

Large Narcissus Fly Model (Warwick HRI)

FACTSHEET

Large Narcissus Fly cause damage on Narcissus bulbs

The Large Narcissus Fly (*Merodon equestris*) is a species of Hoverfly whose larvae feed on Narcissus (daffodils). Large narcissus flies overwinter inside damaged bulbs as fully-grown larvae which move into the soil to form pupae in the spring. When they emerge, the adults lay their eggs in the soil close to narcissus bulbs. After they hatch, the larvae burrow through the soil and enter the bulbs via the basal plate. The larvae feed and grow inside the bulbs and destroy their centres. There is only one generation each year.



Control with help of DSS on platform.ipmdecisions.net

This model Large Narcissus Fly Model predicts the timing of adult emergence, egg laying and egg hatching, enabling users to undertake targeted monitoring and/or mitigating actions to reduce the risk of damage to the crop. A series of development rate equations form the basis of the simulation model and are linked together in a program. The model simulates the development of cohorts of 500 individuals through adult emergence, egg laying and hatching. The model uses soil temperatures or air temperatures depending on the stage of development. As multiple cohorts progress simultaneously, adult emergence, egg laying and/or egg hatching can occur at the same

time. The start date for the model is 1st February, as this is often the coldest period in the year.

DSS parameters

The Large Narcissus Fly forecast requires hourly soil temperatures at a depth of approximately 6 cm and hourly air temperatures. This model requires historic data to provide risk forecasts. At present, suitable historic data is only available for a limited number of locations; please select 'Edit Parameters' and select the most appropriate location. the field.

DSS output

The DSS shows information about the development of the large Narcissus fly during the growing season.

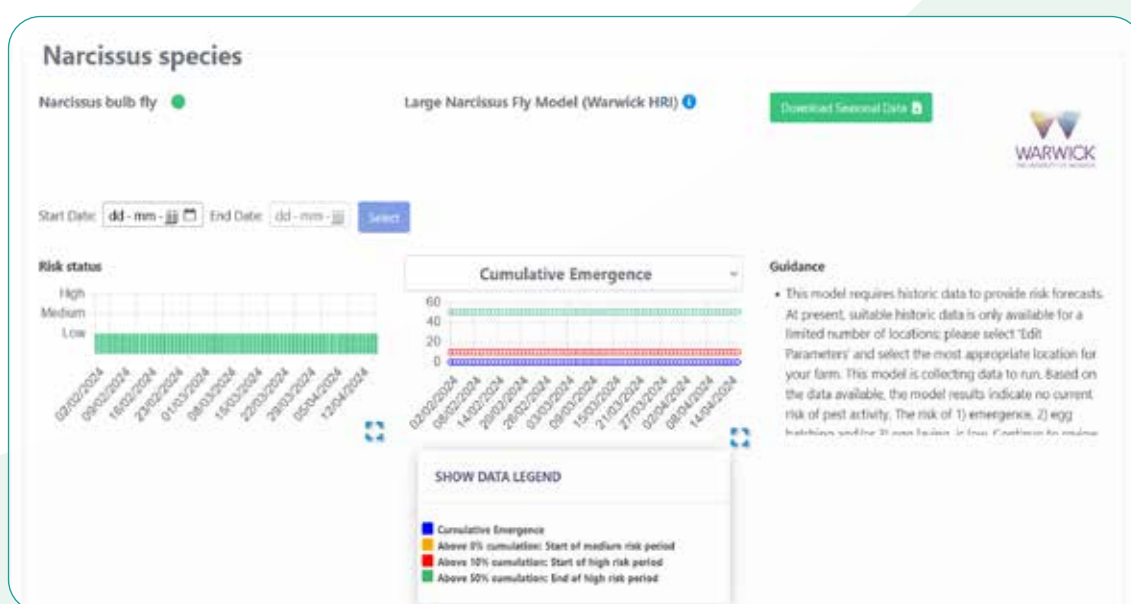


Fig. 2. The 'Risk status' for damage caused by Large Narcissus Fly

Where can DSS be used

The DSS Large Narcissus Fly Model was developed at University of Warwick (Warwick Crop Centre) and was adapted from work carried out in the UK. At present, suitable historic data is only available for a limited number of locations.

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