

## Mini data sheet on *Spodoptera praefica* (Lepidoptera: Noctuidae)

*Spodoptera praefica* was added to the EPPO A1 List in 2023. A full datasheet will be prepared, in the meantime you can view here the data which was previously available from the EPPO Alert List (added to the EPPO Alert List in 2021 - deleted in 2023).

**Why:** Following the recent introduction of *Spodoptera frugiperda* (Lepidoptera: Noctuidae - EPPO A1 List) in different parts of the world, more attention is being paid to other species of *Spodoptera* which are still absent from the EPPO region. *S. ornithogalli* has recently been added to the EPPO Alert List (EPPO RS 2021/012) and the EPPO Panel on Phytosanitary Measures suggested that *S. praefica* (Western yellow-striped armyworm) should also be added.

**Where:** *S. praefica* is native to North America. It occurs in the western part of the USA, and southern parts of Alberta and British Columbia in Canada. In Alberta, it is considered that it is probably not present all-year round, but that adults are migrating from further south during summer.

**EPPO region:** Absent.

**North America:** Canada (Alberta, British Columbia), USA (California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington).

**On which plants:** *S. praefica* is a polyphagous species which can feed on forage crops, fruit and vegetables, ornamentals, and weeds. More than 60 plant species or genera have been recorded as hosts: *Allium cepa*, *Amaranthus*, *Antirrhinum*, *Arctium lappa*, *Beta vulgaris*, *Centaurea solstitialis*, *Chenopodium album*, *Convolvulus*, *Cosmos*, *Crataegus*, *Cucumis melo*, *Cucurbita*, *Dahlia*, *Daucus carota*, *Erodium cicutarium*, *Fagopyrum esculentum*, *Gossypium herbaceum*, *Gossypium hirsutum*, *Grindelia camporum*, *Helianthus annuus*, *Hosta*, *Ipomoea purpurea*, *Juglans*, *Kochia*, *Lactuca serriola*, *Lathyrus odoratus*, *Lens culinaris*, *Lupinus albus*, *Malus domestica*, *Malva*, *Medicago sativa*, *Melilotus officinalis*, *Mentha*, *Oryza sativa*, *Phaseolus*, *Phaseolus vulgaris*, *Pisum sativum*, *Polygonum*, *Prunus persica*, *Pyrus communis*, *Rheum rhabarbarum*, *Rubus allegheniensis*, *Rubus idaeus*, *Rubus parviflorus*, *Rubus vitifolius*, *Salix*, *Sambucus nigra*, *Setaria*, *Sinapis arvensis*, *Smilax californica*, *Solanum*, *Solanum lycopersicum*, *Solanum tuberosum*, *Sonchus oleraceus*, *Sorghum bicolor*, *Taraxacum*, *Trifolium*, *Trifolium cyathiferum*, *Tripleurospermum inodorum*, *Vigna unguiculata*, *Vitis vinifera*, *Zea mays*.

**Damage:** Larvae feed on many broad-leaved plant species, chewing large holes in leaves or fruit (e.g. on tomatoes). Young larvae can be found on terminal leaves and buds, whereas older larvae are usually found in plant debris on the soil. Within a crop, larvae often aggregate on a few plants where complete defoliation may occur.

*S. praefica* has two overlapping generations per year. The first generation of moths emerge in March and April and females lay eggs in masses on the foliage. Egg masses are covered with grey cottony material. Larvae feed on plant foliage for 6 to 8 weeks and then pupate in the soil. Adults from the second generation emerge in mid-August/early September. Larvae from second generation feed from late September and early October and the species overwinters as pupae in the soil.

Adult moths have a wingspan of 3.5-4 cm. Forewings are light brown with yellow, brown and dark brown markings. Hindwings are silvery grey. Moths fly at night; mating and egg laying usually occur between dusk and midnight. Larvae are black with distinct pale-yellow stripes on each side of the body (up to 5 cm long for mature larvae), with an inverted 'Y' marking on the head. Larval feeding is generally observed during the day.

Pictures can be found on the Internet:

<https://search.museums.ualberta.ca/g/2-5135>

<http://uspest.org/mint/westyellid.htm>

**Dissemination:** Moths can fly, possibly over rather long distances as is the case for other *Spodoptera* species, but no specific data could be found on the flying capacities of *S. praefica*. Over long distances, *S. praefica* could be spread with its host plants or with soil (as pupae).

**Pathways:** Fruits and vegetables, plants for planting, cut flowers of host plants, soil from countries where *S. praefica* occurs.

**Possible risks:** *S. praefica* has many hosts that are major crops in the EPPO region. In its native range, it is considered to be an occasional pest of various crops including tomato and forage crops (e.g. alfalfa). It can be recalled that *S. praefica* had been screened in the EPPO study on 'Pest Risks associated with the import of tomato fruit' as a pest posing potential risks to tomato production in the EPPO region. In its risk assessment of American species of *Spodoptera*, the Netherlands Food and Consumer Product Safety Authority concluded that *S. praefica* (as was also the case for *S. eridania*, *S. frugiperda* and *S. ornithogalli*) presented risks for the European Union. Considering the wide host range of *S. praefica*, its introduction is likely to cause significant losses in various crops

of economic importance, especially in the Southern parts of the European Union. Although further assessment is needed, this conclusion could most probably be extended to the Southern part of the EPP0 region.

#### Sources

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