and day					
	July			August		
	10	20	30	10	20	30
2000	0	4	20	42	74	86
2001	0	15	46	70	84	94
2002	0	4	29	62	95	100
2003	0	2	16	50	82	97
2004	0	7	23	49	76	88
5-year-average	0.0	6.4	26.8	54.6	82.2	93.0

Soybeans: Percentage of acreage shedding leaves, 2000-2004

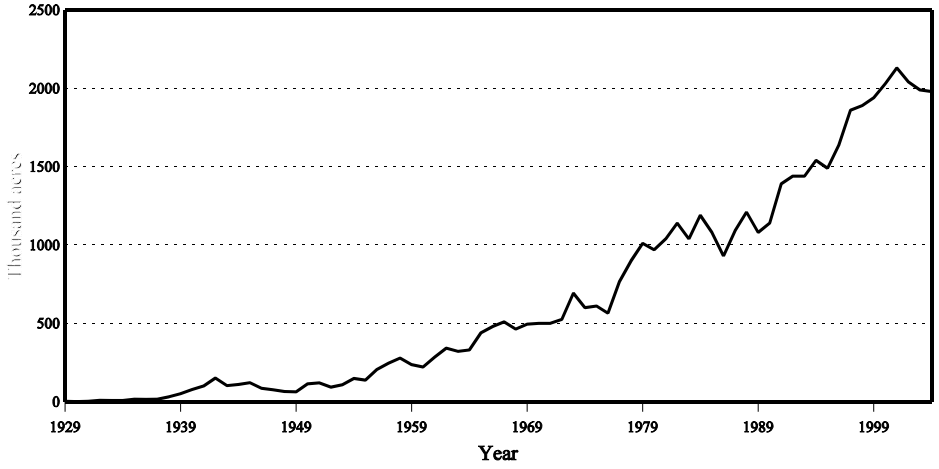
Year	Month and day						
	August		September			October	
	20	30	10	20	30	10	20
2000	0	0	3	26	54	78	93
2001	0	4	18	47	64	87	99
2002	0	0	17	52	89	99	100
2003	0	0	5	44	80	97	100
2004	0	0	4	18	52	91	96
5-year-average	0.0	0.8	9.4	37.4	67.8	90.4	97.6

Soybeans: Percentage of acreage harvested, 2000-2004

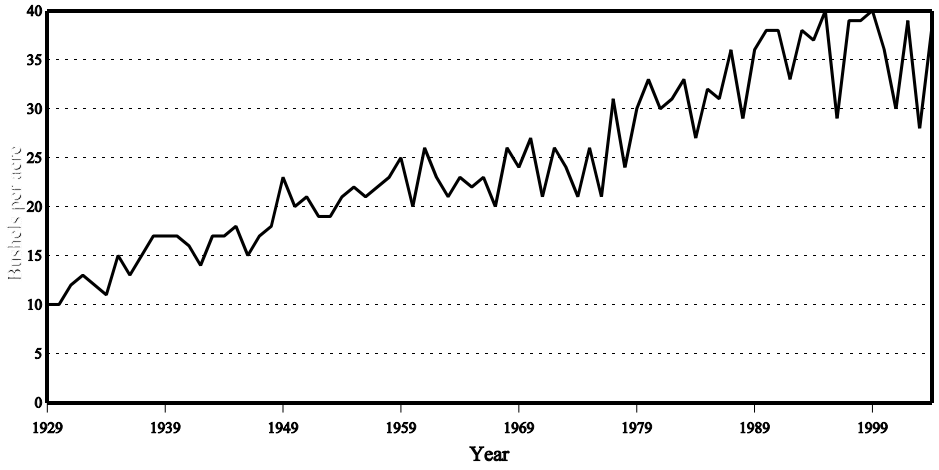
Year	Month and day								
	September			October			November		
	10	20	30	10	20	30	10	20	30
2000	0	0	3	15	48	76	92	100	100
2001	0	1	6	18	36	57	79	96	100
2002	0	4	20	45	73	93	100	100	100
2003	0	0	7	35	72	91	98	100	100
2004	0	1	11	40	58	69	81	96	100
5-year-average	0.0	1.2	9.4	30.6	57.4	77.2	90.0	98.4	100.0



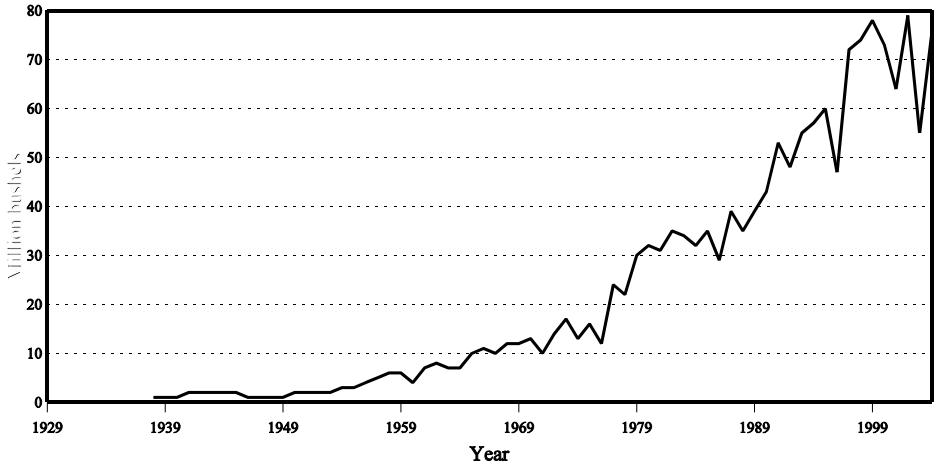
Soybean harvested acres, 1929-2004



Soybean yield, 1929-2004



Soybean production, 1929-2004



Sugarbeets

Acres planted to sugarbeets were estimated at 165,000, down 14,000 acres from the previous year. Harvested acreage was estimated at 163,000, down from 178,000 in 2003. Michigan's sugarbeet yield, at 21.1 tons per acre, was up 2 tons from last year's estimate. Planting of sugarbeet acres was mostly completed by early May, but some acres needed to be replanted due to wet weather and windy conditions damaging seedlings. The crop progressed well through most of the summer and early fall, although there were some reports of compaction and poor root development. Cercospora appeared during the summer, but through spraying and cool temperatures, damage was limited. Harvest proceeded slowly during warm weather in early October, but picked up the pace as cooler temperatures allowed stockpiling. The crop was mostly harvested by early November.

Sugarbeets: Acres, yield, production, and value, 2000-2004

Year	Planted	Harvested	Yield	Production	Price [1]	Value of production
	1,000 acres	*1,000 acres*	*Tons*	*1,000 tons*	*Dollars*	*1,000 dollars*
2000	189	166	20.5	3,403	31.30	106,514
2001	180	166	19.4	3,220	34.80	112,056
2002	179	177	18.1	3,204	38.20	122,393
2003	179	178	19.1	3,400	36.70	124,780
2004	165	163	21.1	3,439	([2])	([2])

[1] Marketing year average.
[2] Published in February 2006.

Wheat

Michigan's 2004 winter wheat crop totaled 40.96 million bushels, down 3.9 million bushels from 2003. Planted acres were down slightly from 680,000 acres the previous year to 660,000. Harvested acreage was at 640,000 acres. The average yield was 64 bushels per acre. The value of the crop declined 16 percent to $123 million. Huron, Sanilac, Tuscola, Lenawee and Saginaw were the top five counties in wheat production.

Winter wheat planting began on schedule and tracked the 5-year average. Emergence lagged behind normal until late fall rain showers helped speed along germination. The crop over-wintered well, with over three-fourths of the acres rated good to excellent at the end of April. The crop developed rapidly; by the middle of June, most of the crop was headed. Above average rainfall during the critical flowering period led to disease problems in the crop. Severity was highly variable by geographic region.

By the second week in July, 94 percent of the crop had turned yellow and harvesting began. Showers and wet ground delayed progress. Dry weather in late July and early August helped growers wrap up their combining.

Wheat: Acres, yield, production, and value, 2000-2004

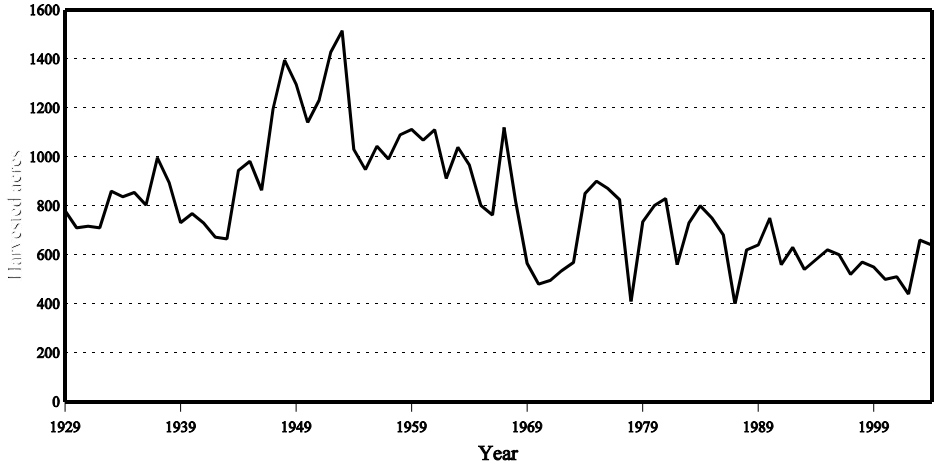
Year	Planted	Harvested	Yield	Production	Price [1]	Value of production
	1,000 acres	*1,000 acres*	*Bushels*	*1,000 bushels*	*Dollars*	*1,000 dollars*
2000	530	500	72	36,000	2.11	75,960
2001	520	510	64	32,640	2.43	79,315
2002	450	440	67	29,480	3.28	96,694
2003	680	660	68	44,880	3.25	145,860
2004	660	640	64	40,960	3.00	122,880

[1] Marketing year average.

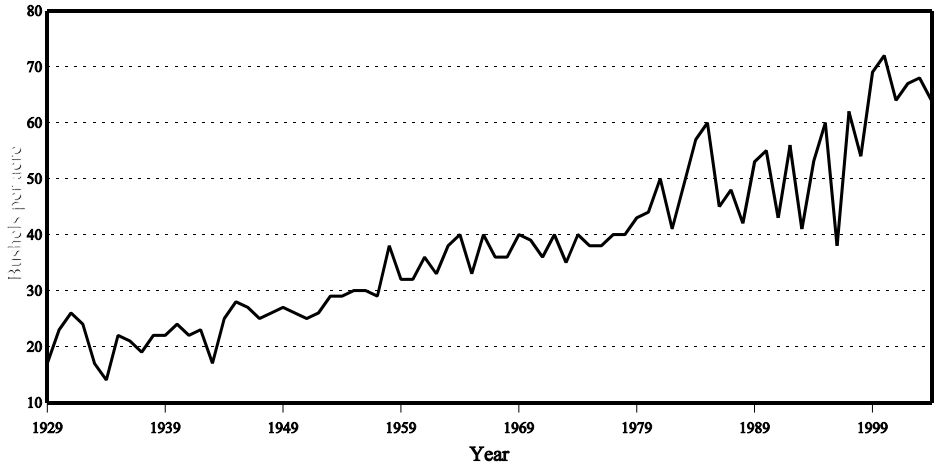
Wheat: Stocks by quarter, 2000-2004

Crop year	September 1		December 1		March 1		June 1	
	On farm	Off farm	On farm	Off farm	On farm	Off farm	On farm	Off farm
	1,000 bushels	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*
2000	7,000	28,950	4,100	22,400	3,000	17,150	800	12,380
2001	4,500	25,900	3,300	19,700	1,200	16,050	600	11,330
2002	2,800	23,700	1,200	15,700	400	12,450	300	6,275
2003	5,000	28,430	2,800	23,050	600	15,190	300	7,310
2004	7,800	28,430	3,500	25,000	2,900	16,470	800	14,330

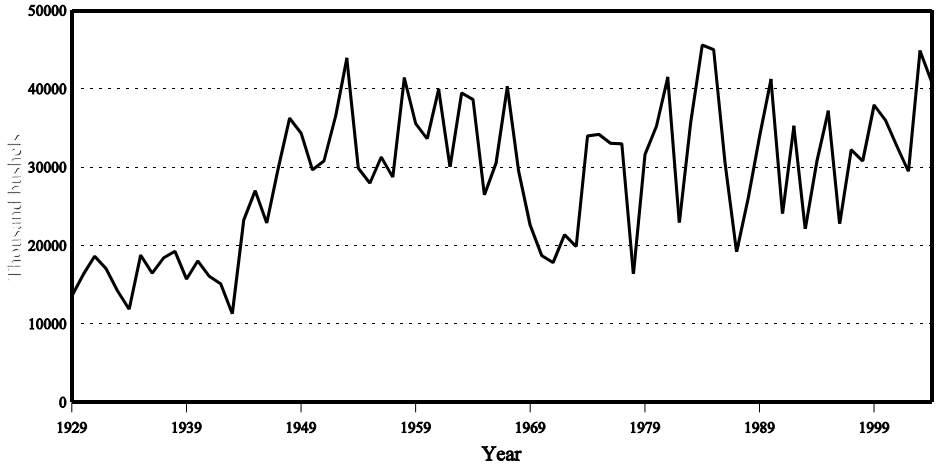
Wheat harvested acres, 1929-2004



Wheat yield, 1929-2004



Wheat production, 1929-2004



Fruit

Michigan apple production in 2004 was 760 million pounds, down from 890 million pounds in 2003. The preliminary farm level value of the utilized crop was $90.48 million. Michigan ranked third in U.S. apple production behind Washington and New York. Washington produced 6.1 billion pounds and New York produced 1.3 billion pounds in 2004.

Tart cherry production was 149 million pounds, a decrease from the 154 million pounds produced in 2003. The average yield was 5,520 pounds per acre. The farm level value was $49.861 million. Sweet cherry production was 24,700 tons, up from 13,000 tons produced in 2003. The average yield was 3.05 tons per acre. The farm level value was $16.311 million.

Cultivated blueberry production in Michigan was 80 million pounds, about 35 percent of the U.S. total. Growers harvested 17,400 acres in 2004. The farm level value was $97.21 million. Strawberry production in Michigan was 41 million pounds on 900 harvested acres. The farm level value was $4.005 million.

Michigan peach production was 37.4 million pounds, down from 47 million pounds in 2003. Total bearing acres were 5,200, and the farm level value was $10.274 million. Pear production in Michigan was 3,460 tons from 850 acres. The farm level value was $1.058 million. Michigan plum production was 2,500 tons from 750 acres. The farm level value was $705,000.

Michigan grape production was 62,500 tons; 57,500 tons were processed, and 500 tons went for the fresh market. The farm level value was $18.740 million. There were 34,900 tons of Concords and 19,400 tons of Niagara grapes processed for juice. There were 1,950 tons of vinifera, 970 tons of hybrid, and 280 tons of other varieties processed for wine. Prices for vinifera varieties averaged $1,185 per ton, hybrids $520 per ton, and other varieties $180 per ton.

Fruit: Record highs and lows

Crop	Unit	Record high		Record low		Year estimates started
		Quantity	Year	Quantity	Year	
Apples	Million pounds	1,200	1999	53	1945	1889
Blueberries	Million pounds	87	1993	34	1992	1992
Cherries, sweet	Tons	37,500	1978	500	1945	1925
Cherries, tart	Million pounds	380	1964	15	2002	1925
Grapes	Tons	94,500	2003	4,200	1889	1889
Peaches	Million pounds	255	1945,1946	7.4	1918	1889
Pears	Tons	48,600	1964	1,400	2002	1889
Plums	Tons	25,000	1971	250	2002	1919
Strawberries	1,000 cwt	451	1940	41	2004	1928

Fruit: Acres harvested and value of production, 2000-2004

Item	Unit	2000	2001	2002	2003	2004
Acres harvested	1,000 acres	122	119	116	113	115
Value of production	1,000 dollars	218,999	219,418	150,735	277,093	282,415

Fruit: Acres, production, and value, 2000-2004

Fruit and Year	Bearing acres	Yield	Production		Price	Value of production
			Total	Utilized		
	Acres	*Pounds*	*Million pounds*	*Million pounds*	*Dollars per pound*	*1,000 dollars*
Apples						
2000	48,500	16,500	800	795	0.093	74,065
2001	46,000	20,200	930	900	0.094	84,330
2002	43,500	12,000	520	515	0.124	64,110
2003	41,500	21,400	890	890	0.117	103,925
2004	41,000	18,500	760	760	0.119	90,480
Blueberries [1]						
2000	16,700	3,710	62	62	0.889	55,140
2001	16,800	4,170	70	70	0.712	49,840
2002	16,900	3,790	64	64	0.816	52,240
2003	15,900	3,900	62	62	1.020	63,105
2004	17,400	4,600	80	80	1.220	97,210
Cherries, tart						
2000	28,500	7,020	200	200	0.182	36,370
2001	28,000	10,600	297	242	0.184	44,412
2002	27,500	545	15	15	0.479	7,192
2003	27,000	5,700	154	154	0.376	57,938
2004	27,000	5,520	149	149	0.335	49,861
Peaches						
2000	4,800	9,900	47.5	45.5	0.249	11,340
2001	4,900	8,570	42.0	42.0	0.298	12,503
2002	5,000	2,800	14.0	14.0	0.318	4,452
2003	5,000	9,400	47.0	43.0	0.181	7,790
2004	5,200	7,200	37.4	37.4	0.274	10,274
	Acres	*Tons*	*Tons*	*Tons*	*Dollars per ton*	*1,000 dollars*
Cherries, sweet						
2000	8,000	2.63	21,000	21,000	490	10,290
2001	8,100	2.84	23,000	23,000	482	11,092
2002	8,100	0.33	2,700	2,600	855	2,222
2003	8,100	1.60	13,000	13,000	830	10,795
2004	8,100	3.05	24,700	24,700	660	16,311
Grapes						
2000	12,500	6.98	87,200	87,200	277	24,156
2001	12,300	2.35	28,900	28,500	355	10,110
2002	12,300	3.47	42,700	42,500	347	14,760
2003	13,200	7.16	94,500	80,500	308	24,830
2004	13,900	4.50	62,500	58,000	323	18,740
Pears						
2000	850	6.12	5,200	5,200	270	1,402
2001	850	5.41	4,600	3,900	297	1,160
2002	850	1.65	1,400	1,400	318	445
2003	800	6.00	4,800	4,300	259	1,112
2004	850	4.07	3,460	3,400	311	1,058
Plums						
2000	800	4.50	3,600	3,300	261	861
2001	800	4.50	3,600	3,600	358	1,289
2002	800	0.31	250	240	358	86
2003	800	4.50	3,600	3,600	355	1,278
2004	750	3.33	2,500	2,000	353	705

[1] Harvested acres.

Apples: Stocks in cold and controlled atmosphere storage [1]

Month	Crop year				
	2000	2001	2002	2003	2004
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*
October	416,923	484,244	237,062	438,345	336,351
November	343,731	392,432	216,805	389,636	326,921
December	294,088	343,380	173,503	316,003	268,632
January	238,013	261,696	110,495	279,373	227,805
February	215,482	199,318	99,044	222,665	185,138
March	160,481	178,996	83,016	169,470	137,500
April	104,512	78,303	22,467	87,284	81,771

[1] End-of-month stocks.

