



Scouting for Fall Armyworm

Why scout?

1. To determine pest presence.
2. To determine proportion of infested plants.
3. To determine numbers of eggs and/or larvae per plant or defined area of the field.
4. To determine severity of crop damage (defined in terms of a visual score).
5. To obtain information on other pests damaging the crop alongside FAW and which may need to be managed as well.
6. To determine the effectiveness of a control measure applied previously.



Use data from (2)-(4) to determine the **action threshold** (AT), i.e., *the pest density or level of damage at which control measures need to be taken*. ATs proposed in 2018 for use at the smallholder level in sub-Saharan Africa are 20% (10-30%) during the first 2½ weeks of growth and 40% (30-50%) from about 3 weeks to tasseling¹. However, you can adopt an AT of your choice based on cost of control strategy you have chosen or your perception of potential losses if no control action is taken.

Scouting patterns

(a) 'Zigzag' pattern

Move through a field in a 'zig-zag' manner, selecting a plant at each stopping point (Fig. 1). Choose a distance between any two stopping points (e.g., each after every 5 steps) in such a way that will result in as much of the field as possible covered.

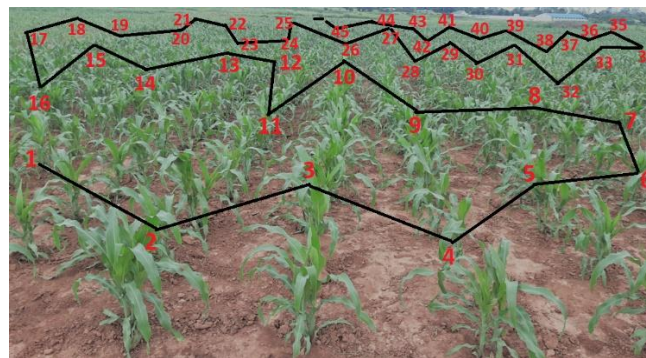


Figure 1. Illustration of a 'zig-zag' scouting pattern

¹ Prasanna, B.M., Huesing, J.E., Eddy, R. & Peschke, V.M. (eds.). *Fall Armyworm in Africa: A Guide for Integrated Pest Management*, 1st ed. Mexico, CDMX: CIMMYT.

(b) *'W' pattern*

Select plants at each of five sampling points which form the letter 'W' when joined together by four straight lines (Fig. 2). At each sampling point, pick several plants (e.g., 20) and examine them for FAW injury and presence of egg masses. Repeat the process at each of the remaining four points. Use the size of the field to determine the distances between any two sampling points.

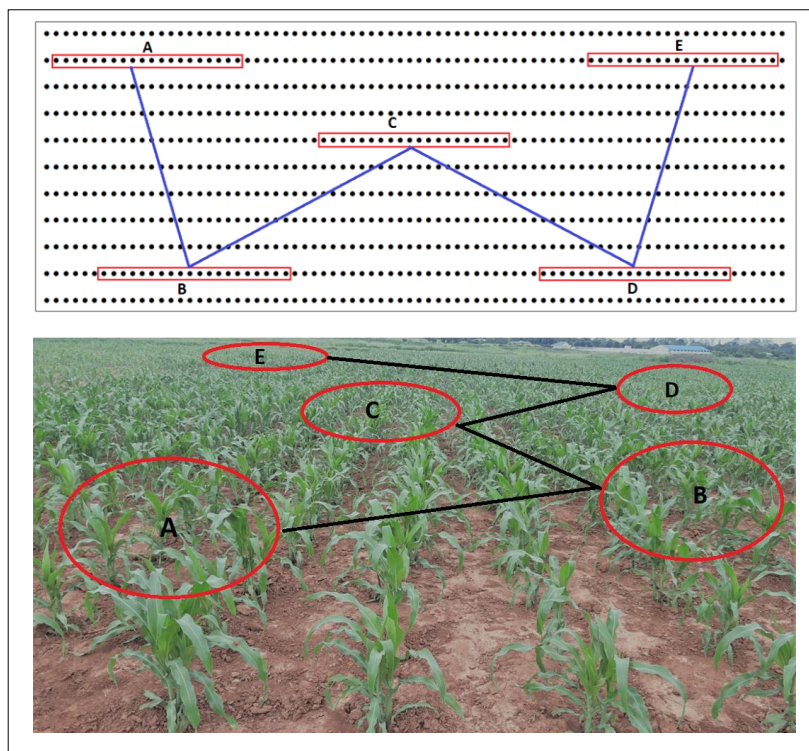


Figure 2. Illustration of a 'W' scouting pattern

(c) *'Ladder' pattern*

Select plants along alternating rows which are at right angles to the direction of travel through the centre of the field (Fig. 3). A sampling point may consist of 1 or 2 short rows from which consecutive plants are selected before moving to the next sampling point (analogous to "rungs" of a ladder). Select a total of 10 or more plants at each sampling point. This pattern is well suited to fields which are long and narrow. It is also the most ideal to use at later growth stages of maize (e.g., from tasseling onwards) when crossing rows of tall and closely packed plants (which may be shedding pollen) becomes difficult.

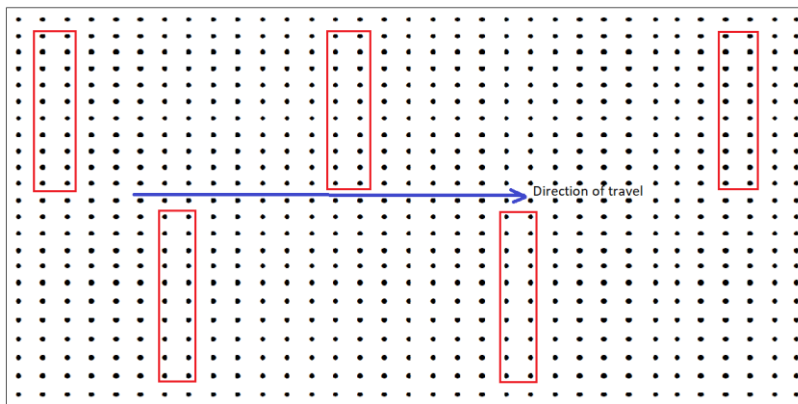


Figure 3. Illustration of a 'ladder' scouting pattern

Further Reading

- Chinwada, P. 2021. Identification of Fall Armyworm and Confounding Pests in Maize Agroecosystems: An Illustrated Guide. Fall Armyworm IPM Guide No. 1. International Institute of Tropical Agriculture. Oyo Road PMB 5320 Ibadan, Oyo State, Nigeria. Technologies for African Agricultural Transformation. 25 pp.
- Davis, F.M., Ng, S.S. & Williams W.P. 1992. Visual rating scales for screening whorl-stage corn for resistance to Fall Armyworm. Technical Bulletin 186, Mississippi Agricultural and Forestry Research Experiment Station, Mississippi State, MS 39762.
- Prasanna, B.M., Huesing, J.E., Eddy, R. & Peschke, V.M. (eds.). *Fall Armyworm in Africa: A Guide for Integrated Pest Management*, 1st ed. Mexico, CDMX: CIMMYT.