



United States Department of Agriculture  
Animal and Plant Health Inspection Service  
Plant Protection and Quarantine



## **Risk Management Document**

# **Importation of Baby Squash, *Cucurbita maxima* Duchesne, and Baby Courgettes, *C. pepo* L., from Zambia into the Continental United States**

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**Plant Health Programs (PHP)  
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## **A. Introduction**

The pest risk assessment document “Importation of Baby Squash, *Cucurbita maxima* Duchesne, and Baby Courgettes, *C. pepo* L., from Zambia into the Continental United States, A Pathway-Initiated Risk Assessment (USDA 2006)” found that 10 quarantine pests follow the pathway of commercial shipments of fresh baby squash and baby courgettes. Two pests were rated as high risk. Eight pests were rated as medium risk. APHIS has determined that measures beyond a standard port-of-entry inspection are required to mitigate the plant risk of these ten pests.

The Pest Risk Assessment (USDA 2006) identified the following two pests as having high unmitigated pest risk potential:

*Helicoverpa armigera* (Lepidoptera: Noctuidae)

*Spodoptera littoralis* (Lepidoptera: Noctuidae)

The Pest Risk Assessment (USDA 2006) identified the following eight pests as having medium unmitigated pest risk potential:

*Aulacaspis tubercularis* (Hemiptera-Diaspididae)

*Dacus bivitattus* (Diptera-Tephritidae)

*Dacus ciliatus* (Diptera-Tephritidae)

*Dacus frontalis* (Diptera-Tephritidae)

*Dacus lounsburyi* (Diptera-Tephritidae)

*Dacus punctatifrons* (Diptera-Tephritidae)

*Dacus vertebratus* (Diptera-Tephritidae)

*Diaphania indica* (Lepidoptera-Pyralidae)

## **B. Proposed Risk Mitigation Measures**

We propose that baby squash and baby courgettes from Zambia may be imported into the continental United States only under the following conditions:

*Dacus* species currently occurs in Zambia and are quarantine pests in the United States. Pest-exclusionary greenhouses must be used to grow host commodities to prevent infestation. Trapping must occur in areas where *Dacus* species occur. *Dacus* species do not have specific bait for traps; therefore, a protein bait is used. The following trapping protocol for the detection of *Dacus* species in infested areas must be used.

(a) Baby squash and baby courgettes must be grown in approved production sites. Initial approval of the production sites will be completed jointly by the Zambia NPPO and APHIS. The production sites will be inspected on a monthly basis by the Zambia NPPO or its approved designee, starting two months before harvest and continuing through the

end of the shipping season. APHIS can monitor the production sites anytime from two months before harvest and continuing through to the end of the harvest.

(b) The baby squash and baby courgettes production sites must consist of a pest exclusionary greenhouse, which must have double self-closing doors, and any vents or openings in the greenhouses (other than the double closing doors) must be covered with 1.6 mm screening in order to prevent the entry of pests into the greenhouse. The insect proof greenhouses will prevent the introduction of the fruits flies of concern (*Dacus bivitatus*, *D. ciliatus*, *D. frontalis*, *D. lounsburyi*, *D. punctatifrons*, *D. vertebrates*) as well as the moths, ( *Diaphania indica*, *Helicoverpa armigera*, and *Spodoptera littoralis*) and the scale (*Aulacaspis tubercularis*).

(c) The greenhouses must be inspected periodically by Zambia's NPPO or its approved designee to ensure sanitary procedures are employed to exclude plant pests and diseases and that the screens are intact.

(d) Inside the greenhouses: McPhail traps, with an approved protein bait, must be placed inside the greenhouses at a density of 4 traps/ha, with a minimum of at least 2 traps/greenhouse. Traps must be serviced on a weekly basis.

If, two months prior to harvest and continuing for the duration of harvest, (a) any *Dacus* species, (b) any of the lepidopterous pests, or (c) the scale, are detected inside the baby squash and baby courgette production site, the production site will be prohibited from exporting. The Republic of Zambia National Plant Protection Organization (NPPO) will immediately cancel export to the United States from that production site until Zambia's NPPO and APHIS can agree that the risk has been mitigated. APHIS will be notified of each cancellation and reinstatement.