Apples: Utilization and price, 2000-2004

Year	Fresh market		Processing		Total	
	Quantity	Price per lb	Quantity	Price per lb	Quantity	Price per lb
	Million pounds	*Dollars*	*Million pounds*	*Dollars*	*Million pounds*	*Dollars*
2000	260	0.147	535	0.067	795	0.093
2001	270	0.170	630	0.061	900	0.094
2002	150	0.223	365	0.084	515	0.124
2003	310	0.195	580	0.075	890	0.117
2004	240	0.202	520	0.081	760	0.119

Apples, processing: Utilization and price, 2000-2004

Year	Canned		Frozen [1]		Juice and cider		Other	
	Quantity	Price per lb	Quantity	Price per lb	Quantity	Price per lb	Quantity	Price per lb
	Million pounds	*Dollars*	*Million pounds*	*Dollars*	*Million pounds*	*Dollars*	*Million pounds*	*Dollars*
2000	190	0.078	120	0.085	215	0.048	10	0.083
2001	220	0.072	115	0.082	280	0.042	15	0.065
2002	135	0.100	90	0.105	135	0.052	5	0.122
2003	190	0.088	180	0.092	200	0.048	10	0.070
2004	190	0.090	160	0.095	160	0.055	10	0.090

[1] Includes fresh slices.

Blueberries: Utilization and price, 2000-2004

Year	Production		Fresh market		Processed	
	Total	Utilized	Quantity	Price per pound	Quantity	Price per pound
	Million lbs	*Million lbs*	*Million lbs*	*Dollars*	*Million lbs*	*Dollars*
2000	62	62	19	1.250	43	0.730
2001	70	70	21	1.090	49	0.550
2002	64	64	22	1.210	42	0.610
2003	62	62	24	1.300	38	0.840
2004	80	80	36	1.600	44	0.900

Cherries, sweet: Production and utilization, 2000-2004

Year	Total production	Utilized production							
		Fresh		Canned		Brined		Other [1]	
		Quantity	Price per ton	Quantity	Price per ton	Quantity	Price per ton	Quantity	Price per ton
	Tons	*Tons*	*Dollars*	*Tons*	*Dollars*	*Tons*	*Dollars*	*Tons*	*Dollars*
2000	21,000	600	1,680	900	500	15,000	430	4,500	528
2001	23,000	1,000	1,280	700	450	15,500	440	5,800	460
2002	2,700	200	2,540	280	1,000	1,700	630	420	864
2003	13,000	500	2,230	1,500	920	8,000	675	3,000	967
2004	24,700	500	2,020	2,870	640	18,100	617	3,230	711

[1] Frozen, juice, etc.

Cherries, tart: Utilization, 2000-2004

Year	Production		Fresh market	Processed					
	Total	Utilized		Canned		Frozen		Other [1]	
				Quantity	Price per pound	Quantity	Price per pound	Quantity	Price per pound
	Million lbs	*Million lbs*	*Million lbs*	*Million lbs*	*Dollars*	*Million lbs*	*Dollars*	*Million lbs*	*Dollars*
2000	200	200	1.0	80.0	0.187	110	0.181	9.0	0.106
2001	297	242	1.0	80.0	0.179	151	0.189	10.0	0.098
2002	15	15	0.1	6.5	0.460	8	0.500	0.4	0.330
2003	154	154	0.5	53.0	0.390	95	0.370	5.5	0.317
2004	149	149	0.5	39.5	0.340	103	0.340	6.0	0.169

[1] Juice, wine, and dried.

Cherries, tart: Production by region, 2000-2004

Region	2000	2001	2002	2003	2004
	Million pounds	*Million pounds*	*Million pounds*	*Million pounds*	*Million pounds*
Northwest	109	183	3	98	88
West Central	71	84	4	37	37
Southwest and other	20	30	8	19	24
Michigan	200	297	15	154	149

Cherries, tart, frozen: Stocks in cold storage, 2001-2004, crop years

Month	East North Central region [1]				48 States total [2]			
	2001	2002	2003	2004	2001	2002	2003	2004
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*
July	135,786	65,585	45,965	61,428	158,160	81,794	69,005	80,072
August	151,858	58,797	90,774	75,027	174,165	78,729	112,485	93,985
September	137,019	52,852	75,421	81,990	155,033	74,498	96,049	99,862
October	124,835	45,814	65,551	76,405	144,013	66,942	83,314	92,953
November	111,568	39,524	59,728	66,474	129,620	59,721	76,485	81,816
December	109,652	36,543	53,734	59,699	127,215	54,724	68,945	76,570
January	101,979	32,558	47,307	52,659	117,143	47,995	60,825	76,424
February	101,970	26,030	39,005	50,014	115,834	38,699	50,575	69,864
March	94,168	23,580	32,487	41,662	106,151	34,968	41,893	56,118
April	85,579	19,425	25,202	35,580	96,170	27,782	32,281	47,736
May	78,357	12,440	19,015	28,951	86,138	18,375	23,971	39,092
June	69,098	7,051	13,717	21,782	75,917	11,002	17,273	27,520

[1] Illinois, Indiana, Michigan, Ohio, and Wisconsin.
[2] Excluding Alaska and Hawaii.

Grapes: Processed utilization and value, 2000-2004

Year	Concord	Niagara	Other	Total		
				Utilized production	Price per ton	Value
	1,000 Tons	*1,000 Tons*	*1,000 Tons*	*1,000 Tons*	*Dollars*	*1,000 dollars*
2000	64.5	19.1	3.1	86.7	274	23,756
2001	19.0	7.0	2.2	28.2	350	9,870
2002	25.3	13.9	3.0	42.2	344	14,520
2003	51.0	27.0	2.0	80.0	305	24,430
2004	34.9	19.4	3.2	57.5	319	18,340

Grapes: Processed for wine by category, 2000-2004 [1]

Year	Hybrids		Vinifera		Other		Total		
	Quantity	Price per ton	Quantity	Price per ton	Quantity	Price per ton	Quantity	Price per ton	Value of production
	Tons	*Dollars*	*Tons*	*Dollars*	*Tons*	*Dollars*	*Tons*	*Dollars*	*1,000 dollars*
2000							3,100	825	2,558
2001							2,200	940	2,068
2002	1,300	425	1,650	1,330	50	250	3,000	920	2,760
2003	900	600	1,050	1,200	50	200	2,000	905	1,810
2004	970	520	1,950	1,185	280	180	3,200	895	2,864

[1] Quantity and price per ton by category first published in 2002.

Peaches: Utilization and value, 2000-2004

Year	Fresh Market			Processing		
	Production	Price per pound	Value of production	Production	Price per ton	Value of production
	Million lbs	*Dollars*	*1,000 dollars*	*Million lbs*	*Dollars*	*1,000 dollars*
2000	29.5	0.280	8,260	16.0	385	3,080
2001	27.0	0.375	10,125	15.0	317	2,378
2002	10.6	0.370	3,922	3.4	312	530
2003	25.0	0.200	5,000	18.0	310	2,790
2004	25.0	0.330	8,250	12.4	326	2,024

Plums: Utilization and value, 2000-2004

Year	Fresh Market			Processing		
	Production	Price per ton	Value of production	Production	Price per ton	Value of production
	Tons	*Dollars*	*1,000 dollars*	*Tons*	*Dollars*	*1,000 dollars*
2000	1,250	270	338	2,050	255	523
2001	1,800	442	796	1,800	274	493
2002	60	600	36	180	278	50
2003	1,100	480	528	2,500	300	750
2004	350	769	269	1,650	264	436

Strawberries: Acres, production and value, 2000-2004

Year	Total	Harvested	Yield	Production	Price per cwt	Value of production
	Acres	*Acres*	*Cwt*	*1,000 cwt*	*Dollars*	*1,000 dollars*
2000	1,200	1,200	69	83	74.00	6,145
2001	1,000	900	56	50	93.60	4,682
2002	1,300	1,200	47	56	93.40	5,228
2003	1,200	1,100	57	63	100.00	6,320
2004	1,100	900	46	41	97.70	4,005

Strawberries: Utilization and value, 2000-2004

Year	Fresh Market			Processing		
	Production	Price per cwt	Value of production	Production	Price per cwt	Value of production
	1,000 cwt	*Dollars*	*1,000 dollars*	*1,000 cwt*	*Dollars*	*1,000 dollars*
2000	66	81	5,346	17	47	799
2001	44	100	4,400	6	47	282
2002	51	98	4,998	5	46	230
2003	58	105	6,090	5	46	230
2004	36	105	3,780	5	45	225

Refrigerated warehouses: Number and capacity, October 1, 2003 [1]

Type	Number	Usable freezer space	Usable cooler space	Controlled atmosphere
		1,000 cu ft	*1,000 cu ft*	*1,000 bushels*
Apple	179		30,806	7,795
General-public	25	45,740	5,745	
General-private and semi-private	20	12,127	5,720	

[1] Conducted biennially.

All fruit: Number of farms and acres by county and district

County and district	Total farms	Apples	Cherries, tart	Cherries, sweet	Blueberries	Grapes	Peaches	Plums
Antrim	52	630	2,470	840				
Benzie	31	800	1,400					
Grand Traverse	123	750	4,250	1,900		395		65
Leelanau	177	1,800	8,450	4,150		325	70	190
Manistee	35	1,050	850	250			90	
Charlevoix, Cheboygan, and Emmet	23	70	180					
Northwest [3]	441	5,100	17,600	7,500	25	740	230	290
Ionia	11	650						
Kent	102	9,300	340				120	
Mason	32	1,500	1,900	520			390	65
Montcalm, Mecosta	20	850						
Muskegon	36	2,300	190		920		120	
Newaygo	23	1,800	190				100	
Oceana	111	3,500	8,000	500			1,900	115
Ottawa	151	3,800			5,300		130	
West Central [3]	486	23,700	10,700	1,150	6,550	25	2,800	265
Allegan	111	650	290		2,750		380	
Berrien	388	4,800	1,650	180	1,220	7,500	1,700	110
Cass	29	850						
Kalamazoo	21	100						
Van Buren	337	3,800	1,500	65	7,550	5,000	320	150
Southwest [3]	886	10,200	3,640	270	11,550	13,450	2,450	310
North	89	250		8	28		5	
Saginaw Bay	56	130		10	97	7	22	
Central	63	530	6	9	38	7	6	
West Thumb	34	520	9	7	90		18	
East Thumb	64	940	14	33	71	13	90	11
South Central	46	330	10	3	26		11	3
Southeast	80	800	9	10	25		68	12
East [3]	432	3,500	60	80	375	185	220	35
Michigan	2,245	42,500	32,000	9,000	18,500	14,400	5,700	900

–continued

All fruit: Number of farms and acres by county and district (continued)

County and district	Pears	Brambles	Cranberries	Nectarines	Strawberries	Other [1]	All fruit	
							2003	2000 [2]
Antrim	45					105	4,090	3,900
Benzie						390	2,590	2,500
Grand Traverse	45					60	7,465	7,260
Leelanau	45				30	20	15,080	14,890
Manistee					60	20	2,320	2,440
Charlevoix, Cheboygan, and Emmet			150			70	470	465
Northwest	160	60	165	5	140		32,015	31,455
Ionia						45	695	1,005
Kent					50	150	9,960	10,880
Mason	100					60	4,535	4,565
Montcalm, Mecosta						95	945	1,050
Muskegon						35	3,565	3,505
Newaygo						155	2,245	2,150
Oceana	270				35	165	14,485	14,155
Ottawa						175	9,405	9,600
West Central	420	40	20	15	150		45,835	46,910
Allegan	75					180	4,325	4,570
Berrien	70	180			105	65	17,580	17,925
Cass					50	605	1,505	1,820
Kalamazoo						565	665	820
Van Buren	85				90	75	18,635	19,760
Southwest	235	210	60	75	260		42,710	44,895
North	7	26			106	20	450	480
Saginaw Bay	12	22			59	11	370	395
Central		35			107	7	745	835
West Thumb		34			32	15	725	775
East Thumb	24	44			82	3	1,325	1,400
South Central	9	16			56	111	575	580
Southeast	24	63			58	41	1,110	1,085
East	85	240	15	5	500		5,300	5,550
Michigan	900	550	260	100	1,050		125,860	128,810

[1] Fruits combined to avoid disclosing data for individual operations.
[2] Includes apricots, excludes cranberries.
[3] Totals may not add due to combining fruits to avoid disclosing data for individual operations.

Vegetables

Michigan vegetable growers produced 853,430 tons of fresh and processed vegetables in 2004. Harvested acreage was 121,400, a 4 percent increase from 2003. Value of production totaled $246 million, up $19 million from last year. Nationally, Michigan ranked eighth and fifth, respectively, for fresh market and processing vegetable value of production.

Michigan farmers produced 9.57 million hundredweight (cwt) of fresh market vegetables, a decrease of 3 percent from 2003. Processing vegetable production totaled 374,780 tons, down 4 percent from last year. Vegetable growers were hindered by cool, wet weather in May and the first half of June. Planting and transplanting was delayed across much of the State. The continued wet weather hampered crop progress. Most areas experienced a warm and sunny late summer, but several growing areas then faced an extended period of well below normal precipitation late in the growing season.

Michigan ranked third among States for dual purpose asparagus production with 290,000 cwt produced, down 9 percent from last year's 317,000 cwt. Harvest progress was delayed by cool temperatures. Several areas had frost damage as overnight lows in May dipped below normal. Operators also experienced difficulty harvesting due to muddy conditions.

Vegetables: Record highs and lows

Crop	Unit	Record high		Record low		Year estimates started
		Quantity	Year	Quantity	Year	
Asparagus						
Harvested	1,000 acres	23.0	1989	1.0	1928	1928
Yield	Cwt	31	1947	9	1981	
Production	1,000 cwt	317	2003	17	1928	
Beans, snap (processing)						
Harvested	1,000 acres	27.0	1999	0.8	1921	1918
Yield	Tons	3.89	1998	0.60	1947	
Production	Tons	100,970	1999	600	1921	
Carrots (fresh market)						
Harvested	1,000 acres	7.7	1994	0.5	1929	1929
Yield	Cwt	398	1995	155	1957	
Production	1,000 cwt	2,610	1995	132	1936	
Celery						
Harvested	1,000 acres	7.2	1941	1.8	1966,1968	1928
Yield	Cwt	560	2004	174	1935	
Production	1,000 cwt	1,915	1941	576	1966	
Corn, sweet (fresh market)						
Harvested	1,000 acres	15.2	1961	9.0	1988,2001	1949
Yield	Cwt	90	2003	42	1949	
Production	1,000 cwt	1,020	1994	525	1949	
Cucumbers (processing)						
Harvested	1,000 acres	46.3	1949	9.3	1932	1918
Yield	Tons	6.7	1987	0.6	1924	
Production	Tons	180,900	2003	8,900	1932	
Onions						
Harvested	1,000 acres	12.7	1935	3.2	2004	1928
Yield	Cwt	350	1960	120	1935	
Production	1,000 cwt	2,833	1948	852	1928	
Tomatoes (fresh market)						
Harvested	1,000 acres	9.4	1943	1.8	2001	1928
Yield	Cwt	260	2004	60	1959	
Production	1,000 cwt	797	1943	204	1988	
Tomatoes (processing)						
Harvested	1,000 acres	9.7	1982	1.0	1921	1918
Yield	Tons	38.0	2003	2.7	1943	
Production	Tons	205,000	1982	5,000	1921	

Vegetables: Acres harvested and value of production, 2000-2004

Item	Unit	2000	2001	2002	2003	2004
Acres harvested	1,000 acres	123	112	120	117	121
Value of production	1,000 dollars	219,240	208,121	213,604	226,812	245,837

Principal vegetables, fresh market: Acres, production, and value, 2000-2004

Year	Planted	Harvested	Production	Value
	Acres	*Acres*	*1,000 cwt*	*1,000 dollars*
2000	69,700	64,850	8,493	156,650
2001	70,100	62,300	9,154	157,708
2002	69,300	63,900	9,279	160,586
2003	71,100	64,200	9,854	170,366
2004	69,100	64,800	9,573	189,335

Principal vegetables, processing: Acres, production, and value, 2000-2004

Year	Planted	Harvested	Production	Value
	Acres	*Acres*	*Tons*	*1,000 dollars*
2000	60,760	58,450	390,580	62,590
2001	52,350	50,100	318,280	50,413
2002	57,700	55,900	386,130	53,018
2003	53,900	52,700	389,710	56,446
2004	57,700	56,600	374,780	56,502

Vegetables, processing: Acres, production, and value, 2000-2004 [1]

Item and Year	Planted	Harvested	Yield	Production	Price per ton	Value
	Acres	*Acres*	*Tons*	*Tons*	*Dollars*	*1,000 dollars*
Carrots						
2000	1,260	1,250	28.00	35,000	68.80	2,408
2001	1,550	1,500	21.00	31,500	69.00	2,174
2002	1,800	1,800	23.00	41,400	67.00	2,774
2003	1,700	1,600	24.00	38,400	69.00	2,650
2004	1,400	1,300	25.00	32,500	62.00	2,015
Cucumbers						
2000	31,000	30,000	6.00	180,000	215.00	38,700
2001	31,000	29,500	4.25	125,380	246.00	30,843
2002	35,500	34,500	4.60	158,700	190.00	30,153
2003	34,000	33,500	5.40	180,900	200.00	36,180
2004	35,000	34,500	5.00	172,500	205.00	35,363
Snap beans						
2000	25,500	24,400	3.75	91,580	160.00	14,678
2001	16,500	16,000	3.50	56,000	160.00	8,964
2002	16,700	16,000	3.75	60,030	160.00	9,633
2003	14,800	14,300	3.15	45,010	160.00	7,208
2004	17,700	17,300	3.54	61,280	169.00	10,335
Tomatoes						
2000	3,000	2,800	30.00	84,000	81.00	6,804
2001	3,300	3,100	34.00	105,400	80.00	8,432
2002	3,700	3,600	35.00	126,000	83.00	10,458
2003	3,400	3,300	38.00	125,400	83.00	10,408
2004	3,600	3,500	31.00	108,500	81.00	8,789

[1] Cabbage for sauerkraut and green peas are not published to avoid disclosure of individual operations.

Vegetables, fresh market: Acres, production, and value, 2000-2004

Item and year	Planted	Harvested	Yield	Production	Price per cwt	Value [1]
	Acres	*Acres*	*Cwt*	*1,000 cwt*	*Dollars*	*1,000 dollars*
Beans, snap						
2000	2,300	2,000	42	84	25.00	2,100
2001	4,200	3,800	50	190	35.00	6,650
2002	4,000	3,900	45	176	38.00	6,688
2003	4,300	4,000	40	160	25.00	4,000
2004	4,400	4,100	45	185	45.00	8,325
Cabbage						
2000	1,800	1,700	250	425	12.80	5,440
2001	2,000	1,800	320	576	14.00	8,064
2002	1,900	1,800	300	540	12.00	6,480
2003	2,000	1,800	320	576	10.00	5,760
2004	1,800	1,600	270	432	12.00	5,184
Cantaloups						
2000	800	750	140	105	15.30	1,607
2001	600	500	105	53	21.00	1,113
Carrots						
2000	4,700	4,500	280	1,260	13.40	16,884
2001	5,000	4,800	350	1,680	13.80	23,184
2002	4,300	4,000	330	1,320	13.00	17,160
2003	4,400	4,200	350	1,470	13.10	19,257
2004	4,400	4,200	310	1,302	12.20	15,884
Corn, sweet						
2000	11,500	10,600	70	742	18.10	13,430
2001	10,500	9,000	60	540	22.00	11,880
2002	11,000	10,000	80	800	21.00	16,800
2003	11,000	9,500	90	855	16.60	14,193
2004	10,500	9,500	75	713	19.50	13,904
Cucumbers						
2000	7,000	6,700	200	1,340	18.80	25,192
2001	6,500	5,500	220	1,210	20.00	24,200
2002	6,800	6,000	190	1,140	18.00	20,520
2003	7,300	6,400	160	1,024	20.40	20,890
2004	7,500	7,400	175	1,295	23.30	30,174
Onions						
2000	4,100	3,500	270	945	12.50	9,450
2001	4,100	3,700	270	999	12.20	9,748
2002	4,000	3,900	230	897	12.50	8,963
2003	3,700	3,600	320	1,152	14.50	13,369
2004	3,700	3,200	290	928	12.40	9,213
Radishes						
2000	2,700	2,500	70	175	27.20	4,760
2001	2,700	3,000	70	195	27.20	4,760
Tomatoes						
2000	2,500	2,400	170	408	44.40	18,115
2001	1,900	1,800	210	378	35.00	13,230
2002	2,100	2,000	210	420	30.50	12,810
2003	2,300	2,200	220	484	34.00	16,456
2004	2,200	2,100	260	546	48.00	26,208

[1] Onions = Value of sales.

