Importation of

Celery (*Apium graveolens* var. *dulce*)

From Dominica

Into the U.S. Virgin Islands and Puerto Rico

A Qualitative, Pathway-Initiated Pest Risk Assessment

Greg G. Bartman, Entomologist
Laura D. Redmond, Plant Pathologist

United States Department of Agriculture
Animal and Plant Health Inspection Service
Plant Protection and Quarantine
Biological Assessment and Taxonomic Support
4700 River Road, Unit 133
Riverdale, MD 20737-1236

April, 1997

Table of Contents

A. Introduction

This pest risk assessment was prepared by the Animal and Plant Health Inspection Service (APHIS) of the United States Department of Agriculture (USDA) to examine plant pest risks associated with the importation into the United States of celery (*Apium graveolens* L. var. *dulce (Miller))* grown in Dominica. This is a qualitative pest risk assessment; that is, estimates of risk are expressed in qualitative terms such as high or low as opposed to numerical terms such as probabilities or frequencies.

International plant protection organizations (*e.g.*, North American Plant Protection Organization (NAPPO), International Plant Protection Convention (IPPC) of the United Nations Food and Agriculture Organization (FAO)) provide guidance for conducting pest risk analyses. The methods we used to initiate, conduct, and report this pest risk assessment are consistent with guidelines provided by NAPPO, IPPC and FAO. Our use of biological and phytosanitary terms (*e.g.*, introduction, quarantine pest) conforms with the *NAPPO Compendium of Phytosanitary Terms* (Hopper, 1996) and the *Definitions and Abbreviations* (Introduction Section) in *International Standards for Phytosanitary Measures, Section 1—Import Regulations: Guidelines for Pest Risk Analysis* (FAO 1996).

Pest risk assessment is one component of an overall pest risk analysis. The *Guidelines for Pest Risk Analysis* provided by FAO (1996) describe three stages in pest risk analysis. This document satisfies the requirements of FAO Stages 1 (initiation) and 2 (risk assessment).

The Food and Agriculture Organization (FAO, 1996) defines "pest risk assessment" as "Determination of whether a pest is a quarantine pest and evaluation of its introduction potential." "A quarantine pest" is defined as "A pest of potential economic importance to the area endangered thereby and not yet present there, or present but not widely distributed and being officially controlled." (FAO, 1996; Hopper, 1996). Thus, pest risk assessments should consider both the likelihood and consequences of introduction of quarantine pests. Both issues are addressed in this pest risk assessment.

This document presents the findings of our qualitative plant pest risk assessment. We have not described in detail our assessment methods or the criteria we used to rate the various risk elements. Details of our methodology and rating criteria can be found in our "template" document: *Pathway-Initiated Pest Risk Assessment: Guidelines for Qualitative Assessments, version 4.0* (USDA, 1995). To obtain a copy of this document, contact the individuals named on the front of this pest risk assessment, or visit our web site at www.aphis.usda.gov/ppq/bats/bant..

B. Risk Assessment

1. Initiating Event: Proposed Action

This pest risk assessment is commodity-based, and therefore "pathway-initiated"; we initiated the assessment in response to the request for USDA authorization to allow imports of a particular commodity presenting a potential plant pest risk. In this case, the importation into the United States of celery grown in Dominica is a potential pathway for introduction of plant pests. Regulatory authority for the importation of fruits and vegetables from foreign sources into the United States is found in 7 CFR §319.56.

2. Assessment of Weediness Potential of *Apium graveolens*.

The results of the weediness screening for *A. graveolens* (Table 1), did not prompt a pest-initiated risk assessment.

Table 1: Process for Determining Weediness Potential of Commodity

Commodity: ***Apium graveolens*** L. (Apiaceae)

Phase 1: ***Apium graveolens*** L. (celery), including ***Apium graveolens*** var. ***rapaceum*** (Mill.) Gaudin (celeriac), is widely cultivated in the United States.

Phase 2: Is the species listed in:

- NO ***Geographical Atlas of World Weeds*** (Holm *et al.*, 1979)
- NO ***World's Worst Weeds*** (Holm *et al.*, 1977)
- NO ***Report of the Technical Committee to Evaluate Noxious Weeds; Exotic Weeds for Federal Noxious Weed Act*** (Gunn & Ritchie, 1982)
- NO ***Economically Important Foreign Weeds*** (Reed, 1977)
- NO Weed Science Society of America list (WSSA, 1989)
- NO Is there any literature reference indicating weediness (***e.g.***, ***AGRICOLA***, ***CAB***, ***Biological Abstracts***, ***AGRIS***; search on "species name" combined with "weed").