(e) Surrounding the production site: McPhail traps, with an approved protein bait, must be placed inside a buffer area 500 meters wide around the registered production site at a density of 1 trap per 10 ha for a total of at least 10 traps. These traps must be checked at least every seven days. At least one of these traps needs to be near the greenhouse. Trapping must begin at least two months before export and continue to the end of the harvest.

*Dacus* species must be maintained at prevalence levels lower than 0.7 fly per trap per week (F/T/W) for two months before harvest and continuing through to the end of the harvest. If the F/T/W meets or exceeds 0.7 two months prior to harvest, or during the harvest, the Republic of Zambia's National Plant Protection Organization (NPPO) will immediately cancel export to the United States from that production site until Zambia's NPPO and APHIS can agree that the risk has been mitigated. APHIS will be notified of each cancellation and reinstatement.

(f) There may be no shade trees within 10 meters of the entry door of the greenhouse or packing house, and no fruit fly host material is permitted within 50 meters of the entry

door of the greenhouse or packing house. A 3 to 10 meter vegetation –free zone around the outside perimeter of the greenhouse is recommended but not required. Ground applications of an approved protein bait spray for the *Dacus* species fruit flies must be used on all shade trees and host plants within 200 meters surrounding the greenhouse every 6-10 days starting at least 30 days before and during harvest.

(g) The Zambia NPPO or its approved designee must maintain records of trap placement, trap servicing, and any *Dacus* species captures. The Zambia NPPO must maintain an APHIS approved quality control program to monitor or audit the trapping program. APHIS must be able to review 1 year worth of trapping data for any approved facility upon request.

(h) The baby squash and baby courgettes must be packed within 24 hours of harvest in a pest exclusionary packing house. The baby squash and baby courgettes must be safeguarded by a pest-proof screen or plastic tarpaulin while in transit to the packing house and while awaiting packing. They must be packed in insect proof containers for shipment to the United States. While packing the baby squash and baby courgettes for export to the United States, the packing house may only accept baby squash and baby courgettes from approved production sites.

(i) The NPPO of Zambia is responsible for export certification and issuance of Phytosanitary Certificates. Each consignment of baby squash and baby courgettes must be accompanied by a Phytosanitary Certificate of inspection issued by the Republic of Zambia NPPO bearing the following declaration: “These baby squash and baby courgettes were produced in accordance with 7 CFR 319.56-48.” The shipping box must be labeled with the identity of the production site.

(j) Only commercial consignments are eligible for export.

### **Summary:**

The PRA for baby squash and baby courgettes from Zambia addressed the risk associated with the commodity being imported into the continental United States.

The requirement for production in a pest-exclusionary structure diminishes the likelihood of quarantine pests to follow the pathway. Therefore, the importation of baby squash and baby courgettes from Zambia would be restricted to commercial consignments only.

The requirement of a Phytosanitary Certificate from the NPPO of Zambia would document that the import is a product of Zambia. A Phytosanitary Certificate also provides phytosanitary security by requiring the NPPO of Zambia to conduct inspections for pests in the consignment. Therefore, APHIS will require each consignment to be accompanied by a Phytosanitary Certificate with an Additional Declaration verifying that the consignment has been inspected and found free of the pests of concern.

These inspections double the number of inspections each baby squash and baby courgette receives by requiring phytosanitary inspections in addition to the normal packinghouse quality inspections. Importations of baby squash and baby courgettes from Zambia would also be subject to inspection at the port of entry into the United States by personnel from the Department of Homeland Security's Bureau of Customs and Border Protection and from the U.S. Department of Agriculture.

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**References:**

USDA APHIS. 2000. Guidelines for Pathway-Initiated Pest Risk Assessments. Version 5.02. Plant Protection and Quarantine, Riverdale, MD

USDA 2006. Importation of Baby Squash, *Cucurbita maxima* Duchesne, and Baby Courgettes, *C. pepo* L., from Zambia into the Continental United States; United States Department of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine, Center for Plant Health Science and Technology, Plant Epidemiology and Risk Analysis Laboratory. Raleigh, NC. 35 pp.