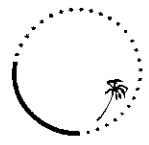


SOUTH PACIFIC COMMISSION

Quarantine Advisory Leaflet 18
1988



ONION

Latin name:	<i>Allium cepa</i>
Family:	Alliaceae
Closely related plants:	<i>A. cepa</i> — Shallot <i>A. sativum</i> — Garlic <i>A. schoenoprasum</i> — Chives <i>A. porrum</i> — Leek
Trade commodity:	Bulbs
Propagating material:	Seed

loan no. 8415(c)

Quarantine Risks

The trade in onion is from temperate areas of adjacent countries into the SPC region. Some countries in the region grow onions and most grow shallots, but only in sufficient quantities for local consumption.

Bulbs

The following insects and mites, some of which are also pests of other crops, attack leaves and bulbs of onion in the region:

Heliothis assulta (Cape gooseberry budworm), *Liriomyza trifolii* (chrysanthemum leafminer), *L. sativae* (serpentine leafminer), *Neotoxoptera formosana* (onion aphid), *Plutella xylostella* (diamondback moth), *Rhopalosiphum maidis* (maize aphid), *Spodoptera exigua* (beet armyworm), *Thrips tabaci* (onion thrips).

Other pests of quarantine importance exist in nearby exporting countries, such as:

Aceria tulipae (wheat curl mite), *Delia antiqua* (onion fly), *D. platura* (bean seed fly), *Liriomyza chinensis* (leafminer), *L. huidobrensis* (pea leafminer), *Meredon equestris* (narcissus bulb fly), *Petrobia latens* (brown wheat mite), *Tetranychus cinnabarinus* (carmine spider mite).

It is unlikely that any of these pests would be present on onions of export quality, but some, for example, *Delia* spp. and *Thrips tabaci* may infest stored bulbs. The green leaves of shallots may harbour many of the insects listed, as might dried onion leaves present as trash. Countries free from specific important pests, such as

leafminers, may require consignments to be treated before export from infested countries.

There are many serious fungal and nematode pathogens of onions and most are not present in the region or have restricted distribution within it, but are present in nearby exporting countries, such as:

Alternaria porri (purple blotch), *Botrytis* spp. (neck rot), *Colletotrichum circinans* (smudge), *Peronospora destructor* (downy mildew), *Puccinia allii* (rust), *Pyrenochaeta terrestris* (pink root), *Sclerotium cepivorum* (white rot), *Urocystis cepulae* (smut) and the nematodes *Ditylenchus dipsaci* (stem and bulb

nematode), *Meloidogyne* spp. (root-knot nematodes), *Pratylenchus* spp. (root lesion nematodes).

Neck rot, downy mildew, white rot and smut are diseases of quarantine importance (particularly in cooler areas) and could be transferred in infected bulbs or those contaminated with soil. Soil may also spread nematode pathogens.

Virus diseases are not reported from the region, but yellow dwarf virus is present in nearby countries and is transmitted by aphids.

Propagating material

Botrytis allii is seed-borne.

Quarantine Action and Treatments

Mandatory quarantine treatments should be given in the exporting country. These should be stated on a phytosanitary certificate, which should accompany the consignment and clearly state its origin.

Bulbs

Consignments should be for consumption only, imported free of soil and trash and packed in clean new cartons, sacks or net bags. Countries with cooler climates where onions are an important crop may require imports to be certified free of *Botrytis* spp. (neck rot), *Peronospora destructor* (downy mildew), *Sclerotium cepivorum* (white rot) and *Urocystis cepulae* (smut).

A sample of the consignment should be inspected on arrival to ensure that it is free of important diseases and soil. If any of these are present, the entire consignment

should be re-exported or destroyed. Any trash should be removed and burnt.

Mandatory fumigation with methyl bromide is not recommended, as onions are damaged by the gas. If inspection reveals the presence of insects or mites, the importer should have the choice of re-exporting the consignment or having it destroyed or fumigated with methyl bromide at normal atmospheric pressures as follows:

g/m ³	time (hours)	temperature (°C)
48	3	11-15
40	3	16-20
32	3	21-25
24	3	26-30
16	3	31 and above

If live insects or mites are still present

after fumigation, destroy or reconsign the shipment.

Note. The wheat curl mite, *Aceria tulipae*, could also be imported on garlic (except from Australia); to prevent its introduction, garlic should be fumigated with methyl bromide at $48\text{g}/\text{m}^3$ for 3 hours at 15°C or above.

Virus diseases are not of quarantine importance in onions imported for consumption.

Propagating material

Commercially packaged seed, from repu-

table sources, is of minimal quarantine risk, although occasional checks should be made to ensure the maintenance of acceptable standards. Preferably, seed should be dusted with a fungicide, and thiram is recommended. Further treatments may be necessary if certification cannot be obtained that consignments are free of seed-borne pathogens. For control of *Botrytis* spp. (neck rot), treat seed in a slurry containing benomyl and thiram, each at 30 per cent.

If insects are found, fumigate with methyl bromide using $48\text{g}/\text{m}^3$ for 2.5 hours at 21°C or above.

This leaflet was prepared and published by the SPC Plant Protection Service, Private Mail Bag, Suva, Fiji.

This leaflet gives general guidance only; quarantine action is subject to the legislation and regulations of individual countries of the SPC region.

Leaflets in this series include:

- | | |
|---------------|----------------|
| (1) Banana | (10) Capsicum |
| (2) Beans | (11) Pawpaw |
| (3) Cabbage | (12) Pineapple |
| (4) Citrus | (13) Kava |
| (5) Cucurbits | (14) Carrot |
| (6) Orchids | (15) Mango |
| (7) Peanuts | (16) Avocado |
| (8) Tomato | (17) Timber |
| (9) Taro | (18) Onion |

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