Phase 3: **Conclusion:** Proceed with the pest risk assessment.

3. Previous Risk Assessments, Current Status and Pest Interceptions

Decision History for celery from Dominica

There were no previous risk assessments (decision sheets) on *Apium* spp. from Dominica.
1994 - Celery entered into Puerto Rico and the Virgin Islands.

Interceptions on *Apium* from Dominica - FY85-95

One species of Tettigoniidae was intercepted on celery from Dominica (USDA, 1996).

4. Pest List: Pests Associated with *Apium* spp. in Dominica.

Table 2: Pests Associated With *Apium* spp.

Pest	Distribution[1]	Comments[2]	References
ARTHROPODA			
Liriomyza sativae (Blanchard) Diptera: Agromyzidae	DM, US	c	EPPO Database, 1996; Spencer & Steyskal 1996.
Tettigoniidae sp. of	DM	b	PPQ Interception
PATHOGENS			
Septoria apiicola Speg. Fungi Imperfecti: Coelomycetes	US, WI	c, o, v	Farr *et al.*, 1989; Wellman, 1977
Tomato Spotted Wilt Virus	US, WI	o, v	Wellman, 1977

[1]Geographical codes: DM - Dominica, US - United States, WI - West Indies.
[2]Comments:

c - Listed in the USDA catalogue of intercepted pests as non-actionable.
b - Not likely to be a primary plant pest.
o - Organism does not meet the geographical and regulatory definition for a quarantine pest.
v - No specific reports of the pest from the PRA area, but regional reports exist and the pest may be present in the PRA area.

5. List of Quarantine Pests

Table 3: Quarantine Pests
None

6. Quarantine Pests Likely to Follow Pathway

From the previous lists (Tables 2 and 3), there are no pests that are likely to travel with this commodity.

7. Phytosanitary Measures

Should additional pests, not identified in this Risk Assessment, be intercepted, appropriate quarantine action will be taken. Additionally, should there be a change in the quarantine status of any pest, this Risk Assessment will be amended to reflect that change.

C. Literature Cited

FAO. 1996. International Standards for Phytosanitary Measures. Section 1 - Import Regulations. Guidelines for Pest Risk Analysis (Draft Standard). Secretariate of the International Plant Protection Convention of the Food and Agriculture Organization of the United Nations. Rome, Italy. 21 pp.

EPPO Database. 1996. European and Mediterranean Plant Protection Organization, Plant Quarantine Retrieval System, ver. 3.3, computerized data base.

Farr, D.F., G.F. Bills, G.P. Chamuris & A.Y. Rossman. 1989. Fungi on plants and plant products in the United States. American Phytopathological Society, St. Paul, Minnesota. 1252 pp.

Gunn, C. R. and C. Ritchie. 1982. Report of the Technical Committee to evaluate Noxious Weeds; Exotic Weeds for Federal Noxious Weed Act. (unpublished).

Holm, L. G., Plucknett, D. L., Pancho., J. V. and J. P. Herberger. 1977. The World's Worst Weeds. University of Hawaii Press, Honolulu. 609pp.

Holm, L. G., Pancho., J. V., Herberger, J. P. and D. L. Plucknett. 1979. A Geographical Atlas of World Weeds. John Wiley and Sons, New York. 301pp.

Hopper, B.E. 1996. NAPPO Compendium of Phytosanitary Terms. NAPPO Doc. No. 96-027/ North American Plant Protection Organization (NAPPO). NAPPO Secretariate, Ottawa, Ontario, Canada. 25 pp.

Reed, C. F. 1977. Economically Important Foreign Weeds. Agric. Handbook No. 498. 746pp.

Spencer, K. A. and G. C. Steyskal. 1986. Manual of the Agromyzidae (Diptera) of the United States. USDA, ARS, Agric. Handbook No. 638. 478pp.

USDA. 1995. Pathway-Initiated Pest Risk Assessment: Guidelines for Qualitative Assessments, ver. 4.0. 15pp.

USDA. 1996. Interceptions from Dominica for FY 85-96 from APHIS records.

Wellman, F.L. 1977. Dictionary of Tropical Crops and their Diseases. Scarecrow Press, Metuchen, New Jersey. 989 pp.

WSSA. 1989. Composite List of Weeds. Weed Science Society of America. 112pp.