Vegetables, dual purpose: Acres, production, and value, 2000-2004

Item and year	Planted	Harvested	Yield	Production	Price per cwt	Value
	Acres	*Acres*	*Cwt*	*1,000 cwt*	*Dollars*	*1,000 dollars*
Asparagus						
2000	17,000	16,500	17	283	63.90	18,075
2001	15,500	14,300	20	290	43.20	12,516
2002	16,000	15,000	15	219	53.40	11,703
2003	16,000	15,000	21	317	60.80	19,278
2004	15,500	14,500	20	290	64.50	18,708
Celery						
2000	2,000	1,900	500	950	14.10	13,421
2001	2,000	1,900	460	873	14.50	12,650
2002	2,200	2,100	470	987	14.60	14,441
2003	2,300	2,200	530	1,166	15.10	17,641
2004	2,300	2,200	560	1,232	15.30	18,819
Peppers, bell						
2000	2,200	2,100	220	462	22.50	10,395
2001	1,900	1,400	260	364	22.00	8,008
2002	1,800	1,600	250	400	24.00	9,600
2003	1,800	1,800	250	450	22.00	9,900
2004	1,800	1,800	290	522	26.00	13,572
Pumpkins						
2000	5,500	4,400	160	704	12.00	8,448
2001	5,500	4,400	120	528	12.00	6,336
2002	8,000	6,800	120	816	16.00	13,056
2003	8,500	7,300	140	1,022	14.00	14,308
2004	7,800	7,200	140	1,008	13.00	13,104
Squash						
2000	5,600	5,300	115	610	15.30	9,333
2001	6,900	6,400	200	1,278	11.90	15,254
2002	7,200	6,800	230	1,564	14.30	22,365
2003	7,500	6,200	190	1,178	13.00	15,314
2004	7,200	7,000	160	1,120	14.50	16,240

Asparagus: Utilization and value, 2000-2004

Year	Fresh market			Processing		
	Production	Price per cwt	Value of production	Production	Price per ton	Value of production
	1,000 cwt	*Dollars*	*1,000 dollars*	*Tons*	*Dollars*	*1,000 dollars*
2000	41	69.00	2,829	12,100	1,260	15,246
2001	48	49.00	2,352	12,100	840	10,164
2002	21	67.00	1,407	9,900	1,040	10,296
2003	43	66.00	2,838	13,700	1,200	16,440
2004	26	90.00	2,340	13,200	1,240	16,368

U.S. Pickle stocks in tanks, barrels, and fresh pack, December 1, 2000-2004

Year	From current year crop			From previous year crop		Total stocks
	Salt stock including dill	Fresh pack	Refrigerated	Salt stock including dill	Fresh pack	
	Tons	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*
2000	192,647	42,642	1,449	141,556	9,250	387,544
2001	285,902	129,986	12,426	123,989		552,303
2002	225,243	54,329	1,236	19,772		300,580
2003	210,291	57,695	44,628	13,259	27,700	353,573
2004	169,508	54,614	44,466	17,689		286,277

Horticulture

Michigan placed third nationally in value of wholesale sales of floriculture products in 2004. Only California and Florida reported larger sales than Michigan. Reports from Michigan's 711 commercial growers ($10,000 or more in gross sales) showed an estimated wholesale value of $371 million for all surveyed floriculture crops, up 8 percent from last year's revised figure. This estimate includes summarized sales data as reported by growers with $100,000 or more in sales plus a calculated wholesale value of sales for operations with sales from $10,000 to $99,999.

The leading crop category breakdowns for Michigan operations with more than $100,000 in sales were:

First, annual bedding/garden plants with $188 million in sales.
Second, herbaceous perennial plants with $62 million in sales.
Third, propagative materials with $58 million in sales.
Fourth, potted flowering plants with $32 million in sales.

Michigan led the nation in sales of 6 floriculture crops:

- Potted Geraniums (seed) with 16.8 million pots sold, valued at $14.0 million.
- Potted New Guinea Impatiens with 3.9 million pots sold, valued at $5.9 million.
- New Guinea Impatiens Hanging Baskets with 796,000 baskets sold, valued at $5.1 million.
- Geranium Hanging Baskets (cuttings) with 785,000 baskets sold, valued at $5.2 million.
- Potted Easter Lilies with 1.4 million pots sold, valued at $4.9 million.
- Impatiens Hanging Baskets with 464,000 sold, valued at $2.4 million.

Other crops that ranked second in sales nationally were:

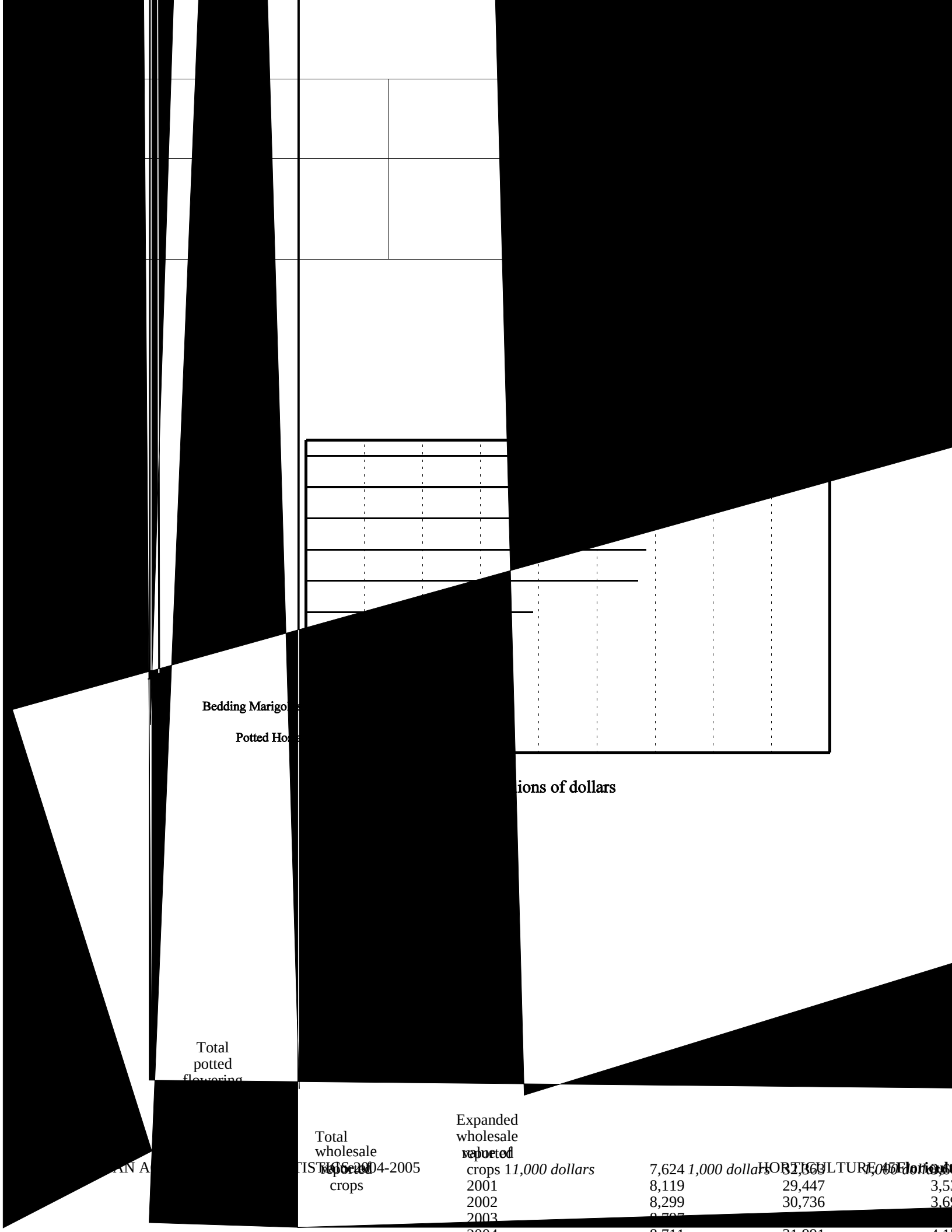
- Impatiens (flats) with 2.3 million flats sold, valued at $16.2 million.
- Other Flowering Hanging Baskets with 2.0 million baskets sold, valued at $12.4 million.
- Petunias (flats) with 1.7 million flats sold, valued at $11.7 million.
- Potted Geraniums (cuttings) with 5.0 million pots sold, valued at $11.4 million.
- Begonias (flats) with 1.1 million flats sold, valued at $7.8 million.
- Pansy/Viola (flats) with 883,000 flats sold, valued at $6.0 million.
- Marigolds (flats) with 815,000 flats sold, valued at $5.8 million.
- Potted Hosta with 1.8 million pots sold, valued at $5.6 million.
- Potted Petunias with 2.0 million pots sold, valued at $3.9 million.
- Petunia Hanging Baskets with 511,000 baskets sold, valued at $2.7 million.
- Begonia Hanging Baskets with 388,000 baskets sold, valued at $2.2 million.
- Geraniums from Seed (flats) with 60,000 flats sold, valued at $685,000.

Floriculture crops: Number of growers by gross value of sales, 2000-2004

Year	$10,000-$19,999	$20,000-$39,000	$40,000-$49,000	$50,000-$99,999	$100,000-$499,999	$500,000 or more	Total growers
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
2000	74	89	44	170	239	131	747
2001	57	83	47	161	239	121	708
2002	60	121	65	187	234	124	791
2003	58	96	47	188	220	134	743
2004	48	90	44	175	215	139	711

Floriculture crops: Growing area by type of cover, 2000-2004

Year	Glass greenhouses	Fiberglass and other rigid greenhouses	Plastic film greenhouses	Total greenhouse cover	Shade and temporary cover	Total covered area	Open ground
	1,000 square feet	*1,000 square feet*	*1,000 square feet*	*1,000 square feet*	*1,000 square feet*	*1,000 square feet*	*Acres*
2000	4,441	4,096	32,665	41,202	1,106	42,308	3,299
2001	4,706	3,876	31,902	40,484	1,141	41,625	3,235
2002	4,653	3,884	36,501	45,038	1,370	46,408	3,831
2003	4,657	4,191	37,424	46,272	1,569	47,841	3,237
2004	4,549	4,559	38,217	47,325	1,425	48,750	2,996



	Total potted flowering crops reported	Total wholesale value of crops reported	Expanded wholesale value of crops reported			
AN A	TISTICS 2004-2005		crops 1 *1,000 dollars*	7,624 *1,000 dollars*	HORTICULTURE 32,363	45 *1,000 dollars*
			2001	8,119	29,447	3,5
			2002	8,299	30,736	3,6
			2003			
			2004	8,711	31,991	4,1

Bedding plants: Producers, quantity sold, price, and value, 2000-2004

Item	Producers	Quantity sold	Percent of sales at wholesale	Wholesale price	Value of sales at wholesale
	Number	*1,000 flats*	*Percent*	*Dollars*	*1,000 dollars*
Begonias					
2000	199	847	83	7.15	6,056
2001	209	1,025	86	7.06	7,237
2002	217	1,008	81	7.13	7,187
2003	227	1,026	82	6.66	6,833
2004	231	1,093	81	7.12	7,782
Geraniums from cuttings					
2000	43	292	78	6.21	1,813
2001	27	85	39	12.25	1,041
2002	21	76	33	12.55	954
2003	18	57	20	11.37	648
2004	16	67	33	15.24	1,021
Geraniums from seed					
2000	50	219	93	8.11	1,776
2001	52	113	87	11.53	1,303
2002	47	105	89	10.56	1,109
2003	40	83	77	10.86	901
2004	32	60	90	11.41	685
Impatiens					
2000	251	2,403	83	6.81	16,364
2001	242	2,344	83	7.05	16,525
2002	224	2,372	88	7.40	17,553
2003	238	2,383	86	6.85	16,324
2004	234	2,309	86	7.00	16,163
Marigolds					
2000	205	789	89	6.87	5,420
2001	214	794	86	7.35	5,836
2002	219	731	90	7.39	5,402
2003	231	823	87	6.77	5,572
2004	234	815	87	7.08	5,770
New Guinea Impatiens					
2000	46	125	91	8.21	1,026
2001	40	99	83	11.17	1,106
2002	41	103	73	9.89	1,019
2003	28	137	80	7.86	1,077
2004	21	45	70	10.01	450
Pansies/Violas					
2000	195	679	90	6.67	4,529
2001	200	637	89	6.94	4,421
2002	208	821	91	7.34	6,026
2003	216	920	91	6.57	6,044
2004	219	883	91	6.78	5,987
Petunias					
2000	268	1,502	85	6.76	10,154
2001	259	1,484	86	7.03	10,433
2002	252	1,430	87	7.42	10,611
2003	252	1,641	85	6.85	11,241
2004	256	1,662	85	7.06	11,734
Other flowering and foliar					
2000	258	4,506	86	6.89	31,046
2001	243	3,985	86	6.91	27,536
2002	241	3,768	86	7.45	28,072
2003	244	4,403	85	6.85	30,161
2004	246	3,929	85	7.27	28,564
Vegetables [1]					
2000	218	720	83	6.99	5,033
2001	187	567	82	6.97	3,952
2002	186	585	83	7.12	4,165
2003	181	506	78	6.93	3,507
2004	187	573	80	7.34	4,206

[1] Does not include vegetable transplants grown for commercial use.

Hanging baskets: Producers, quantity sold, price, and value, 2000-2004

Item	Producers	Quantity sold	Percent of sales at wholesale	Wholesale price	Value of sales at wholesale
	Number	*1,000 baskets*	*Percent*	*Dollars*	*1,000 dollars*
Begonias					
2000	148	261	83	5.61	1,464
2001	145	276	82	5.94	1,639
2002	148	350	83	5.84	2,044
2003	165	348	87	5.94	2,067
2004	164	388	86	5.79	2,247
Geraniums from cuttings					
2000	211	485	73	6.39	3,099
2001	199	399	75	6.76	2,697
2002	211	546	82	6.79	3,707
2003	222	826	84	6.53	5,394
2004	211	785	82	6.59	5,173
Geraniums from seed					
2000	23	58	70	5.85	339
2001	30	101	76	5.82	588
2002	28	53	91	6.54	347
2003	27	47	91	6.30	296
2004	25	59	95	5.75	339
Impatiens					
2000	195	411	85	4.95	2,034
2001	186	376	86	5.49	2,064
2002	180	453	88	5.43	2,460
2003	200	496	84	5.28	2,619
2004	198	464	82	5.22	2,422
Marigolds					
2000	5	2	94	5.89	12
2001	3	4	100	5.61	22
New Guinea Impatiens					
2000	226	607	82	6.45	3,915
2001	219	586	83	6.50	3,809
2002	224	766	89	6.83	5,232
2003	224	770	87	6.75	5,198
2004	219	796	90	6.40	5,094
Pansies/Violas					
2000	30	36	96	5.65	203
2001	27	33	87	5.57	184
2002	33	51	93	5.54	283
2003	36	49	89	5.52	270
2004	30	43	84	5.21	224
Petunias					
2000	178	251	85	4.96	1,245
2001	168	236	79	5.66	1,336
2002	170	346	87	5.66	1,958
2003	196	469	85	5.80	2,720
2004	197	511	85	5.25	2,683
Other flowering					
2000	189	1,346	82	5.95	8,009
2001	177	1,164	82	6.21	7,228
2002	191	1,595	88	6.22	9,921
2003	197	1,780	86	5.91	10,520
2004	208	2,004	84	6.18	12,385
Foliage					
2000	64	299	93	5.54	1,656
2001	52	306	95	4.95	1,515
2002	58	323	95	5.02	1,621
2003	61	213	92	4.81	1,025
2004	65	430	93	4.42	1,901

Potted flowering and annual bedding plants: Producers, quantity sold, price, and value, 2000-2004

Item	Producers	Quantity sold			Percent of sales at wholesale	Wholesale price		Value of sales at wholesale
		Less than 5 inch pots	5 inch pots or larger	Total		Less than 5 inch pots	5 inch pots or larger	
	Number	*1,000 pots*	*1,000 pots*	*1,000 pots*	*Percent*	*Dollars*	*Dollars*	*1,000 dollars*
Azaleas								
2000	36	31	116	147	83	3.16	7.20	933
2001	34	14	110	124	69	3.47	6.64	779
2002	28	([1])	94	94	87	([1])	7.29	685
2003	23	([1])	89	89	85	([1])	7.50	667
2004	24	([1])	93	93	87	([1])	7.82	727
Begonias								
2000	65	397	31	428	63	1.05	1.92	476
2001	69	577	38	615	61	1.26	3.01	841
2002	72	459	54	513	80	1.08	3.60	690
2003	87	563	145	708	90	1.51	2.55	1,220
2004	94	746	213	959	89	1.33	2.44	1,512
Chrysanthemums, florist								
2000	38	127	320	447	87	1.69	3.87	1,453
2001	46	162	647	809	64	1.48	3.78	2,685
2002	37	104	511	615	97	1.69	3.00	1,709
2003	31	49	465	514	98	1.62	2.61	1,293
2004	31	35	198	233	76	1.64	4.02	853
Chrysanthemums, hardy garden								
2000	131	631	2,487	3,118	90	1.11	1.79	5,152
2001	119	255	2,670	2,925	90	1.21	1.76	5,008
2002	127	227	3,611	3,838	94	1.29	1.69	6,395
2003	124	370	4,461	4,831	94	1.69	1.70	8,209
2004	133	859	4,703	5,562	95	1.58	1.92	10,387
Easter Lilies								
2000	51	([1])	1,510	1,510	97	([1])	3.47	5,240
2001	55	([1])	1,438	1,438	97	([1])	3.50	5,036
2002	48	146	1,282	1,428	97	2.75	3.52	4,914
2003	43	([1])	1,296	1,296	97	([1])	3.58	4,633
2004	38	91	1,290	1,381	97	1.72	3.66	4,878
Geraniums from cuttings								
2000	222	3,298	1,369	4,667	67	1.54	2.43	8,406
2001	217	3,101	1,422	4,523	70	1.71	2.52	8,886
2002	215	4,152	1,211	5,363	77	1.40	2.47	8,804
2003	223	3,574	1,333	4,907	69	1.73	3.30	10,582
2004	231	3,667	1,372	5,039	69	1.78	3.57	11,425
Geraniums from seed								
2000	112	17,662	54	17,716	95	0.76	3.88	13,633
2001	100	15,391	39	15,430	95	0.77	5.45	12,064
2002	98	16,156	10	16,166	98	0.81	3.46	13,121
2003	111	13,528	([1])	13,528	97	0.85	([1])	11,472
2004	109	16,788	([1])	16,788	98	0.83	([1])	13,951
Impatiens								
2000	50	230	184	414	64	0.97	1.85	564
2001	49	307	166	473	69	1.06	2.05	666
2002	46	309	123	432	95	0.96	1.85	524
2003	52	408	176	584	96	1.41	1.98	924
2004	63	784	344	1,128	94	1.16	2.00	1,597
Marigolds								
2000	14	([1])	198	198	62	([1])	1.22	242
2001	12	([1])	212	212	65	([1])	1.45	307
2002	14	71	22	93	98	0.84	1.93	102
2003	19	59	60	119	97	0.77	1.63	143
2004	28	84	164	248	98	0.86	1.89	382
New Guinea Impatiens								
2000	190	2,848	287	3,135	89	1.10	3.93	4,261
2001	178	2,753	307	3,060	90	1.23	3.12	4,344
2002	174	3,535	230	3,765	95	1.23	3.27	5,100
2003	179	3,845	357	4,202	92	1.28	3.90	6,314
2004	198	3,556	346	3,902	94	1.30	3.65	5,886

See footnote(s) at end of table.

