

Technical brief: The use of jackbean to control Fall Army Worm¹ (FAW)

Jackbean is used as an effective intercrop with maize, at a density of 3-5 plants/m², to improve soil fertility by fixing soil nitrogen and adding organic matter. Another use: the control of FAW from jackbean extracts has been discovered.



The University of Eduardo Mondlane² in Mozambique has conducted trials on the use of jackbean seed and leaf extracts³ and has found that both extracts work in controlling FAW, by acting as a stomach pesticide, similar to the action of neem⁴ extracts as reported by Embrapa (2018). By acting upon chewing insects through ingestion, jackbean extract avoids killing other beneficial insects and FAW predators. Having the jackbean as an intercrop may also have a repellent effect on FAW, although this still needs to be proven, awaiting the results of ongoing trials.

¹ *Spodoptera Frugiperda*

² Dr. Domingos Cugala, verbal communication, 18 May, 2020

³ The seed extract is more effective than the leaf

⁴ *Azadirachta indica*

Both jackbean leaves and seeds are crushed, water is added through a cloth sieve to remove as much of the extract as possible. In the case of the seeds, they are soaked overnight to soften them, prior to being crushed.



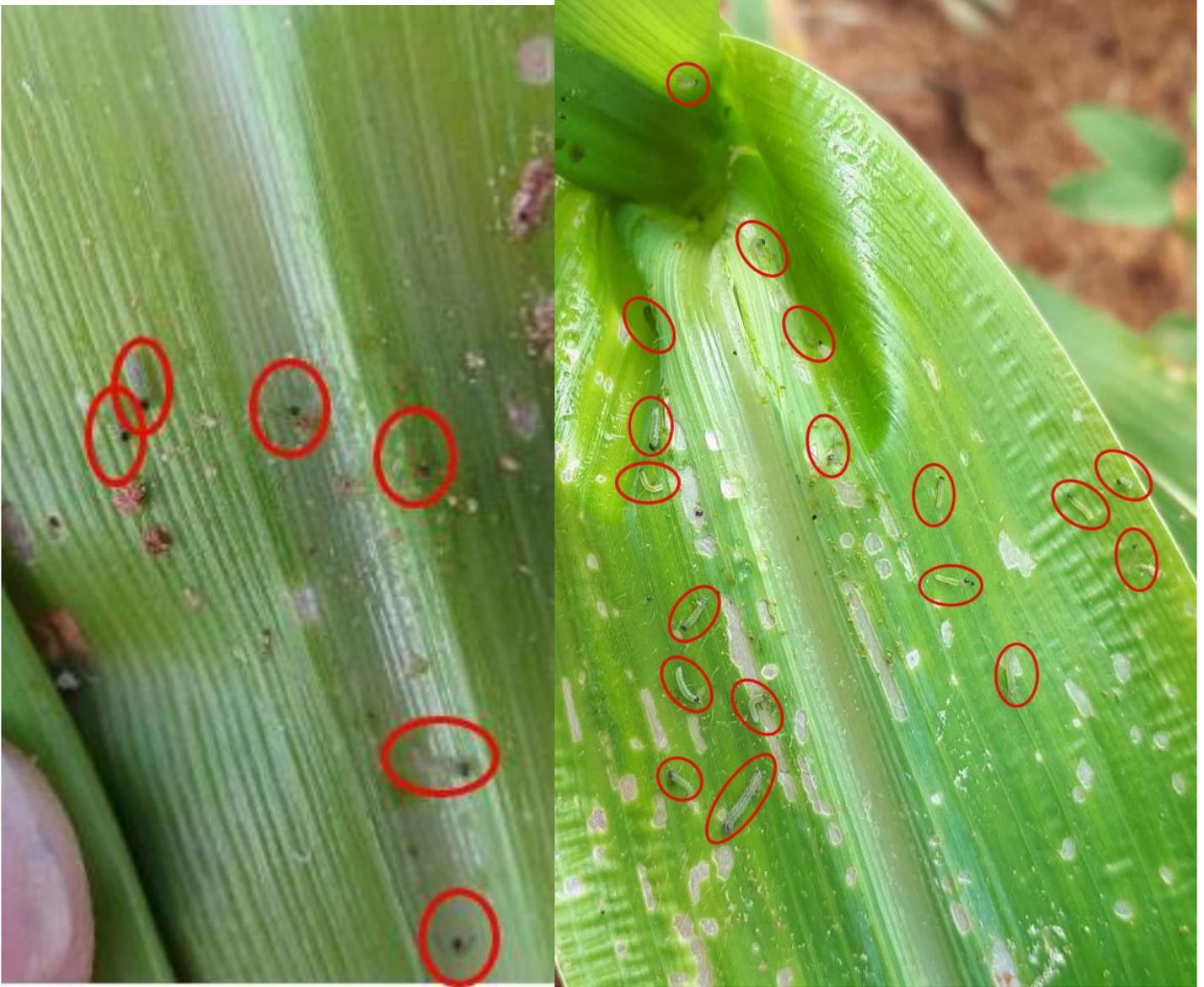
Jackbean seed soaking in water to make it soft

The resulting extract is then sprayed on the surface of the maize plant leaves with a knapsack sprayer, using a nozzle normally used in pesticide applications. This application is repeated every two weeks.



FAW larvae, emerging from eggs (J. van den Berg, 2020)

It is important that FAW are sprayed as soon as possible, after hatching, whilst they are still small, or when the damage first becomes apparent. Once FAW grows in size, they create more damage and become more resistant to any pesticide, even chemical.



FAW at their most vulnerable, after emerging and initial damage through 'scraping' and appearance of 'windowpanes' (J. van den Berg, 2020)