CropLife
SOUTH AFRICA SUID-AFRIKA

KNOW YOUR PEST:

FALL ARMYWORM,
SPODOPTERA FRUGIPERDA

Background

- 2016: Arrival in South Africa
- Host plants: Maize and sweet corn
- Severely affected areas: Limpopo, Mpumalanga lowveld, North West and Gauteng

Life cycle and Identification

- In South Africa the life cycle varies between 24-40 days and is temperature dependent
- Moths are active during dusk and dawn
- **Identification:**

Male moth *- brownish with a distinctive teardrop marking on the forewing*

Female moth *- dull grey colour, mostly seen hiding between leaf sheets*

- Female moths lay many eggs on the underside of leaves, hatching simultaneously after 2 – 3 days
- Egg batches are furry, covered in light brown scale hairs

- Six larval instars after hatching, with larval maturity reached between 14-22 days
- Larvae pupate mostly in the soil for 7-13 days

- **Identification during larval growth stages:**
  - 4 dark dots on the 8th segment
  - Broad pale band and dark spots forming a trapezoid on each segment
  - Upside-down creamed colour Y between the eyes
  - Net-like pattern eyes

Newly hatched larvae are small and grey with dark heads. They spread immediately after hatching by crawling or moved by the wind while hanging on silk threads. From the late 2nd and 3rd instars onwards, characteristics on larvae are identifiable. Many small larvae can initially feed on the same leaf, but canibalism does occur.

Damage

- Early infestation, damage is limited to feeding in the plant whorl resulting in small windows
- Feeding by older larvae results in the appearance of large feeding holes
- Feeding damage in the whorl is marked by thrash or excrement, turning into saw dust when dry
- Damage occurs in both vegetative (leaves) and reproductive stages (tassel and ears) of the plant
- If the whorl is damaged at an early-stage, dead hart occurs and the plant dies
- Larval movement into the cob and feeding on the silk results in poor germination

In front, conventional maize plants are damaged compared to a GMO variety planted in the back.

Often plants in the same row are infected. When larvae damage silk, poor gemination results in only a few pips present on the cob. FAW will continue feeding even if maize plants and seeds start to harden.

Control

- Planting cultivars modified with insect resistant technology (i.e. Bt crops) offers good protection against FAW
- Treated seed is also available to protect plants against early FAW attacks
- Various registered chemical control options are available and best used for control of young larvae when damage is minimal
- For best results, chemical groups must be alternated and applied at recommended dosage rates as per product label
- **NB:** It is very difficult to control mature larvae or when populations reached a stage where almost each plant is infected, or larvae moved into the cobs
- Regularly scout fields for early detection of FAW infestation and damage
- Proactive monitoring with sex pheromone traps can be used for early warning of moth flights

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