–continued

Potted flowering and annual bedding plants: Producers, quantity sold, price, and value, 2000-2004 (continued)

Item	Producers	Quantity sold			Percent of sales at wholesale	Wholesale price		Value of sales at wholesale
		Less than 5 inch pots	5 inch pots or larger	Total		Less than 5 inch pots	5 inch pots or larger	
	Number	*1,000 pots*	*1,000 pots*	*1,000 pots*	*Percent*	*Dollars*	*Dollars*	*1,000 dollars*
Pansies/Violas								
2000	34	329	58	387	80	0.67	4.83	501
2001	25	280	64	344	80	0.66	1.93	308
2002	31	576	141	717	98	0.68	2.59	757
2003	45	220	417	637	97	0.82	1.97	1,002
2004	49	832	235	1,067	97	0.49	2.17	918
Petunias								
2000	64	390	336	726	63	1.15	1.92	1,094
2001	49	360	243	603	56	1.12	2.16	928
2002	62	461	312	773	94	0.85	2.44	1,153
2003	76	619	803	1,422	92	1.49	1.99	2,520
2004	97	1,048	986	2,034	91	1.40	2.45	3,883
Poinsettias								
2000	97	1,375	3,138	4,513	87	1.23	3.88	13,867
2001	100	992	3,057	4,049	85	1.45	3.98	13,605
2002	93	915	2,847	3,762	90	1.60	4.12	13,194
2003	84	958	2,770	3,728	90	1.65	4.21	13,242
2004	85	771	2,661	3,432	92	1.86	4.25	12,743
Roses, florist								
2000	14	67	37	104	90	2.25	4.24	308
2001	17	52	55	107	95	2.69	4.23	373
2002	10	87	([1])	87	95	3.59	([1])	312
2003	9	([1])	64	64	94	([1])	3.61	231
2004	6	79	([1])	79	96	3.20	([1])	253
Flowering bulbs								
2000	43	735	999	1,734	97	1.59	3.31	4,475
2001	47	821	665	1,486	96	1.48	3.40	3,476
2002	49	666	1,467	2,133	99	1.52	3.29	5,839
2003	40	901	1,398	2,299	99	2.07	3.32	6,506
2004	41	751	1,531	2,282	98	1.46	3.21	6,011
Other flowering plants								
2000	66	982	722	1,704	88	1.64	4.43	4,809
2001	55	805	485	1,290	84	1.61	3.54	3,013
2002	60	977	455	1,432	87	1.58	4.31	3,505
2003	54	1,554	801	2,355	89	1.18	3.87	4,934
2004	58	1,500	468	1,968	84	1.80	4.21	4,670
Other flowering and foliar type bedding plants								
2000	131	9,571	1,848	11,419	80	1.01	2.87	14,970
2001	120	9,026	1,372	10,398	82	1.16	3.49	15,258
2002	125	10,294	2,805	13,099	95	1.07	3.12	19,766
2003	137	12,733	4,296	17,029	92	1.38	3.10	30,889
2004	147	18,198	3,403	21,601	92	1.21	3.29	33,215
Vegetable type [2]								
2000	73	871	135	1,006	88	0.65	1.79	808
2001	65	594	169	763	90	0.86	1.54	771
2002	73	1,066	164	1,230	93	0.69	2.16	1,090
2003	91	1,241	206	1,447	85	0.79	2.10	1,413
2004	92	3,067	342	3,409	94	0.54	1.96	2,327

[1] Pot sizes have been combined into category with greatest production to avoid disclosure of individual operations.
[2] Does not include vegetable transplants grown for commercial use.

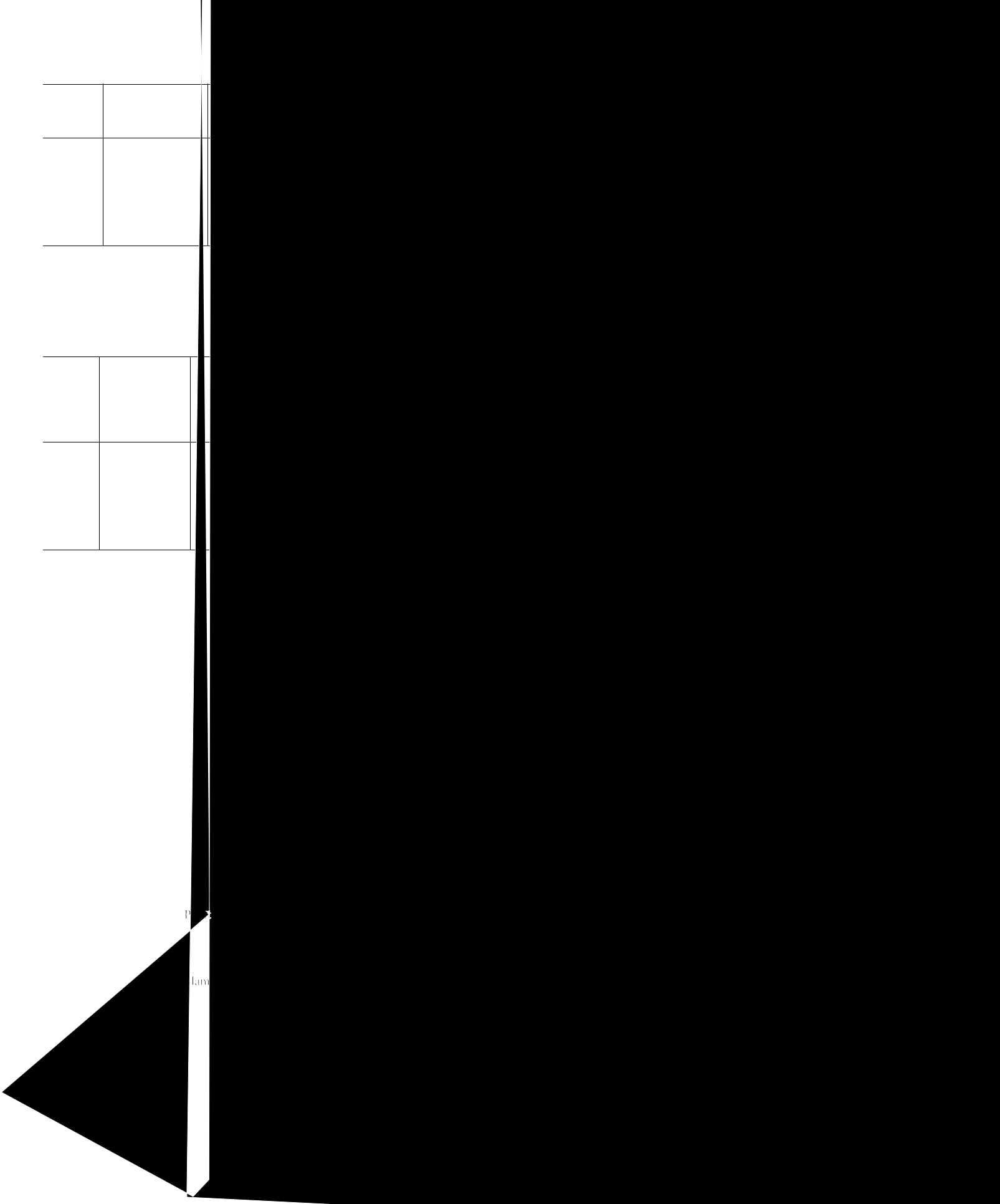
Herbaceous perennials: Producers, quantity sold, price, and value, 2000-2004

Item	Producers	Quantity sold				Percent of sales at wholesale	Wholesale price			Value of All sales at wholesale
		Less than 1 gallon	1 to 2 gallon	2 gallon and larger	Total		Less than 1 gallon	1 to 2 gallon	2 gallon and larger	
	Number	*1,000 pots*	*1,000 pots*	*1,000 pots*	*1,000 pots*	*percent*	*Dollars*	*Dollars*	*Dollars*	*1,000 dollars*
Hosta										
2000	106	996	1,040	40	2,076	93	2.75	3.76	7.21	6,938
2001	111	584	1,073	46	1,703	94	2.76	2.89	6.43	5,009
2002	115	936	907	47	1,890	92	2.50	3.68	6.22	5,970
2003	126	825	1,020	69	1,914	90	2.49	3.64	5.85	6,171
2004	125	1,000	731	94	1,825	90	2.48	3.57	5.26	5,584
Other										
2000	131	13,634	3,613	162	17,409	94	1.03	3.61	6.05	28,066
2001	136	13,890	5,110	317	19,317	94	1.25	3.06	5.90	34,869
2002	142	22,281	6,382	302	28,965	95	1.00	3.43	6.83	46,234
2003	153	15,220	5,377	356	20,953	92	1.11	3.53	6.12	38,054
2004	149	13,600	6,869	746	21,215	92	1.30	3.42	6.14	45,752

Livestock, Dairy, and Poultry

Livestock: Record highs and lows

Livestock	Unit	Record high		Record low		Year estimates started
		Quantity	Year	Quantity	Year	
Cattle and calves	1,000 head	2,036				
Cattle on feed	1,000 head					
Chickens, all [1]	1,000 birds		80ead09ead			
Cows, beef	1,000 head					
Cows, milk	1,000 head					
Eggs [2]	Million eggs		2			
Hogs and pigs [1]	1,000 head					
Honey	1,000 pounds					
Milk	Million pounds					
Sheep	1,000 head					
Wool	1,000 pounds					



Dairy

Milk production in Michigan during 2004 was 6,315 million pounds, down 1 percent from 2003. Michigan ranked eighth nationally in milk production in 2004, accounting for 3.7 percent of U.S. production.

The annual average number of milk cows on Michigan farms during 2004 was 303,000 head, up 1,000 from the previous year. The number of operations with milk cows fell to 2,900 from 3,000 in 2003. Milk production per cow was 20,842 pounds in 2004, compared with 21,109 pounds during 2003. The average butterfat content was 3.63 percent, up from 3.62 in 2003.

Milk prices during the year averaged $16.30 per cwt., up $3.70 from the previous year. Cash receipts from milk sales totaled $1.02 billion, up 28 percent from 2003. Milk continued as the top ranked Michigan commodity in cash receipts.

Milk: Production, utilization, marketings, and value, 2000-2004

Item	Unit	2000	2001	2002	2003	2004
		Production				
Production						
Total milk produced on farms	Million pounds	5,705	5,870	6,120	6,375	6,315
Milkfat produced	Million pounds	208.8	213.1	221.5	230.8	229.2
Milkfat	Percent	3.66	3.63	3.62	3.62	3.63
Utilization						
Milk used where produced						
Fed to calves	Million pounds	45	55	55	55	50
Used for milk, cream, and butter	Million pounds	5	5	5	5	5
Milk marketed by producers	Million pounds	5,655	5,810	6,060	6,315	6,260
Average return per 100 pounds of milk	Dollars	12.90	15.20	12.10	12.60	16.30
Average return per pound milkfat	Dollars	3.52	4.19	3.34	3.48	4.49
Fluid grade	Percent	99	99	99	99	99
Total cash receipts	1,000 dollars	729,495	883,120	733,260	795,690	1,020,380
Value						
Value of milk used where produced [1]	1,000 dollars	6,450	9,120	7,260	7,560	8,965
Total value of milk produced	1,000 dollars	735,945	892,240	740,520	803,250	1,029,345

[1] Includes value of milk fed to calves and milk used by farm households.

Milk cows: Number of operations, by size group, 2000-2004 [1]

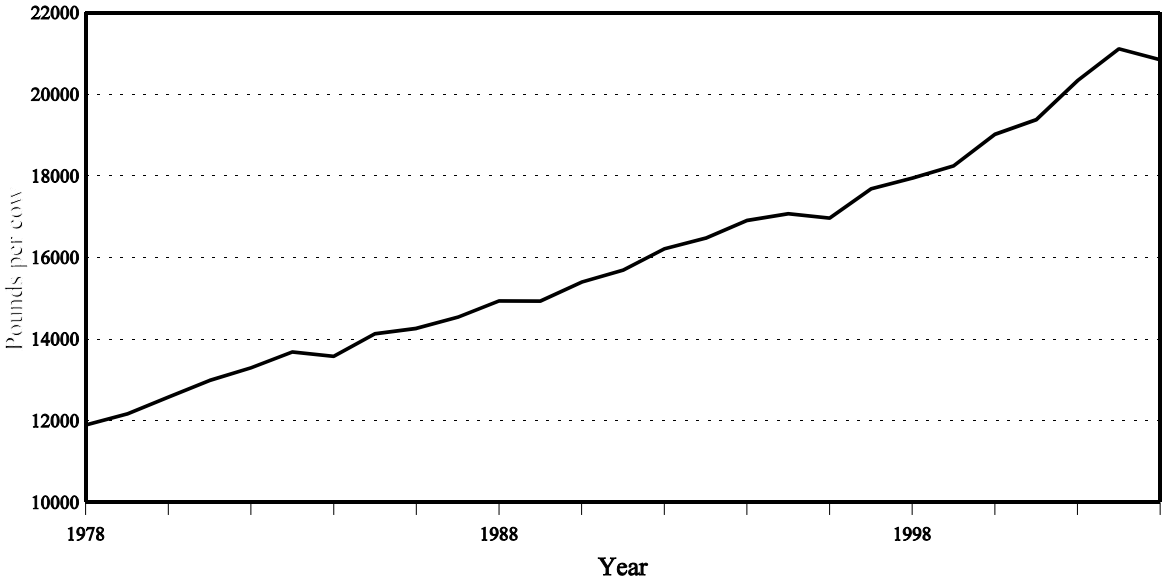
Size group by head	2000	2001	2002	2003	2004
	Number	*Number*	*Number*	*Number*	*Number*
1-29	1,000	1,050	1,050	1,000	950
30-49	630	550	500	450	440
50-99	900	800	750	700	660
100-199	700	620	590	550	540
200-499	215	215	240	220	225
500+	55	65	70	80	85
Total	3,500	3,300	3,200	3,000	2,900

[1] An operation is any place having one or more milk cows on hand at any time during the year.

Milk cows: Number by month, 2000-2004

Month	2000	2001	2002	2003	2004
	1,000 head	*1,000 head*	*1,000 head*	*1,000 head*	*1,000 head*
January	298	303	300	302	300
February	296	303	301	302	299
March	296	304	301	302	301
April	299	304	301	301	301
May	301	304	301	301	301
June	304	305	300	302	302
July	302	303	301	304	303
August	302	303	302	304	303
September	300	303	302	304	303
October	302	302	302	304	304
November	299	301	302	302	306
December	300	299	301	301	307
Annual	300	303	301	302	303

Annual Milk per Cow, 1978-2004



Milk production: Total by month, 2000-2004

Month	2000	2001	2002	2003	2004
	Million pounds	*Million pounds*	*Million pounds*	*Million pounds*	*Million pounds*
January	474	482	504	535	
February	447	447	474	482	
March	485	505	533	545	
April	481	492	518	521	
May	494	518	537	539	
June	485	505	503	529	
July	489	498	519	558	
August	485	489	515	549	
September	455	476	488	5370	
October	477	483	507	5017(302)Tj9.8667 12.64 TD0 Tc(504	
November	457	474	498		
December	476	501	524		
Annual	5,705	5,870	6,120		

Milk: Production per cow, by month, 2000-2004

Month	2000	2001	2002	2003	2004
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*
January	1,590	1,590	1,680	1,770	1,780
February	1,510	1,475	1,575	1,595	1,660
March	1,640	1,660	1,770	1,805	1,810
April	1,610	1,620	1,720	1,730	1,745
May	1,640	1,705	1,785	1,790	1,795
June	1,595	1,655	1,675	1,750	1,755
July	1,620	1,645	1,725	1,835	1,790
August	1,605	1,615	1,705	1,805	1,755
September	1,515	1,570	1,615	1,755	1,670
October	1,580	1,600	1,680	1,795	1,730
November	1,530	1,575	1,650	1,675	1,660
December	1,585	1,675	1,740	1,765	1,730
Annual	19,017	19,373	20,332	21,109	20,842

Dairy products: Annual production totals, 2000-2004

Product	2000	2001	2002	2003	2004
	1,000 gallons	*1,000 gallons*	*1,000 gallons*	*1,000 gallons*	*1,000 gallons*
Michigan					
Ice cream, fullfat, total	22,781	22,415	28,885	17,322	18,897
Ice cream, lowfat, total	16,079	([1])	7,639	([1])	24,986
Sherbet, total	1,696	([1])	1,140	([1])	921
Ice cream mix, fullfat	11,678	11,599	15,555	9,312	9,994
Ice cream mix, lowfat	8,220	8,263	5,728	([1])	15,712
Sherbet mix	1,010	([1])	727	([1])	581
	Million pounds	*Million pounds*	*Million pounds*	*Million pounds*	*Million pounds*
East North Central Region [2]					
Cheese, total	2,606.4	2,545.3	2,657.7	2,697.1	2,776.3
Cheese, American type [3]	952.2	876.3	907.7	875.0	903.7
Cheese, Italian	1,101.1	1,123.7	1,149.2	1,205.5	1,216.5
Cottage cheese, curd	112.9	111.9	103.7	107.4	92.2
Cottage cheese, creamed	102.3	102.1	95.2	101.2	92.8
Cottage cheese, low fat	77.6	81.2	81.7	81.8	60.9
Condensed skim milk, unsweetened, bulk	161.1	122.6	169.5	144.2	150.4
Dried milk, nonfat for human food	57.2	48.5	52.9	48.3	35.6
Butter	327.2	368.2	388.2	345.7	340.9
Yogurt, plain and flavored	720.7	818.9	816.8	759.8	913.0

[1] Not published separately because of insufficient data or to avoid disclosure of individual operations.
[2] Illinois, Indiana, Michigan, Ohio, and Wisconsin.
[3] Cheddar, Colby, washed curd, stirred curd, Monterey, and Jack.

Dairy products: Ice cream, fullfat, total, by month, 2000-2004

Month	2000	2001	2002	2003	2004
	1,000 gallons	*1,000 gallons*	*1,000 gallons*	*1,000 gallons*	*1,000 gallons*
January	1,744	1,472	2,018	1,662	1,406
February	1,724	1,543	2,083	1,676	1,512
March	1,967	1,752	2,109	1,381	1,567
April	1,907	2,352	2,294	1,424	1,531
May	1,771	2,072	2,336	1,538	1,723
June	1,945	2,071	2,436	1,561	1,604
July	1,999	2,397	2,509	1,496	1,660
August	2,083	2,270	2,340	1,713	1,967
September	1,793	1,977	2,208	1,685	1,705
October	1,791	1,840	2,006	546	1,487
November	1,637	1,318	1,477	1,370	1,398
December	1,246	1,430	3,402	1,360	1,337
Total [1]	22,781	22,415	28,885	17,322	18,897

[1] 2000 - 2003 revised; monthly data are not revised and do not add to the total.

Hogs and Pigs

Michigan hog production totaled 480.7 million pounds in 2004, up 0.4 percent from 2003. Based on the December 1, 2004 inventory of 950,000 hogs and pigs, Michigan ranked fourteenth in the nation in terms of inventory.

Breeding inventory accounted for 11.6 percent of the total inventory, while market hogs made up the remaining 88.4 percent. Historically, Cass, Allegan, Ottawa, Branch and Huron have been the top five hog producing counties.

The annual average price for all hogs was $45.90 per cwt for 2004, compared with the 2003 average price of $35.00 per cwt.

