Spodoptera littoralis (Boisduval, 1833) - African cotton leaf worm (Lepidoptera, Noctuidae). Chapter 14: Factsheets for 80 representative alien species

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14.74 – *Spodoptera littoralis* (Boisduval, 1833) - African cotton leaf worm (Lepidoptera, Noctuidae)

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Description and biological cycle: Polyphagous moth, up to 2 cm long with wingspan of 4 cm (*Photo left*); eggs laid in batches covered with orange-brown hairs. The neonate larva is pale green with a brownish head; when fully developed, larvae 35–45 mm long, body colour varying from grey to reddish or yellowish, with a median dorsal line bordered on either side by two yellowish-red or greyish stripes, and small yellow dots on each segment (*Photo right- mature larva on a tomato leaf*). 1000–2000 eggs laid per female 2–5 d after emergence; egg masses of 100–300 on the lower leaf surface of host plants. Life cycle lasts 19–144 days. Larvae are extremely sensitive to climatic conditions, especially to combinations of high temperature and low humidity; temperatures above 40 °C or below 13 °C increase mortality.

Native habitat (EUNIS code): F5 - semi-arid and subtropical habitats.

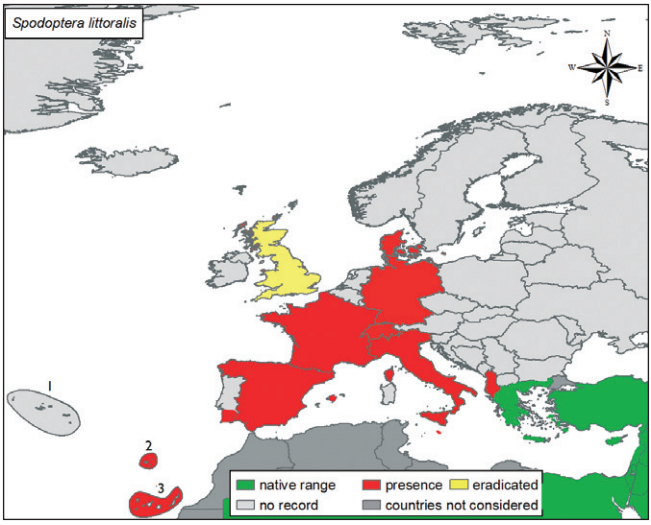
Habitat occupied in invaded range (EUNIS code): F5 - Maquis, matorral and thermo-Mediterranean brushes; F6 - Garrigue; F8 - Thermo-Atlantic xerophytic habitats; H5 - Miscellaneous inland habitats with very sparse or no vegetation; I1- Arable land and market gardens; I2 - Cultivated areas of gardens and parks; J100- Glasshouses.

Native range: Origin unclear, probably Egypt. Widespread in tropical and subtropical Africa and Southeastern Europe and Asia Minor.

Introduced range: One of the most commonly intercepted species in Europe, for example on imported ornamentals. Present outdoors in Sicily, southern Italy, Corsica, Spain, southern Portugal, and in Madeira and the Canary Islands but only in glasshouses in northern Italy, Western and Central Europe (*Map*). Not established in Great Britain.

Pathways: Trade appears to be the most likely pathway for introduction, through eggs and larvae present on imported commodities such as glasshouse crops, both ornamentals and vegetables from infested areas. Flight range of moths can be 1.5 km during a period of 4 h

Credit: Paolo Mazzei (left), Jean-Yves Rasplus/ INRA (right)



overnight. Adult moths can also be spread through wind, attached to or transported by another organism or through other natural means.

Impact and management: *Spodoptera littoralis* is one of the most destructive agricultural lepidopteran pests within its subtropical and tropical range, attacking plants from 44 families including grasses, legumes, crucifers and deciduous fruit trees. In North Africa damages vegetables, in Egypt cotton, and in Southern Europe, plant and flower production in glasshouses or vegetables and fodder crops. It is important to seek assurance from suppliers that plants are free from this pest as part of any commercial contract. Avoid importing plant material from infested areas. Carefully inspect new plants on arrival, including any packaging material, to check for eggs and caterpillars and for signs of damage. As the adults are nocturnal, light or pheromone traps should be used for monitoring purposes. Mechanical control: physical destruction of insects and any plant material infested by this pest is recommended. Egg masses can be hand collected. Chemical control: there are many cases of resistance to insecticides. Biological control: includes the use of microbial pesticides, insect growth regulators and slow-release pheromone formulations for mating disruption.

Selected references

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