Marketings of all hogs and pigs totaled 499.9 million pounds in 2004, up 3.2 percent from 2003. Cash receipts increased 35.3 percent from the previous year to $235.0 million.

Hogs and pigs: Number of operations, by size group, 2000-2004 [1]

Year	Operations						
	1-99	100-499	500-999	1,000-1,999	2,000-4,999	5,000+	Total
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
2000	1,700	390	110	140	120	40	2,500
2001	1,700	430	90	110	130	40	2,500
2002	1,500	450	90	100	120	40	2,300
2003	1,500	380	80	100	100	40	2,200
2004	1,500	270	90	90	110	40	2,100

[1] An operation is any place having one or more head on hand at any time during the year.

Hogs and pigs: Sows farrowing and pig crop, 2000-2005

Year	December-February [1]			March-May		
	Sows farrowing	Pigs per litter	Pig crop	Sows farrowing	Pigs per litter	Pig crop
	1,000 head	*head*	*1,000 head*	*1,000 head*	*head*	*1,000 head*
2001	46	8.75	403	50	8.90	445
2002	50	9.00	450	49	8.85	434
2003	45	8.80	378	46	9.00	414
2004	45	8.90	401	44	9.10	400
2005	44	9.00	396	46		
	June-August			September-November		
2000	50	8.90	445	48	9.05	434
2001	52	9.10	473	46	9.15	421
2002	54	9.05	489	42	9.10	382
2003	47	9.00	423	51	8.80	449
2004	48	9.20	442	44	9.20	405

[1] December of previous year.

Hogs and pigs: Inventory, 2001-2005

Month and year	Market hogs and pigs					Breeding stock	Total hogs and pigs
	Under 60 pounds	60-119 pounds	120-179 pounds	180 lbs and over	Total market		
	1,000 head	*1,000 head*	*1,000 head*	*1,000 head*	*1,000 head*	*1,000 head*	*1,000 head*
March 1							
2001	310	185	160	125	780	120	900
2002	310	215	165	150	840	120	960
2003	270	190	165	145	770	100	870
2004	300	205	175	150	830	100	930
2005	325	190	160	145	820	100	920
June 1							
2001	315	215	155	125	810	110	920
2002	310	205	155	140	810	110	920
2003	310	210	165	145	830	100	930
2004	300	200	170	145	815	95	910
2005	300	200	155	145	800	100	900
September 1							
2001	330	225	175	130	860	110	970
2002	315	210	160	135	820	120	940
2003	300	210	165	145	820	100	920
2004	320	200	170	150	840	100	940
December 1							
2001	315	205	170	160	850	110	960
2002	285	180	155	150	770	100	870
2003	300	205	175	160	840	110	950
2004	320	195	160	155	830	110	950

Hogs and pigs: Production and income, 2000-2004

Year	Production [1]	Marketings [2]	Average price per cwt	Value of production	Cash receipts [3]	Value of home consumption	Gross income
	1,000 pounds	*1,000 pounds*	*Dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
2000	464,577	483,775	40.70	184,575	200,485	1,662	202,147
2001	491,070	499,800	41.70	200,748	212,599	1,695	214,294
2002	499,504	517,700	30.70	153,600	164,324	1,171	165,495
2003	478,977	484,225	35.00	165,113	173,671	443	174,114
2004	480,741	499,900	45.90	217,539	234,992	465	235,457

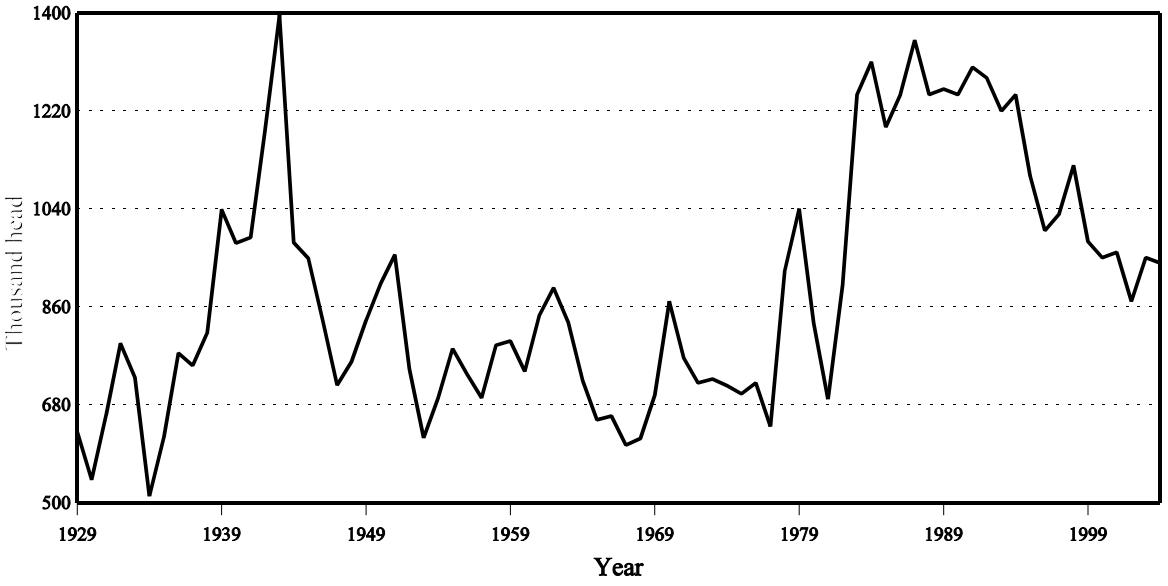
[1] Adjustments made for changes in inventory and for inshipments.
[2] Excludes custom slaughter for use on farms where produced and inter-farm sales within the state.
[3] Receipts from marketing and sales of farm slaughter. Includes allowance for higher average price of outshipments of feeder pigs.

Hogs and pigs: Balance sheet, 2000-2004

Year	Beginning inventory	Dec-Nov pig crop	Inshipments	Marketings [1]	Farm slaughter [2]	Deaths	Number on hand December 1
	1,000 head	*1,000 head*	*1,000 head*	*1,000 head*	*1,000 head*	*1,000 head*	*1,000 head*
2000	980	1,716	275	1,937	4	80	950
2001	950	1,742	280	1,930	4	78	960
2002	960	1,755	240	2,011	4	70	870
2003	870	1,664	355	1,874	5	60	950
2004	950	1,648	345	1,931	4	68	950

[1] Includes custom slaughter and state outshipments, but excludes sales within Michigan.
[2] Excludes custom slaughter for farmers at commercial establishments.

December 1 Hog Inventory, 1929-2004



Honey

Michigan honey production for 2004 totaled 4.4 million pounds, down 9 percent from 2003. This estimate included honey from producers with 5 or more colonies. Michigan ranked eleventh in honey production in 2004, down from tenth in 2003. There were 65,000 colonies producing honey, with an average yield per colony of 67 pounds, down 10 percent from 2003.

Michigan honey prices averaged $1.17 per pound, down 17 percent from last year. Value of production totaled $5.10 million, down 25 percent from 2003. Honey stocks were 2.44 million pounds, up 41 percent from 2003.

Honey: Production and value, 2000-2004 [1]

Year	Honey producing colonies	Yield per colony	Production	Price per pound	Value of production	Stocks Dec 15 [2]
	Thousands	*Pounds*	*1,000 pounds*	*Cents*	*1,000 dollars*	*1,000 pounds*
2000	72	75	5,400	60	3,240	2,970
2001	76	60	4,560	81	3,694	2,827
2002	72	77	5,544	140	7,762	1,885
2003	65	74	4,810	141	6,782	1,732
2004	65	67	4,355	117	5,095	2,439

[1] Includes only producers with 5 or more colonies.
[2] Stocks held by producers.

Mink

Mink: Farms, pelts produced and females bred to produce kits, 2001-2005

Year	2001	2002	2003	2004	2005
	Number	*Number*	*Number*	*Number*	*Number*
Farms	11	9	8	7	([1])
Pelts produced	54,000	57,000	51,000	50,500	([1])
Females bred to produce kits	11,800	12,700	11,600	11,700	11,500

[1] Published in July 2006.

Poultry

The total value of poultry production in Michigan from eggs, turkeys, and other chickens (primarily culled layers) during 2004 was $163.8 million, up 1 percent from a year earlier. The value of egg production totaled $94.3 million, up 1 percent from 2003. Egg production totaled 2.0 billion eggs, up 6 percent from last year. The all egg price averaged 56 cents per dozen, down 4 cents from 2003. The value of turkey production during 2004 was $69.5 million, up 1 percent. The total pounds of turkey produced was 188 million, down 2 percent. The average price per pound was 37 cents, up 1 cent from last year. Chickens sold was at 4.55 million birds in 2004 up 31 percent from last year.

Chickens: Layers on hand, December 1, 2000-2004

Class	2000	2001	2002	2003	2004
	1,000 head	*1,000 head*	*1,000 head*	*1,000 head*	*1,000 head*
Total layers	6,415	6,854	6,951	7,067	7,720
Layers, 1 year old and older	3,480	4,491	5,149	5,272	([1])
Layers, 20 weeks old but less than 1 year	2,935	2,363	1,802	1,795	([1])
Pullets not of laying age	1,490	1,370	1,370	2,589	1,615
Pullets, 13-20 weeks old	569	385	606	1,203	([1])
Pullets, less than 13 weeks	921	985	764	1,386	([1])
Other chickens	1	1	0	1	1
All chickens (excluding broilers)	7,906	8,225	8,321	9,657	9,336

[1] Estimates no longer published.

Turkeys: Production and value, 2002-2004 [1]

Year	Number raised [2]	Pounds produced	Price per pound [3]	Value of production
2000	3,500	119,000	34.0	40,460
2001	4,500	162,000	35.0	56,700
2002	4,800	179,520	35.0	62,832
2003	5,000	191,000	36.0	68,760
2004	5,000	188,000	37.0	69,560

[1] December 1 previous year through November 30.
[2] Based on turkeys placed Sep 1 through Aug 31. Excludes young turkeys lost.
[3] Equivalent live weight returns to producers.

All eggs: Production and value, 2000-2004

Year	Eggs produced	Price per dozen	Value of production
	Million	*Dollars*	*1,000 dollars*
2000	1,646	0.419	56,464
2001	1,706	0.437	61,063
2002	1,880	0.403	63,237
2003	1,888	0.595	93,613
2004	2,009	0.563	94,256

All egg production, by month, 2000-2004

Month	2000	2001	2002	2003	2004
December	142	145	153	162	165
January	136	142	148	160	162
February	129	129	139	147	150
March	145	152	159	161	166
April	137	146	157	152	167
May	132	144	162	160	172
June	133	142	157	156	170
July	144	143	166	158	175
August	140	136	167	159	172
September	133	131	156	155	164
October	138	145	160	162	171
November	137	151	156	159	175
Total [1]	1,646	1,706	1,880	1,888	2,009

[1] Sum of months may not add to total due to rounding.

All layers: Average number on hand during the month, 2000-2004

Month	2000	2001	2002	2003	2004
	1,000 head	*1,000 head*	*1,000 head*	*1,000 head*	*1,000 head*
December	6,316	6,270	6,926	7,243	7,078
January	6,288	6,234	6,933	7,198	7,447
February	6,381	6,435	6,888	7,220	7,424
March	6,594	6,820	6,938	7,074	7,481
April	6,431	6,922	7,296	6,934	7,397
May	6,246	6,763	7,452	7,121	7,309
June	6,435	6,657	7,236	7,128	7,476
July	6,489	6,490	7,265	7,079	7,652
August	6,278	6,489	7,243	7,088	7,587
September	6,183	6,593	7,106	6,942	7,626
October	6,220	6,687	7,039	6,869	7,613
November	6,319	6,779	6,983	6,959	7,603
Annual [1]	6,348	6,595	7,109	7,058	7,493

[1] December 1 previous year through November 30.

Sheep and Lambs

Michigan sheep operations in 2004 numbered 2,000, down 100 operations from 2003. All sheep and lamb inventory in Michigan on January 1, 2005 was estimated at 83,000 head, unchanged from the previous year. The breeding sheep inventory was 59,000 head. Market sheep and lambs totaled 24,000 head, same as a year earlier. The 2004 Michigan lamb crop (lambs born October 1, 2003 through September 30, 2004) was 55,000 head, down 5,000 from a year ago.

Sheep and lamb value of production was $4.12 million for 2004. Cash receipts totaled $3.80 million. All sheep and lambs were valued at $145 per head, up $14 from the previous year.

Sheep shorn in 2004 totaled 76,000 head. The weight per fleece was 5.8 pounds, compared with 6.2 pounds in 2003. Total wool production in Michigan was 440,000 pounds. Wool production was valued at $198,000. The average price per pound was $0.45, up $0.15 from 2003.

Sheep and lambs: Number on farms by class, January 1, 2001-2005

Class	2001	2002	2003	2004	2005
	1,000 Head	*1,000 Head*	*1,000 Head*	*1,000 Head*	*1,000 Head*
Breeding sheep 1 year and older					
Ewes	40	40	47	43	45
Rams	2	3	3	3	2
Replacement lambs	9	12	14	13	12
Total market sheep and lambs	20	20	21	24	24
All sheep and lambs	71	75	85	83	83

Sheep and lambs: Number of operations, 2000-2004 [1]

Year	Number
2000	1,800
2001	1,800
2002	2,000
2003	2,100
2004	2,000

[1] An operation is any place having one or more head on hand at any one time during the year.

Sheep and lambs: Lamb crop, 2000-2004

Year	Breeding ewes [1]	Lambs per 100 ewes [1]	Lamb crop
	1,000 Head	*Number*	*1,000 Head*
2000	38	121	46
2001	40	125	50
2002	40	150	60
2003	47	128	60
2004	43	128	55

[1] Ewes 1 year and older January 1.

Sheep and lambs: Balance sheet, 2000-2004

Year	All sheep and lambs on hand January 1	Lamb crop	Inshipments	Marketings [1]		Farm slaughter [2]	Deaths		All sheep and lambs on hand following January 1
				Sheep	Lambs		Sheep	Lambs	
	1,000 Head	*1,000 Head*	*1,000 Head*	*1,000 Head*	*1,000 Head*	*1,000 Head*	*1,000 Head*	*1,000 Head*	*1,000 Head*
2000	68	46	2.0	7.5	26.5	2.0	3.0	6.0	71
2001	71	50	1.5	5.5	29.5	2.0	3.5	7.0	75
2002	75	60	3.0	3.0	37.0	2.0	4.0	7.0	85
2003	85	60	4.0	15.5	36.0	2.0	4.5	8.0	83
2004	83	55	3.0	12.0	35.0	2.0	3.0	6.0	83

[1] Includes custom slaughter and state outshipments, but excludes sales within Michigan.
[2] Excludes custom slaughter for farmers at commercial establishments.

Sheep and lambs: Production and income, 2000-2004

Year	Production [1]	Marketings [2]	Average price per cwt		Value of production	Cash receipts [3]	Value of home consumption	Gross income
			Sheep	Lambs				
	1,000 pounds	*1,000 pounds*	*Dollars*	*Dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
2000	4,200	3,603	31.00	75.00	2,789	2,306	431	2,737
2001	4,515	3,653	31.00	70.00	2,901	2,321	403	2,724
2002	5,604	4,129	26.00	70.00	3,501	2,794	403	3,197
2003	4,662	4,927	35.00	86.00	3,840	3,660	495	4,155
2004	4,722	4,532	40.00	94.00	4,119	3,800	540	4,340

[1] Adjustments made for changes in inventory and for inshipments.
[2] Excludes custom slaughter for use on farms where produced and inter-farm sales within the state.
[3] Receipts from marketings and sale of farm slaughter.

Sheep and lambs: Wool production and value, 2000-2004

Year	Sheep shorn	Weight per fleece	Production	Price per pound	Value of production [1]
	1,000 Head	*Pounds*	*1,000 Pounds*	*Cents*	*1,000 Dollars*
2000	72	6.4	460	14	64
2001	77	6.2	480	12	58
2002	81	6.5	525	14	74
2003	77	6.2	475	30	143
2004	76	5.8	440	45	198

[1] Production multiplied by marketing year average price.

Trout

Michigan's 28 commercial trout operations sold $790,000 of trout in 2004. This was an increase of 14.3 percent from last season. Sales of trout 12 inches or longer were valued at $601,000. Sales of trout 6 to 12 inches were valued at $167,000, trout 1 to 6 inches were valued at $22,000, and egg sales were included at the regional level to avoid disclosure of individual operations.

Trout 12 inches or longer had sales of 305,000 pounds with an average liveweight of 1.1 pounds per fish. The average price per pound was $1.97 in 2004. The major sales outlets were fee fishing operations at 45 percent of total and 21 percent live haulers.

Trout 6 inches to 12 inches had sales of 65,000 pounds with an average liveweight of 0.4 pounds per fish. The average price per pound was $2.57 during 2004. The major sales outlets for 6 inches to 12 inches trout was to fee fishing operations at 51 percent of total and 17 percent live haulers.

Trout 1 inch to 6 inches had sales of 3,000 pounds with an average liveweight of 54.5 pounds per 1,000 fish. The average price per 1,000 fish was $408.00 during 2004.

Losses of trout in Michigan amounted to 111,000 fish, weighing 44,000 pounds.

Trout: Sales by size category, 2000-2004

Size category	Number of fish sold	Live weight	Sales	
			Total	Average per pound [1]
	1,000	*1,000*	*1,000 dollars*	*Dollars*
12 inches or longer				
2000	330	388	776	2.00
2001	275	330	660	2.00
2002	180	215	553	2.57
2003	250	275	564	2.05
2004	285	305	601	1.97
6 to 12 inches				
2000	210	78	207	2.65
2001	110	42	116	2.75
2002	90	30	83	2.77
2003	([2])	([2])	([2])	([2])
2004	165	65	167	2.57
1 to 6 inches				
2000	250	8	54	215.00
2001	170	4	47	275.00
2002	100	3	27	266.00
2003	([2])	([2])	([2])	([2])
2004	55	3	22	408.00

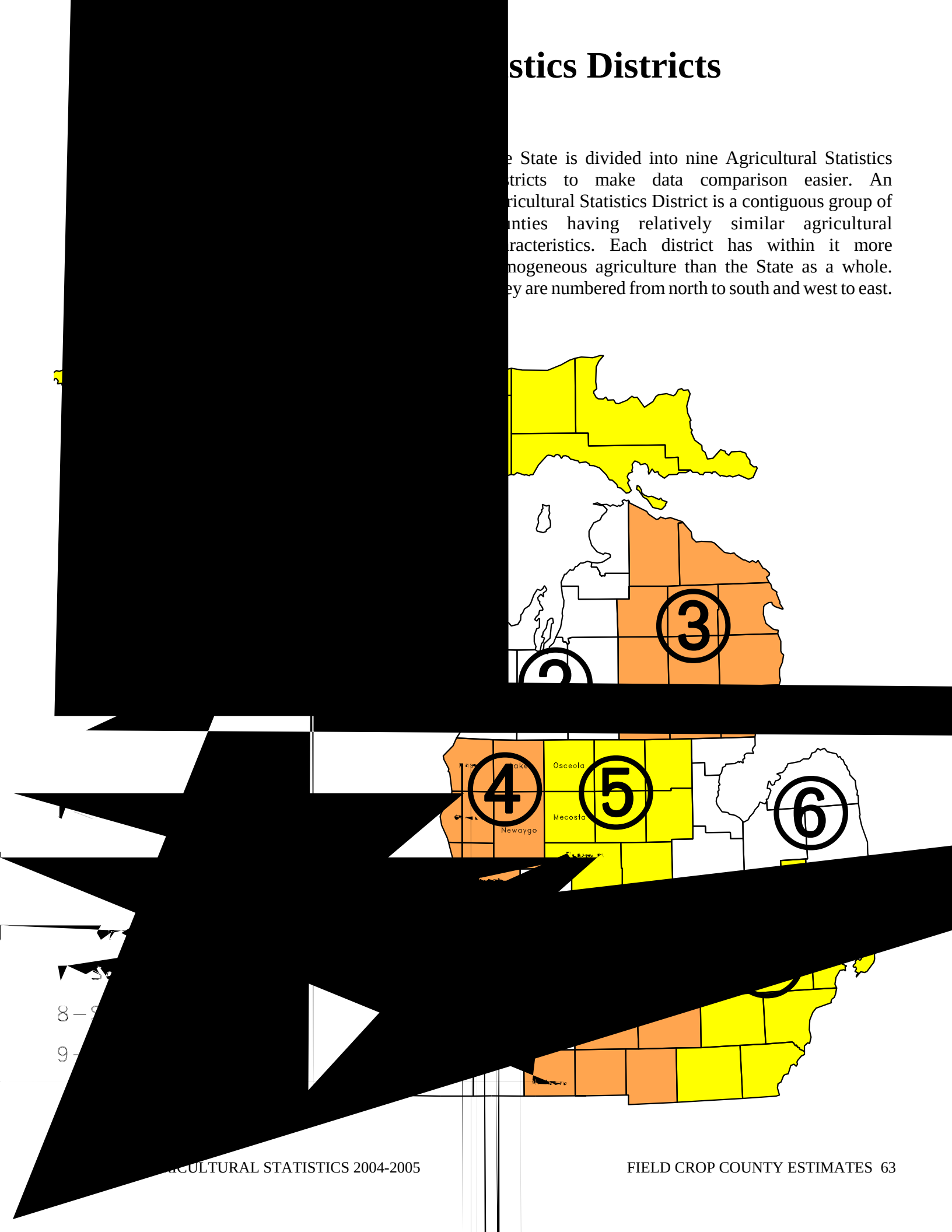
[1] Price for fish 1 to 6 inches is average per 1,000 fish.
[2] Not published separately to avoid disclosure of individual operations.

Trout: Number of operations, 2001-2005

Year	Operations
	Number
2001	33
2002	33
2003	22
2004	18
2005	28

stics Districts

e State is divided into nine Agricultural Statistics tricts to make data comparison easier. An ricultural Statistics District is a contiguous group of nties having relatively similar agricultural racteristics. Each district has within it more mogeneous agriculture than the State as a whole. ey are numbered from north to south and west to east.



Principal counties for field crops, 2004 [1]

Rank	Corn for grain	Dry beans	Hay	Oats	Soybeans	Sugarbeets	Wheat
1	Huron	Huron	Sanilac	Sanilac	Lenawee	Huron	Huron
2	Lenawee	Tuscola	Huron	Montcalm	Sanilac	Tuscola	Sanilac
3	Tuscola	Bay	Isabella	Isabella	Saginaw	Sanilac	Tuscola
4	Allegan	Sanilac	Barry	Shiawassee	Clinton	Saginaw	Lenawee
5	Branch, Saginaw	Gratiot	Ionia	Huron	Monroe	Bay	Saginaw

[1] Based on total production.

Principal counties for livestock [1]

Rank	January 1, 2005 Cattle and calves	December 1, 2004 Hogs and pigs	January 1, 2005 Milk cows
1	Huron	Cass	Clinton
2	Sanilac	Allegan	Huron
3	Clinton	Branch, Ottawa	Sanilac
4	Allegan	Huron	Allegan
5	Ottawa	Calhoun	Ottawa

[1] Based on number of head.

Principal counties for fruit and vegetables, 2004 [1]

Rank	Apples	Blueberries	Grapes	Tart cherries	Asparagus	Cucumbers, processing	Snap beans, processing
1	Kent	Van Buren	Berrien	Leelanau	Oceana	Van Buren	St Joseph
2	Berrien	Ottawa	Van Buren	Oceana	Mason	Gratiot	Kalamazoo
3	Ottawa, Van Buren	Allegan	Grand Traverse	Grand Traverse	Van Buren	St Joseph	Montcalm
4	Oceana	Berrien	Leelanau	Antrim	Manistee	Allegan	Branch
5	Muskegon	Muskegon		Mason	Berrien	Arenac	Mason

[1] Based on acres from rotational surveys.

Barley: Acreage, yield, and production, by county, 2003-2004 [1]

County and district	2003				2004			
	Planted	Harvested	Yield	Production	Planted	Harvested	Yield	Production
	Acres	*Acres*	*Bushels*	*1,000 Bu*	*Acres*	*Acres*	*Bushels*	*1,000 Bu*
Delta	1,350	1,300	45	59	1,300	1,200	57	68
Menominee	1,650	1,600	58	92	1,850	1,500	49	74
Other counties [2]	2,000	2,000	49	97	2,050	1,800	49	88
Upper Peninsula	5,000	4,900	51	248	5,200	4,500	51	230
Alpena	750	700	64	45	650	550	56	31
Other counties [2]	1,950	1,800	49	88	1,650	1,350	49	66
Northeast	2,700	2,500	53	133	2,300	1,900	51	97
Central	1,200	1,000	72	72	1,200	900	58	52
Huron	550	500	80	40				
Other counties [2]	1,050	900	69	62				
East Central	1,600	1,400	73	102	1,300	1,100	67	74
Southwest	800	800	43	34	600	400	33	13
South Central	1,500	1,500	59	88	1,600	1,500	45	68
Lapeer	500	300	53	16				
Other counties [2]	900	900	58	52				
Southeast	1,400	1,200	57	68	1,100	1,000	46	46
Other districts [2]	800	700	56	39	700	700	46	32
Michigan	15,000	14,000	56	784	14,000	12,000	51	612

[1] Estimates not published for counties with less than 500 acres.
[2] Estimates not published separately because of insufficient data or to avoid disclosure of individual operations.

Corn: Acreage, yield, and production, by county, 2003 [1]

County and district	Planted for all purposes	Grain			Silage		
		Harvested	Yield	Production	Harvested	Yield	Production
	Acres	*Acres*	*Bushels*	*1,000 Bu*	*Acres*	*Tons*	*Tons*
Delta	3,500	2,300	61	140	1,100	9.1	10,000
Dickinson	1,200				700	7.1	5,000
Menominee	13,600	5,600	79	440	7,900	12.7	100,000
Other counties [2]	1,700	900	67	60	1,300	11.5	15,000
Upper Peninsula	20,000	8,800	73	640	11,000	11.8	130,000
Antrim	3,700	3,000	103	310	700	12.9	9,000
Benzie	1,900	1,500	106	159			
Charlevoix	2,600	2,000	108	216	500	17.0	8,500
Emmet	1,600	1,100	95	105			
Grand Traverse	6,400	5,400	109	590	900	15.6	14,000
Leelanau	3,200	2,600	93	243			
Missaukee	16,000	10,800	134	1,450	5,100	18.2	93,000
Wexford	4,000	3,300	121	400	700	15.7	11,000
Other counties [2]	1,600	900	86	77	2,100	11.7	24,500
Northwest	41,000	30,600	116	3,550	10,000	16.0	160,000
Alcona	2,700	2,400	81	195			
Alpena	5,900	5,100	110	560	800	15.0	12,000
Cheboygan					500	18.0	9,000
Iosco	7,200	5,000	120	600	2,100	12.4	26,000
Ogemaw	9,500	7,300	122	890	2,100	15.7	33,000
Otsego	1,200	900	82	74			
Presque Isle	6,000	5,500	116	640			
Other counties [2]	3,500	2,500	116	291	1,500	13.3	20,000
Northeast	36,000	28,700	113	3,250	7,000	14.3	100,000
Mason					2,200	18.2	40,000
Muskegon	20,500	14,600	89	1,300	5,700	12.5	71,000
Newaygo	29,500	22,300	96	2,130	7,000	13.6	95,000
Oceana	11,000	10,000	100	995			
Other counties [2]	12,000	9,500	129	1,225	1,100	12.7	14,000
West Central	73,000	56,400	100	5,650	16,000	13.8	220,000
Clare	4,500	2,900	93	270	1,600	13.8	22,000
Gladwin	7,000	6,200	115	710			
Gratiot	83,000	74,600	123	9,200	8,000	17.8	142,000
Isabella	35,000	30,000	118	3,550	4,800	14.4	69,000
Mecosta	19,000	16,600	102	1,690	2,300	12.6	29,000
Midland	22,500	21,600	140	3,030			
Montcalm	56,000	51,200	105	5,400	4,400	14.3	63,000
Osceola	8,000	4,400	114	500	3,500	13.7	48,000
Other counties [2]					1,400	12.1	17,000
Central	235,000	207,500	117	24,350	26,000	15.0	390,000
Arenac	17,500	15,700	129	2,030			
Bay	45,500	43,400	131	5,690			
Huron	126,000	103,000	124	12,770	22,500	16.7	375,000
Saginaw	90,000	86,100	131	11,300	3,500	14.9	52,000
Sanilac	85,000	68,100	121	8,250	16,500	16.4	270,000
Tuscola	86,000	82,700	129	10,660			
Other counties [2]					6,500	14.3	93,000
East Central	450,000	399,000	127	50,700	49,000	16.1	790,000

See footnote(s) at end of table.

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Corn: Acreage, yield, and production, by county, 2003 [1] (continued)

County and district	Planted for all purposes	Grain			Silage		
		Harvested	Yield	Production	Harvested	Yield	Production
	Acres	*Acres*	*Bushels*	*1,000 Bu*	*Acres*	*Tons*	*Tons*
Allegan	82,000	74,600	122	9,100	7,200	18.1	130,000
Berrien	45,000	43,700	122	5,330	1,200	15.8	19,000
Cass	70,000	69,100	127	8,750			
Kalamazoo	51,000	47,700	130	6,210			
Kent	43,000	37,400	123	4,600	5,400	18.5	100,000
Ottawa	47,000	38,200	125	4,780	8,600	16.9	145,000
Van Buren	32,000	30,300	113	3,430			
Other counties [2]					5,600	17.1	96,000
Southwest	370,000	341,000	124	42,200	28,000	17.5	490,000
Barry	40,000	33,200	127	4,210	6,700	15.7	105,000
Branch	82,000	79,800	138	10,990			
Calhoun	72,000	68,900	127	8,770			
Clinton	71,000	61,300	124	7,610	9,300	17.2	160,000
Eaton	59,000	57,600	150	8,650			
Hillsdale	67,000	62,800	135	8,460	3,900	18.2	71,000
Ingham	49,000	46,000	142	6,520	2,800	17.9	50,000
Ionia	74,000	67,900	139	9,410	5,800	10.3	60,000
Jackson	52,000	49,200	115	5,680			
St Joseph	81,000	79,900	129	10,330			
Shiawassee	53,000	48,400	117	5,670	4,300	16.3	70,000
Other counties [2]					9,200	16.7	154,000
South Central	700,000	655,000	132	86,300	42,000	16.0	670,000
Genesee	29,000	27,700	114	3,160			
Lapeer	38,000	35,700	122	4,360	2,200	20.0	44,000
Lenawee	98,000	86,800	159	13,790	11,000	21.4	235,000
Livingston	22,000	21,100	123	2,590			
Macomb	7,400	6,700	116	780			
Monroe	61,000	60,200	172	10,330			
Oakland	2,400	2,200	100	220			
St Clair	23,000	22,000	126	2,770			
Washtenaw	42,000	38,600	127	4,910	3,300	19.7	65,000
Wayne	2,200	2,000	145	290			
Other counties [2]					4,500	14.7	66,000
Southeast	325,000	303,000	143	43,200	21,000	19.5	410,000
Michigan	2,250,000	2,030,000	128	259,840	210,000	16.0	3,360,000

[1] Estimates not published for counties with less than 500 acres.
[2] Estimates not published separately because of insufficient data or to avoid disclosure of individual operations.

Corn: Acreage, yield, and production, by county, 2004 [1]

County and district	Planted for all purposes	Grain			Silage		
		Harvested	Yield	Production	Harvested	Yield	Production
	Acres	*Acres*	*Bushels*	*1,000 Bu*	*Acres*	*Tons*	*Tons*
Delta	3,600	1,600	59	95	1,700	8.8	15,000
Menominee	14,400	4,900	82	400	9,100	13.7	125,000
Other counties [2]	3,000	500	90	45	2,200	13.6	30,000
Upper Peninsula	21,000	7,000	77	540	13,000	13.1	170,000
Antrim	3,500	2,700	119	320			
Benzie	1,800	1,300	100	130			
Charlevoix	2,700	2,000	108	215			
Emmet	1,600	1,000	80	80	600	10.0	6,000
Grand Traverse	6,400	5,100	81	415	1,200	12.5	15,000
Manistee	900	600	93	56			
Missaukee	15,700	7,200	97	695	7,400	14.2	105,000
Wexford	3,700	2,700	99	267	900	11.1	10,000
Other counties [2]	3,700	2,900	94	272	2,900	15.2	44,000
Northwest	40,000	25,500	96	2,450	13,000	13.8	180,000
Alpena	5,600	3,800	92	350	1,600	14.4	23,000
Iosco	6,600	3,900	92	360	2,500	15.2	38,000
Montmorency	2,000	1,500	100	150			
Ogemaw	9,200	5,800	80	465	3,000	14.0	42,000
Otsego	1,000	650	92	60			
Presque Isle	6,000	5,100	92	470			
Other counties [2]	3,600	1,750	77	135	2,900	16.2	47,000
Northeast	34,000	22,500	88	1,990	10,000	15.0	150,000
Muskegon	18,000	11,800	84	990	5,900	17.3	102,000
Newaygo	26,500	15,900	91	1,450	9,700	14.1	137,000
Oceana	10,500	9,300	84	785	1,100	13.2	14,500
Other counties [2]	10,000	6,000	79	475	3,300	14.1	46,500
West Central	65,000	43,000	86	3,700	20,000	15.0	300,000
Clare	4,000	2,100	86	180	1,800	11.7	21,000
Gladwin	6,500	5,400	113	610			
Gratiot	79,000	69,200	125	8,650	9,500	21.6	205,000
Isabella	33,000	25,400	119	3,030	7,100	16.9	120,000
Mecosta	20,000	16,200	102	1,650	3,500	14.0	49,000
Midland	21,000	19,700	122	2,410			
Montcalm	54,000	46,700	120	5,620	7,000	19.3	135,000
Osceola	7,500	3,300	106	350	4,100	13.9	57,000
Other counties [2]					2,000	16.5	33,000
Central	225,000	188,000	120	22,500	35,000	17.7	620,000
Arenac	16,000	12,300	110	1,350	3,500	13.7	48,000
Bay	46,000	43,500	132	5,750			
Huron	121,000	96,600	139	13,400	24,000	19.8	475,000
Saginaw	86,000	80,100	131	10,500	5,400	17.0	92,000
Sanilac	94,000	75,200	139	10,450	18,400	19.6	360,000
Tuscola	87,000	83,300	145	12,050			
Other counties [2]					5,700	14.9	85,000
East Central	450,000	391,000	137	53,500	57,000	18.6	1,060,000

See footnote(s) at end of table.

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Corn: Acreage, yield, and production, by county, 2004 [1] (continued)

County and district	Planted for all purposes	Grain			Silage		
		Harvested	Yield	Production	Harvested	Yield	Production
	Acres	*Acres*	*Bushels*	*1,000 Bu*	*Acres*	*Tons*	*Tons*
Allegan	83,000	70,300	150	10,550	12,500	25.2	315,000
Berrien	43,000	41,600	143	5,950			
Cass	69,000	68,000	140	9,550			
Kalamazoo	50,000	47,000	138	6,500	2,900	18.3	53,000
Kent	40,000	34,100	129	4,400	5,800	19.0	110,000
Ottawa	44,000	34,000	126	4,300	9,700	16.0	155,000
Van Buren	31,000	29,000	133	3,850			
Other counties [2]					4,100	18.8	77,000
Southwest	360,000	324,000	139	45,100	35,000	20.3	710,000
Barry	39,000	29,200	151	4,400	9,600	22.9	220,000
Branch	81,000	78,500	134	10,500	2,400	19.2	46,000
Calhoun	72,000	67,700	139	9,400	4,200	20.0	84,000
Clinton	70,000	56,300	144	8,100	12,800	20.3	260,000
Eaton	55,000	53,300	153	8,150	1,600	15.6	25,000
Hillsdale	68,000	62,900	135	8,500	4,900	21.4	105,000
Ingham	48,000	45,100	159	7,150	2,700	17.8	48,000
Ionia	73,000	62,500	146	9,150	10,200	20.6	210,000
Jackson	52,000	48,600	133	6,450	3,100	18.7	58,000
St Joseph	81,000	79,800	130	10,400	1,100	18.2	20,000
Shiawassee	51,000	46,100	132	6,100	4,400	12.3	54,000
South Central	690,000	630,000	140	88,300	57,000	19.8	1,130,000
Genesee	27,000	24,700	109	2,700	2,100	16.7	35,000
Lapeer	34,000	30,400	123	3,740	3,500	18.6	65,000
Lenawee	100,000	88,200	150	13,250	11,500	18.3	210,000
Livingston	20,000	19,000	132	2,500			
Macomb	11,000	10,200	130	1,330			
Monroe	59,000	57,900	145	8,400	1,000	21.0	21,000
St Clair	22,000	20,800	113	2,350			
Washtenaw	38,000	34,000	132	4,500	3,900	17.2	67,000
Other counties [2]	4,000	3,800	113	430	3,000	17.3	52,000
Southeast	315,000	289,000	136	39,200	25,000	18.0	450,000
Michigan	2,200,000	1,920,000	134	257,280	265,000	18.0	4,770,000

[1] Estimates are not published for counties with less than 500 acres.
[2] Estimates not published separately because of insufficient data or to avoid disclosure of individual operations.

Dry edible beans, all: Acreage, yield, and production, by county, 2003-2004 [1]

County and district	2003				2004			
	Planted	Harvested	Yield	Production	Planted	Harvested	Yield	Production
	Acres	*Acres*	*Pounds*	*1,000 cwt*	*Acres*	*Acres*	*Pounds*	*1,000 cwt*
Alpena	1,600	1,500	1,530	23	1,400	1,300	1,310	17
Presque Isle	1,000	900	1,560	14	1,000	1,000	1,200	12
Other counties [2]	1,400	1,100	1,270	14	1,700	1,200	1,250	15
Northeast	4,000	3,500	1,460	51	4,100	3,500	1,260	44
Gratiot	11,500	11,000	1,530	168	12,500	12,400	1,630	202
Isabella	4,000	4,000	1,400	56	3,300	3,200	1,340	43
Midland	3,200	3,200	1,880	60	3,900	3,800	1,530	58
Montcalm	11,500	11,000	1,280	141	10,700	10,200	1,500	153
Other counties [2]	1,800	1,800	1,670	30	2,600	2,400	1,500	36
Central	32,000	31,000	1,470	455	33,000	32,000	1,540	492
Arenac	4,500	4,500	1,310	59	5,000	4,800	1,350	65
Bay	19,000	18,700	1,470	275	19,000	18,700	1,620	303
Huron	58,500	56,500	1,520	860	72,500	71,900	1,820	1,310
Saginaw	9,000	9,000	1,460	131	8,500	8,400	1,830	154
Sanilac	12,000	11,800	1,860	220	13,500	13,200	1,740	230
Tuscola	24,000	23,500	1,380	325	27,500	26,000	1,720	448
East Central	127,000	124,000	1,510	1,870	146,000	143,000	1,760	2,510
Southwest	2,700	2,700	1,780	48	2,500	2,400	1,670	40
South Central	1,600	1,400	1,500	21	1,800	1,700	1,410	24
Southeast	800	700	1,860	13	1,200	1,100	1,640	18
Other districts [2]	1,900	1,700	1,000	17	1,400	1,300	1,310	17
Michigan	170,000	165,000	1,500	2,475	190,000	185,000	1,700	3,145

[1] Estimates not published for counties with less than 500 acres.
[2] Estimates not published separately because of insufficient data or to avoid disclosure of individual operations.

Hay: Acreage, yield, and production, by county, 2003-2004 [1]

County and district	2003			2004		
	Harvested	Yield	Production	Harvested	Yield	Production
	Acres	*Tons*	*1,000 Tons*	*Acres*	*Tons*	*1,000 Tons*
Alger	4,000	1.8	7	4,200	1.7	7
Baraga	4,000	1.8	7	4,200	1.7	7
Chippewa	34,500	1.8	62	33,800	1.5	51
Delta	17,300	1.8	31	17,200	2.0	35
Dickinson	5,400	1.7	9	5,300	1.9	10
Gogebic	1,300	1.5	2			
Houghton	6,500	2.0	13	4,600	1.7	8
Iron	5,500	1.6	9	4,900	1.8	9
Mackinac	7,100	1.8	13	6,900	2.3	16
Marquette	4,200	1.9	8	4,100	2.0	8
Menominee	25,000	2.5	62	26,000	2.3	60
Ontonagon	8,900	1.8	16	10,200	1.8	18
Schoolcraft	3,200	1.6	5	3,500	1.7	6
Other counties [2]	3,100	1.9	6	5,100	2.0	10
Upper Peninsula	130,000	1.9	250	130,000	1.9	245
Antrim	9,600	2.5	24	8,500	2.5	21
Benzie	2,000	2.0	4	1,600	1.9	3
Charlevoix	7,800	2.2	17	8,200	2.1	17
Emmet	11,800	2.3	27	13,400	2.2	29
Grand Traverse	9,000	2.6	23	13,000	2.5	32
Kalkaska	3,000	1.7	5	3,900	1.5	6
Leelanau	5,500	2.7	15	6,800	1.9	13
Manistee	6,300	1.7	11	6,100	2.0	12
Missaukee	21,000	3.5	74	20,000	2.9	57
Wexford	9,000	2.2	20	8,500	2.4	20
Northwest	85,000	2.6	220	90,000	2.3	210
Alcona	14,500	2.6	38	14,000	2.5	35
Alpena	19,500	2.3	44	23,500	2.2	52
Cheboygan	12,500	2.2	28	14,400	1.6	23
Iosco	10,500	2.5	26	11,800	2.2	26
Montmorency	5,400	2.6	14	5,900	2.2	13
Ogemaw	17,000	2.8	48	19,500	2.5	48
Oscoda	3,100	2.3	7	3,600	2.2	8
Otsego	7,500	2.1	16	8,500	2.0	17
Presque Isle	13,200	2.7	35	12,000	2.5	30
Other counties [2]	1,800	2.2	4	1,800	1.7	3
Northeast	105,000	2.5	260	115,000	2.2	255
Lake	6,100	1.8	11	6,200	1.9	12
Mason	15,000	3.2	48	16,100	3.0	49
Muskegon	9,500	3.4	32	9,100	3.1	28
Newaygo	25,500	3.4	87	27,200	3.3	89
Oceana	13,900	3.0	42	16,400	2.9	47
West Central	70,000	3.1	220	75,000	3.0	225
Clare	18,500	2.8	52	19,400	2.6	51
Gladwin	15,000	2.5	37	14,500	2.5	36
Gratiot	11,600	3.8	44	11,000	3.1	34
Isabella	31,500	3.5	109	34,500	3.3	113
Mecosta	27,000	2.7	74	31,600	2.7	85
Midland	5,400	3.0	16	5,000	2.6	13
Montcalm	18,500	3.4	62	23,000	3.6	82
Osceola	37,500	3.1	116	36,000	2.4	86
Central	165,000	3.1	510	175,000	2.9	500

See footnote(s) at end of table.

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Hay: Acreage, yield, and production, by county, 2003-2004 [1] (continued)

County and district	2003			2004		
	Harvested	Yield	Production	Harvested	Yield	Production
	Acres	*Tons*	*1,000 Tons*	*Acres*	*Tons*	*1,000 Tons*
Arenac	7,800	2.7	21	8,400	2.5	21
Bay	7,400	3.4	25	7,400	3.1	23
Huron	38,000	3.4	129	44,800	3.6	160
Saginaw	8,900	3.5	31	9,300	3.8	35
Sanilac	49,500	3.5	173	47,500	3.8	179
Tuscola	18,400	3.3	61	17,600	3.5	62
East Central	130,000	3.4	440	135,000	3.6	480
Allegan	19,000	4.2	80	19,800	3.7	73
Berrien	5,900	3.9	23	5,000	3.4	17
Cass	12,100	2.7	33	11,300	2.7	31
Kalamazoo	7,000	3.6	25	7,100	3.5	25
Kent	24,000	3.1	75	23,800	3.2	76
Ottawa	17,000	3.1	52	18,000	3.6	65
Van Buren	15,000	2.8	42	15,000	2.9	43
Southwest	100,000	3.3	330	100,000	3.3	330
Barry	26,000	3.6	94	28,000	3.9	110
Branch	10,000	3.4	34	11,000	3.7	41
Calhoun	13,200	3.2	42	13,000	3.4	44
Clinton	19,000	3.7	70	20,500	4.1	85
Eaton	14,000	3.0	42	13,000	4.0	52
Hillsdale	15,800	3.8	60	15,000	3.9	59
Ingham	16,500	3.6	59	16,000	4.3	68
Ionia	18,000	3.9	70	21,000	4.3	90
Jackson	19,000	3.5	67	18,500	4.1	75
St Joseph	10,500	3.1	33	10,000	3.5	35
Shiawassee	13,000	3.8	49	14,000	4.0	56
South Central	175,000	3.5	620	180,000	4.0	715
Genesee	8,100	2.7	22	9,300	3.1	29
Lapeer	23,500	2.6	62	23,500	3.1	72
Lenawee	8,000	3.9	31	12,500	3.6	45
Livingston	7,800	3.2	25	8,300	2.9	24
Macomb	2,700	2.6	7	3,100	2.9	9
Monroe	4,700	4.0	19	4,700	3.8	18
Oakland	5,500	2.2	12	5,700	2.8	16
St Clair	13,000	2.8	37	15,200	2.8	42
Washtenaw	15,500	3.3	51	16,600	3.1	52
Wayne	1,200	3.3	4	1,100	2.7	3
Southeast	90,000	3.0	270	100,000	3.1	310
Michigan	1,050,000	2.97	3,120	1,100,000	2.97	3,270

[1] Estimates not published for counties with less than 500 acres.
[2] Estimates not published separately because of insufficient data or to avoid disclosure of individual operations.

Oats: Acreage, yield, and production, by county, 2003-2004 [1]

County and district	2003				2004			
	Planted	Harvested	Yield	Production	Planted	Harvested	Yield	Production
	Acres	*Acres*	*Bushels*	*1,000 Bu*	*Acres*	*Acres*	*Bushels*	*1,000 Bu*
Chippewa	1,700	1,650	50	83	750	500	40	20
Delta	1,600	1,400	60	84	1,500	1,100	60	66
Dickinson	650	500	70	35	650	500	60	30
Menominee	1,350	900	50	45	1,600	900	50	45
Ontonagon					550	450	56	25
Other counties [2]	3,200	2,550	48	123	2,450	1,950	64	124
Upper Peninsula	8,500	7,000	53	370	7,500	5,400	57	310
Antrim	500	400	58	23				
Grand Traverse	1,550	1,300	56	73	1,150	1,000	63	63
Missaukee	1,250	1,100	55	61	1,000	850	54	46
Wexford	700	600	53	32	550	450	40	18
Other counties [2]	1,500	1,300	55	71	1,800	1,500	55	83
Northwest	5,500	4,700	55	260	4,500	3,800	55	210
Alcona	800	700	84	59	700	450	60	27
Alpena	2,100	1,900	69	131	2,100	1,500	67	100
Iosco	1,500	1,300	68	88	1,400	1,200	75	90
Ogemaw	1,900	1,750	78	137	2,000	1,600	56	90
Otsego	500	450	47	21				
Presque Isle	2,900	2,700	60	161	2,800	2,200	50	110
Other counties [2]	800	600	55	33	1,000	850	51	43
Northeast	10,500	9,400	67	630	10,000	7,800	59	460
Mason	850	700	63	44	700	600	60	36
Muskegon	800	700	60	42				
Newaygo	1,100	1,000	68	68	950	850	58	49
Oceana					800	600	80	48
Other counties [2]	750	700	66	46	550	450	82	37
West Central	3,500	3,100	65	200	3,000	2,500	68	170
Clare	1,400	1,100	78	86	700	600	52	31
Gladwin	1,300	1,150	78	90	800	700	61	43
Gratiot					1,300	1,200	83	100
Isabella	2,400	2,100	105	220	2,600	2,300	78	180
Mecosta	1,450	1,250	58	72	2,100	1,900	53	100
Montcalm	3,750	3,300	62	206	3,900	3,400	59	200
Osceola	1,050	900	59	53				
Other counties [2]	2,150	1,700	90	153	1,100	900	51	46
Central	13,500	11,500	77	880	12,500	11,000	64	700
Arenac	1,350	1,100	76	84	1,400	750	77	58
Bay	650	500	104	52				
Huron	2,300	1,900	93	176	1,900	1,600	88	140
Saginaw	1,000	850	84	71				
Sanilac	3,800	2,750	91	250	4,300	3,500	93	325
Tuscola	1,400	1,200	81	97	1,600	1,400	71	100
Other counties [2]					1,300	1,150	84	97
East Central	10,500	8,300	88	730	10,500	8,400	86	720

See footnote(s) at end of table.

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Oats: Acreage, yield, and production, by county, 2003-2004 [1] (continued)

County and district	2003				2004			
	Planted	Harvested	Yield	Production	Planted	Harvested	Yield	Production
	Acres	*Acres*	*Bushels*	*1,000 Bu*	*Acres*	*Acres*	*Bushels*	*1,000 Bu*
Allegan	2,000	1,600	61	97	1,800	1,300	83	108
Cass					700	600	43	26
Kalamazoo	1,200	1,000	65	65	1,000	850	60	51
Kent	2,050	1,800	59	106	1,350	900	74	67
Ottawa	2,100	1,700	48	82	1,550	1,200	76	91
Other counties [2]	3,150	2,700	59	160	1,600	1,350	57	77
Southwest	10,500	8,800	58	510	8,000	6,200	68	420
Barry					700	600	72	43
Branch					700	600	68	41
Calhoun	1,700	1,500	67	101	1,500	1,400	59	82
Clinton	2,000	1,800	90	162	1,600	1,400	82	115
Eaton	1,550	1,400	105	147	1,400	1,300	77	100
Hillsdale	2,000	1,300	72	94	1,200	1,100	82	90
Ionia	2,000	1,700	79	134	2,800	1,900	71	135
Jackson	1,800	1,500	47	70	1,600	1,100	55	61
St Joseph	950	450	62	28				
Shiawassee	3,000	2,000	83	165	2,400	2,200	75	165
Other counties [2]	2,500	1,850	54	99	1,100	900	64	58
South Central	17,500	13,500	74	1,000	15,000	12,500	71	890
Genesee	1,000	900	81	73	700	550	75	41
Lapeer	2,300	1,800	63	113	1,800	1,400	68	95
Lenawee	1,400	1,300	92	120	900	800	79	63
Macomb	700	600	75	45	800	700	63	44
Monroe	1,450	1,300	102	133	900	800	100	80
St Clair	1,100	1,000	68	68	1,800	1,400	75	105
Washtenaw	1,300	1,200	63	76	1,200	1,000	66	66
Other counties [2]	750	600	70	42	900	750	61	46
Southeast	10,000	8,700	77	670	9,000	7,400	73	540
Michigan	90,000	75,000	70	5,250	80,000	65,000	68	4,420

[1] Estimates not published for counties with less than 500 acres.
[2] Estimates not published separately because of insufficient data or to avoid disclosure of individual operations.

Soybeans: Acreage, yield, and production, by county, 2003-2004 [1]

County and district	2003				2004			
	Planted	Harvested	Yield	Production	Planted	Harvested	Yield	Production
	Acres	*Acres*	*Bushels*	*1,000 Bu*	*Acres*	*Acres*	*Bushels*	*1,000 Bu*
Alpena	1,700	1,700	27	46	2,100	2,000	20	39
Iosco	1,800	1,800	29	53				
Montmorency	1,200	1,200	36	43	2,000	2,000	37	73
Ogemaw					1,000	1,000	24	24
Presque Isle	3,100	3,000	29	86	3,200	3,000	29	86
Other counties [2]	1,200	1,100	29	32	2,700	2,500	19	48
Northeast	9,000	8,800	30	260	11,000	10,500	26	270
Mason	2,700	2,700	32	87	2,200	2,200	27	60
Muskegon	6,700	6,700	24	164	6,000	6,000	32	190
Newaygo	5,000	4,900	27	131	4,200	4,200	27	112
Oceana	3,600	3,600	19	68	3,600	3,600	30	108
West Central	18,000	17,900	25	450	16,000	16,000	29	470
Clare					1,000	900	20	18
Gladwin	4,200	4,200	22	91	4,000	4,000	29	116
Gratiot	86,000	85,700	23	1,990	86,000	86,000	33	2,850
Isabella	47,500	47,500	32	1,520	47,000	46,000	29	1,350
Midland	21,700	21,600	26	555	21,300	21,000	31	647
Montcalm	18,700	18,600	21	383	19,000	19,000	29	546
Other counties [2]	1,900	1,900	22	41	1,700	1,100	12	13
Central	180,000	179,500	26	4,580	180,000	178,000	31	5,540
Arenac	15,200	15,100	23	345	15,200	15,000	32	480
Bay	41,300	41,000	24	965	42,300	42,000	34	1,410
Huron	56,500	56,000	28	1,570	53,500	53,000	43	2,260
Saginaw	99,000	99,000	23	2,300	97,000	97,000	34	3,250
Sanilac	122,000	121,200	28	3,340	121,000	118,000	38	4,490
Tuscola	86,000	85,700	22	1,880	81,000	80,000	38	3,010
East Central	420,000	418,000	25	10,400	410,000	405,000	37	14,900
Allegan	48,000	47,700	25	1,210	47,000	46,000	42	1,920
Berrien	45,000	44,700	23	1,050	45,000	45,000	44	1,990
Cass	50,000	49,700	28	1,370	48,000	47,000	43	2,030
Kalamazoo	36,000	35,800	31	1,120	36,000	36,000	41	1,460
Kent	21,000	20,800	33	680	22,000	22,000	35	780
Ottawa	24,000	23,500	33	770	22,000	22,000	36	795
Van Buren	26,000	25,800	25	650	25,000	25,000	41	1,025
Southwest	250,000	248,000	28	6,850	245,000	243,000	41	10,000
Barry	30,000	29,800	30	880	31,000	30,000	41	1,240
Branch	72,000	72,000	33	2,370	72,000	72,000	41	2,930
Calhoun	72,000	72,000	30	2,160	71,000	71,000	42	2,970
Clinton	80,000	80,000	22	1,790	79,000	79,000	40	3,130
Eaton	66,000	66,000	33	2,150	69,000	68,000	44	2,970
Hillsdale	68,000	68,000	33	2,240	70,000	70,000	40	2,810
Ingham	56,000	55,800	28	1,560	56,000	56,000	47	2,640
Ionia	60,000	59,600	32	1,910	61,000	60,000	43	2,560
Jackson	42,000	41,800	27	1,140	40,000	40,000	41	1,620
St Joseph	52,000	52,000	36	1,860	55,000	54,000	44	2,350
Shiawassee	82,000	82,000	21	1,740	81,000	80,000	35	2,780
South Central	680,000	679,000	29	19,800	685,000	680,000	41	28,000

See footnote(s) at end of table.

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Soybeans: Acreage, yield, and production, by county, 2003-2004 [1] (continued)

County and district	2003				2004			
	Planted	Harvested	Yield	Production	Planted	Harvested	Yield	Production
	Acres	*Acres*	*Bushels*	*1,000 Bu*	*Acres*	*Acres*	*Bushels*	*1,000 Bu*
Genesee	42,000	41,600	21	865	42,000	41,000	31	1,270
Lapeer	46,000	45,600	23	1,060	46,000	46,000	31	1,410
Lenawee	115,000	114,000	34	3,860	119,000	118,000	39	4,610
Livingston	21,000	20,800	28	580	20,000	19,500	42	825
Macomb	24,000	23,800	17	415	22,000	22,000	37	810
Monroe	78,000	77,400	37	2,840	84,000	83,000	37	3,090
Oakland	3,200	3,200	23	75	3,000	2,700	31	83
St Clair	62,000	61,100	20	1,240	62,000	61,000	34	2,070
Washtenaw	44,000	43,700	28	1,240	47,000	47,000	36	1,690
Wayne	4,800	4,800	26	125	5,000	4,800	30	142
Southeast	440,000	436,000	28	12,300	450,000	445,000	36	16,000
Other districts [2]	3,000	2,800	30	85	3,000	2,500	24	60
Michigan	2,000,000	1,990,000	27.5	54,725	2,000,000	1,980,000	38.0	75,240

[1] Estimates not published for counties with less than 500 acres.
[2] Estimates not published separately because of insufficient data or to avoid disclosure of individual operations.

Sugarbeets: Acreage, yield, and production, by county, 2003-2004 [1]

County and district	2003				2004			
	Planted	Harvested	Yield	Production	Planted	Harvested	Yield	Production
	Acres	*Acres*	*Tons*	*1,000 Tons*	*Acres*	*Acres*	*Tons*	*1,000 Tons*
Gladwin	1,400	1,400	15.7	22	1,000	1,000	17.0	17
Gratiot	16,500	16,500	17.2	284	15,500	14,700	18.8	277
Isabella	1,400	1,400	16.4	23				
Midland	3,900	3,900	22.1	86	4,200	4,200	18.3	77
Montcalm					1,100	1,100	20.9	23
Other counties [2]	1,300	1,300	6.9	9	1,000	1,000	16.0	16
Central	24,500	24,500	17.3	424	22,800	22,000	18.6	410
Arenac	4,800	4,800	15.4	74	4,700	4,650	16.3	76
Bay	20,000	19,900	17.6	350	19,300	19,100	18.8	360
Huron	57,500	57,300	19.7	1,130	52,000	51,600	22.1	1,140
Saginaw	19,000	18,600	20.1	373	17,500	17,350	21.5	373
Sanilac	23,700	23,600	20.0	473	20,500	20,300	22.3	453
Tuscola	25,000	24,800	19.8	490	22,000	22,000	22.6	498
East Central	150,000	149,000	19.4	2,890	136,000	135,000	21.5	2,900
South Central	1,700	1,700	17.6	30				
Genesee	850	850	18.8	16	650	650	26.2	17
Lapeer	500	500	24.0	12	950	950	24.2	23
Lenawee	500	500	18.0	9				
St Clair					800	800	20.0	16
Other counties [2]	650	650	24.6	16	600	500	20.0	10
Southeast	2,500	2,500	21.2	53	3,000	2,900	22.8	66
Other districts [2]	300	300	10.0	3	3,200	3,100	20.3	63
Michigan	179,000	178,000	19.1	3,400	165,000	163,000	21.1	3,439

[1] Estimates not published for counties with less than 500 acres.
[2] Estimates not published separately because of insufficient data or to avoid disclosure of individual operations.

Wheat: Acreage, yield, and production, by county, 2003-2004 [1]

County and district	2003				2004			
	Planted	Harvested	Yield	Production	Planted	Harvested	Yield	Production
	Acres	*Acres*	*Bushels*	*1,000 Bu*	*Acres*	*Acres*	*Bushels*	*1,000 Bu*
Upper Peninsula	1,000	900	33	30	1,000	900	33	30
Grand Traverse	1,300	1,200	47	56	1,000	950	55	52
Missaukee	800	700	41	29	800	800	49	39
Other counties [2]	1,900	1,500	43	65	1,700	1,650	42	69
Northwest	4,000	3,400	44	150	3,500	3,400	47	160
Alcona	1,500	1,400	57	80	1,300	1,100	49	54
Alpena	4,100	3,500	43	150	3,900	3,800	57	216
Iosco	1,800	1,700	53	90	2,200	2,100	60	126
Montmorency	1,300	1,200	54	65	1,100	1,100	70	77
Ogemaw	1,600	1,500	57	85	1,500	1,500	78	117
Presque Isle	2,700	2,400	47	112	3,100	3,000	46	138
Other counties [2]	1,000	1,000	48	48	900	900	47	42
Northeast	14,000	12,700	50	630	14,000	13,500	57	770
Mason	4,400	4,300	60	260	3,600	3,600	51	182
Muskegon	2,600	2,500	66	165	2,600	2,500	36	90
Oceana	2,700	2,600	63	165	2,000	1,900	47	89
Other counties [2]	2,300	2,200	55	120	2,300	2,200	54	119
West Central	12,000	11,600	61	710	10,500	10,200	47	480
Gladwin	2,200	2,100	48	100	2,400	2,350	59	138
Gratiot	20,800	20,200	72	1,460	23,100	21,900	69	1,510
Isabella	20,100	19,800	72	1,420	22,000	21,500	83	1,780
Mecosta	2,200	2,200	48	105	2,100	2,000	49	97
Midland	5,700	5,700	69	395	5,400	5,300	72	381
Montcalm	17,400	16,900	49	830	15,500	14,000	60	835
Other counties [2]	1,600	1,600	56	90	1,500	1,450	48	69
Central	70,000	68,500	64	4,400	72,000	68,500	70	4,810
Arenac	7,800	7,600	73	555	7,300	7,100	73	515
Bay	12,800	12,700	77	975	13,900	13,600	72	980
Huron	53,400	52,300	80	4,170	49,500	48,500	82	4,000
Saginaw	33,600	32,200	73	2,340	33,000	32,500	71	2,320
Sanilac	57,100	56,400	69	3,900	54,500	53,000	70	3,700
Tuscola	31,300	30,800	70	2,160	32,800	31,800	78	2,485
East Central	196,000	192,000	73	14,100	191,000	186,500	75	14,000
Allegan	11,500	8,000	61	485	10,800	10,500	59	622
Berrien	5,100	4,700	65	305	4,900	4,800	58	278
Cass	5,500	2,700	61	165	5,100	4,900	52	255
Kalamazoo	6,600	6,100	70	425	5,200	5,100	50	257
Kent	6,800	6,300	60	375	7,500	7,000	53	368
Ottawa	6,400	5,200	58	300	5,800	5,600	52	289
Van Buren	2,100	1,900	55	105	1,700	1,100	37	41
Southwest	44,000	34,900	62	2,160	41,000	39,000	54	2,110

See footnote(s) at end of table.

–continued

Wheat: Acreage, yield, and production, by county, 2003-2004 [1] (continued)

County and district	2003				2004			
	Planted	Harvested	Yield	Production	Planted	Harvested	Yield	Production
	Acres	*Acres*	*Bushels*	*1,000 Bu*	*Acres*	*Acres*	*Bushels*	*1,000 Bu*
Barry	12,000	11,900	66	785	9,700	9,200	54	499
Branch	8,500	8,400	57	475	9,500	8,700	49	423
Calhoun	14,600	14,500	60	870	14,800	14,500	47	680
Clinton	26,100	25,600	70	1,790	28,100	27,500	65	1,790
Eaton	22,800	22,600	72	1,620	22,800	22,300	58	1,300
Hillsdale	16,600	16,500	61	1,000	15,200	14,900	50	740
Ingham	20,700	20,600	74	1,520	21,400	21,000	61	1,280
Ionia	17,300	17,100	64	1,095	15,300	15,000	57	850
Jackson	12,600	12,500	55	690	14,800	14,500	51	740
St Joseph	4,000	4,000	63	250	4,700	4,600	47	218
Shiawassee	32,800	32,300	65	2,105	32,700	31,800	59	1,880
South Central	188,000	186,000	66	12,200	189,000	184,000	57	10,400
Genesee	13,500	13,400	66	880	13,400	13,100	57	750
Lapeer	16,800	16,600	65	1,075	14,000	13,200	61	810
Lenawee	41,400	41,300	78	3,205	37,800	37,000	65	2,410
Livingston	10,000	10,000	72	715	9,100	8,900	54	485
Macomb	5,500	5,500	55	305	5,300	5,200	63	325
Monroe	27,700	27,500	77	2,130	25,300	24,700	67	1,650
Oakland	1,500	1,500	53	80	1,500	1,400	50	70
St Clair	16,300	16,100	67	1,075	16,200	15,400	58	900
Washtenaw	17,600	17,400	57	1,000	14,700	14,400	54	775
Wayne	700	700	50	35	700	700	36	25
Southeast	151,000	150,000	70	10,500	138,000	134,000	61	8,200
Michigan	680,000	660,000	68	44,880	660,000	640,000	64	40,960

[1] Estimates not published for counties with less than 500 acres.
[2] Estimates not published separately because of insufficient data or to avoid disclosure of individual operations.

Cattle: January 1, by county, 2004-2005 [1]

County and district	All cattle and calves		Milk cows	
	2004	2005	2004	2005
	Head	*Head*	*Head*	*Head*
Alger	1,700	1,700		
Baraga	900	1,100		
Chippewa	8,000	9,000	1,000	1,000
Delta	8,400	8,300	1,600	1,600
Dickinson	2,500	3,000	700	700
Houghton	1,900	1,500		
Iron	1,600	1,900		
Mackinac	2,300	2,500	800	800
Marquette	1,900	2,000		
Menominee	16,500	17,500	6,800	6,900
Ontonagon	2,900	3,000	600	600
Schoolcraft	1,100	1,300		
Other counties [2]	1,300	1,200	1,700	1,700
Upper Peninsula	51,000	54,000	13,200	13,300
Antrim	4,600	3,900	700	700
Benzie	1,500	1,500		
Charlevoix	3,400	3,200	600	600
Emmet	4,800	4,700	700	700
Grand Traverse	4,500	4,800		
Kalkaska	1,100	900		
Leelanau	3,200	2,900		
Manistee	2,900	2,100		
Missaukee	22,000	24,000	9,300	10,000
Wexford	4,000	4,000	700	700
Other counties [2]			1,300	1,200
Northwest	52,000	52,000	13,300	13,900
Alcona	5,700	5,500	750	800
Alpena	10,500	10,000	2,900	3,200
Cheboygan	4,700	5,400	1,200	1,200
Iosco	10,500	8,800	1,800	2,000
Montmorency	2,900	3,200	700	700
Ogemaw	13,000	15,000	5,300	5,500
Oscoda	2,600	3,000		
Otsego	2,100	2,300		
Presque Isle	7,500	7,300	1,600	1,600
Other counties [2]	500	500	750	700
Northeast	60,000	61,000	15,000	15,700
Lake	2,500	2,000		
Mason	8,800	7,100	2,400	2,400
Muskegon	12,500	18,000		
Newaygo	24,000	24,000	10,500	12,100
Oceana	9,200	7,900	2,400	2,500
Other counties [2]	15,000		7,200	6,700
West Central	57,000	59,000	22,500	23,700
Clare	11,500	14,000	2,600	2,600
Gladwin	8,000	7,000	1,300	1,300
Gratiot	24,000	29,000	8,200	9,600
Isabella	29,500	25,000	7,300	7,500
Mecosta	15,000	15,000	4,200	4,500
Midland	5,000	5,000	1,900	2,100
Montcalm	25,000	24,000	9,800	10,100
Osceola	21,000	19,000	5,200	5,400
Central	139,000	138,000	40,500	43,100
Arenac	8,800	6,000	2,600	2,600
Bay	4,500	4,000	1,300	1,500
Huron	75,500	89,000	18,500	18,600
Saginaw	8,200	9,000	2,500	2,500
Sanilac	59,000	53,000	19,200	18,500
Tuscola	20,000	18,000	4,400	4,300
East Central	176,000	179,000	48,500	48,000
Allegan	43,000	43,000	17,300	17,000
Berrien	5,300	4,900	1,600	1,500
Cass	7,400	5,300	700	700
Kalamazoo	15,000	12,000	5,200	5,200
Kent	28,000	28,000	10,300	10,400
Ottawa	37,000	38,000	13,100	13,200
Van Buren	9,300	7,800	1,800	2,000
Other counties [2]	20,300			
Southwest	145,000	139,000	50,000	50,000
Barry	22,000	25,000	7,300	8,800
Branch	14,500	11,000	2,500	2,600
Calhoun	19,500	16,500	4,200	4,300
Clinton	44,500	47,000	19,100	19,800
Eaton	15,000	12,000	1,800	1,900
Hillsdale	24,000	24,000	11,200	11,300
Ingham	16,000	17,000	5,200	5,400
Ionia	39,000	35,500	11,100	11,800
Jackson	23,500	23,000	3,700	3,700
St Joseph	10,000	7,500	1,500	1,300
Shiawassee	16,000	12,500	3,900	3,800
South Central	244,000	231,000	71,500	74,700
Genesee	7,500	7,300	1,700	1,700
Lapeer	21,000	18,000	4,300	4,000
Lenawee	26,000	29,000	10,100	10,200
Livingston	9,000	7,500	2,900	2,800
Macomb	4,400	4,200	650	600
Monroe	6,300	4,300		
Oakland	1,800			
St Clair	12,500	11,000	1,800	1,700
Washtenaw	17,000	14,000	3,300	3,000
Wayne	500			
Other counties [2]		1,700	750	600
Southeast	106,000	97,000	25,500	24,600
Michigan	1,030,000	1,010,000	300,000	307,000

[1] Estimates are not published for counties with less than 500 head.
[2] Not published separately because of insufficient data or to avoid disclosure of individual operations.

Dairy: Number of operations and total milk produced, by county, 2003-2004 [1]

County and district	2003		2004	
	Operations	Total milk produced	Operations	Total milk produced
	Number	*1,000 pounds*	*Number*	*1,000 pounds*
Alger	9		9	
Baraga	3		2	
Chippewa	18	15,800	16	15,700
Delta	24	26,700	23	25,200
Dickinson	11	12,900	10	9,900
Houghton	7		6	
Iron	2		1	
Mackinac	8	16,000	8	16,100
Marquette	4		4	
Menominee	74	125,000	72	123,000
Ontonagon	9	8,300	8	8,200
Schoolcraft	1		1	
Other counties [2]		15,300		16,900
Upper Peninsula	170	220,000	160	215,000
Antrim	11	12,600	11	12,400
Charlevoix	8	11,400	8	10,700
Emmet	10	13,400	9	13,100
Grand Traverse	8		8	
Kalkaska	3		3	
Leelanau	9		9	
Manistee	7		4	
Missaukee	72	194,000	71	202,000
Wexford	17	13,300	17	15,200
Other counties [2]		15,300		16,600
Northwest	145	260,000	140	270,000
Alcona	9	11,700	9	11,600
Alpena	45	58,100	45	57,000
Cheboygan	9	21,100	9	21,200
Iosco	20	39,200	20	37,000
Montmorency	12	14,400	12	14,000
Ogemaw	43	111,000	41	105,000
Oscoda	19		18	
Otsego	2		2	
Presque Isle	21	26,400	19	26,500
Other counties [2]		13,100		12,700
Northeast	180	295,000	175	285,000
Lake	5		4	
Mason	32	45,400	31	43,500
Muskegon	27		26	
Newaygo	93	186,000	89	177,000
Oceana	33	36,200	30	32,700
Other counties [2]		172,400		176,800
West Central	190	440,000	180	430,000
Clare	48	59,000	46	53,800
Gladwin	63	19,900	62	18,900
Gratiot	44	235,000	41	235,000
Isabella	88	157,000	86	152,000
Mecosta	113	72,600	111	72,500
Midland	6	18,500	6	18,800
Montcalm	102	221,000	98	203,000
Osceola	66	127,000	65	131,000
Central	530	910,000	515	885,000
Arenac	23	63,000	24	66,500
Bay	16	22,000	16	22,500
Huron	155	435,000	147	447,000
Saginaw	33	55,600	31	50,500
Sanilac	235	341,000	216	336,000
Tuscola	58	83,400	56	82,500
East Central	520	1,000,000	490	1,005,000
Allegan	105	334,000	103	321,000
Berrien	13	48,100	13	46,500
Cass	16	9,100	16	8,100
Kalamazoo	14	117,000	14	109,000
Kent	64	182,000	63	171,000
Ottawa	89	315,000	87	339,000
Van Buren	19	34,800	19	50,400
Southwest	320	1,040,000	315	1,045,000
Barry	43	258,000	44	251,000
Branch	72	52,900	70	55,100
Calhoun	48	124,000	46	117,000
Clinton	90	473,000	87	464,000
Eaton	39	34,400	38	32,700
Hillsdale	165	142,000	165	131,000
Ingham	51	111,000	50	109,000
Ionia	77	233,000	74	241,000
Jackson	37	129,000	35	123,000
St Joseph	40	20,200	38	18,500
Shiawassee	43	72,500	43	67,700
South Central	705	1,650,000	690	1,610,000
Genesee	15	30,600	15	32,600
Lapeer	71	71,400	69	70,500
Lenawee	41	280,000	40	295,000
Livingston	20	66,500	19	64,400
Macomb	12	8,400	12	8,700
Monroe	8		8	
Oakland	2		2	
St Clair	32	31,200	32	28,800
Washtenaw	39	63,400	38	61,000
Other counties		8,500		9,000
Southeast	240	560,000	235	570,000
Michigan	3,000	6,375,000	2,900	6,315,000

[1] Production estimates are not published for counties with 5 or fewer farms or with less than 5 million pounds of annual production. An operation is any place having one or more head on hand at any time during the year.
[2] Not published separately because of insufficient data or to avoid disclosure of individual operations.

Hogs and pigs: December 1, by county, 2003-2004 [1]

County and district	All hogs and pigs	
	2003	2004
	Head	*Head*
Chippewa	1,000	1,000
Menominee	600	600
Other counties [2]	800	900
Upper Peninsula	2,400	2,500
Grand Traverse	4,000	4,000
Kalkaska	800	800
Missaukee	1,000	900
Other counties [2]	5,800	1,800
Northwest	7,600	7,500
Northeast	2,000	2,000
Lake		600
Mason	1,100	1,600
Muskegon		6,000
Newaygo	6,800	6,800
Oceana	16,900	18,000
Other counties [2]	6,200	
West Central	31,000	33,000
Clare	2,000	2,500
Gladwin	4,300	4,300
Gratiot	29,000	29,000
Isabella		9,000
Mecosta	8,000	8,000
Midland	1,400	1,400
Montcalm		16,800
Osceola	1,000	1,000
Other counties [2]	24,300	
Central	70,000	72,000
Arenac		1,500
Bay	1,500	1,500
Huron	55,000	64,000
Saginaw	5,300	6,000
Sanilac		6,000
Tuscola	11,500	11,000
Other counties [2]	6,700	
East Central	80,000	90,000

County and district	All hogs and pigs	
	2003	2004
	Head	*Head*
Allegan	195,000	164,000
Berrien	14,000	15,000
Cass	165,000	188,000
Kalamazoo	25,000	26,000
Kent		10,000
Ottawa	64,000	65,000
Van Buren		32,000
Other counties [2]	42,000	
Southwest	505,000	500,000
Barry	7,000	7,000
Branch		65,000
Calhoun		55,000
Clinton	12,000	12,000
Eaton	9,000	9,000
Hillsdale	31,000	31,000
Ingham	4,000	4,000
Ionia		15,000
Jackson		3,000
St Joseph	12,000	12,000
Shiawassee		2,000
Other counties [2]	150,000	
South Central	225,000	215,000
Genesee	2,000	2,000
Lapeer	2,500	2,700
Lenawee		7,200
Livingston	900	900
Macomb	1,700	1,700
Monroe	6,500	6,700
St Clair	1,000	1,500
Washtenaw	4,900	4,900
Other counties [2]	7,500	400
Southeast	27,000	28,000
Michigan	950,000	950,000

[1] Estimates are not published for counties with less than 500 hogs.
[2] Not published separately because of insufficient data or to avoid disclosure of individual operations.

Useful Agriculture Internet Sites

State and Federal Agencies

AMS-Agricultural Marketing Service, Market News	www.ams.usda.gov/marketnews.htm
APHIS-Animal and Plant Health Inspection Service	www.aphis.usda.gov
ERS-Economic Research Service	www.ers.usda.gov
FSA-Farm Service Agency	www.fsa.usda.gov
MDA-Michigan Department of Agriculture	www.michigan.gov/mda
MSU Extension	www.msue.msu.edu
NASS-National Agricultural Statistics Service	www.usda.gov/nass
NRCS-Natural Resources Conservation Service	www.nrcs.usda.gov
RD-Rural Development	www.rurdev.usda.gov
USDA-United States Department of Agriculture	www.usda.gov
USDA, NASS, Michigan Field Office	www.nass.usda.gov/mi

Commodity Groups

Apples-Michigan Apple Committee	www.michiganapples.com
Asparagus-Michigan Asparagus Advisory Board	www.asparagus.com
Bison-Michigan Bison Association	www.michiganbison.com
Blueberries-Michigan Blueberry Growers Association	www.blueberries.com
Cattle-Michigan Beef Industry Commission	www.mibeef.org
Celery-Michigan Celery Promotion Cooperative	www.michigancelery.com
Cherries-Cherry Industry Administrative Board (CIAB)	www.cherryboard.org
Cherries-Cherry Marketing Institute	www.cherrymkt.org
Christmas Trees-Michigan Christmas Tree Association	www.mcta.org
Corn-Michigan Corn Growers Association	www.micorn.org
Dairy-Michigan Milk Producers Association	www.mimilk.com
Dairy-United Dairy Industry of MI	www.udim.org
Dry Beans-Michigan Bean Commission	www.michiganbean.org
Dry Beans-Michigan Bean Shippers / Agri-Business Association	www.miagbiz.org
Floriculture-Michigan Floral Association	www.michiganfloral.org
Grapes-Michigan Grape and Wine Industry Council	www.michiganwines.com
Horses-Michigan Horse Council	www.michiganhorsecouncil.com
Nursery-Michigan Nursery & Landscape Association	www.mnla.org
Peaches-Michigan Peach Sponsors	www.michiganpeach.org
Pork-National Pork Board and Pork Producers Council	www.nppc.org
Potatoes-Michigan Potato Industry Commission	www.mipotato.com
Soybeans-Michigan Soybean Promotion Committee	www.michigansoybean.org
Turfgrass-Michigan Turfgrass Association	www.michiganturfgrass.org
Turkeys-Michigan Turkey Producers	www.miturkey.com

Other Related Sites

American Farm Bureau Federation	www.fb.org
Michigan Emerging Disease Issues	www.bovinetb.com
Michigan Farm Bureau	www.michiganfarmbureau.com
Michigan Integrated Food and Farming Systems on-line directory	www.miffsmarketline.org
MSU Agriculture Weather Office	www.agweather.geo.msu.edu
Pesticide Policy Coalition	www.fqpa-iwg.org

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- **Michigan Department of Agriculture (MDA)**

  MDA home page at: **http://www.michigan.gov/mda**

- **USDA, NASS, Michigan Field Office**

  Home page at: **http://www.nass.usda.gov/mi**

  At the home page you will find up-to-date data such as Crop-Weather releases, press releases, *Agriculture Across Michigan*, and county estimates.

- **National Agricultural Statistics Service (NASS)**

  NASS home page at: **http://www.usda.gov/nass**

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