Update Report on Fall Armyworm

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Background

The National Plant Protection Organization (NPPO) in Ministry of Agriculture, Mechanization and Irrigation Development first received reports of "stemborers" attacking maize in September 2016 from Mary Ellen Farm, Matabeleland North. The maize insect pest was later correctly identified as Fall Armyworm (*Spdoptera Frugiperda*) after it was wrongly identified as Chilo stemborer (*Chilo partellus*) by some stakeholders.

The pest has been attacking maize plants from planting up to reproductive stage. Damage is seen on leaves, tassels, cobs and stems of maize plants. Signs of damage include windowing, skeletonising of leaves, tassel damage and poor grain formation due to silk damage. The pest can also directly feed on developing kernels promoting secondary infection by pathogens, thus affecting grain quality. Since the first outbreaks in 2016, the Government of Zimbabwe immediately took measures to avert the threat posed by the pest. The pest is a threat of economic importance as it attacks maize, millets, sorghum, cotton and sugarcane amongst other crops. Heavy infestations can lead to loss in crop stand and to reduced yields, especially when damage occurs at reproductive stages, when chemical control is inhibited by failure to reach the pest inside cobs. The cost of controlling the pest when outbreaks occur, is high. Currently, the pest has spread to seven (7) countries in Southern Africa attacking a variety of crops.

Work done by the National Plant Protection Organization (NPPO) of Zimbabwe to date

- Surveillance was done to come up with the distribution of the Fall Armyworm throughout Zimbabwe. AGRITEX used the data to develop a ***Distribution Map*** (Figure 1).
- The NPPOZ distributed chemicals for management of the pest.
- Training workshops were rolled out in all provinces and covered 479 members drawn from Provincial Taskforce, AGRITEX and farmers to raise awareness on how to effectively control the pest (Table 1).
- A total of 648 knapsack sprayers (Table 1) were distributed to Provincial Task Forces for pest management on smallholdings.
- Damage assessment training was conducted, back-to-back with practicals on scouting of fields for pest identification.
- Awareness materials (brochures and posters) were distributed to all participants covering both Fall and African armyworms and stemborers such as *Chilo* spp.
- Other beetle pests were noted attacking maize leaves in Matabeleland North and Mashonaland West and their behavioural damage is currently being monitored.
- Laboratory research work is in progress including rearing of fall armyworm for subsequent to track morphological stages under our environment, as well as for use in chemical bio-assays.

Table 1: Capacity building of Provincial Task Forces and AGRITEX and sprayer distribution

Province	Districts	Task Force members trained	AGRITEX members trained	Knapsack sprayers distributed
Mashonaland Central		49		166
Mashonaland West	Chinhoyi, Kadoma, Mhondoro, Sanyati, Makonde, Zvimba, Magunje, Hurungwe	22	134	45
Manicaland		45		60
Midlands		48		58
Masvingo	3 Districts	40		45
Matabeleland North	7 Districts		15	105
Matabeleland South	8 Districts	40		65
Harare	Ruwa, Chitungwiza, Harare, Epworth	65		58
Mashonaland East		21		46
Total to date		**330**	**149**	**648**

Observations

- By February, Fall Armyworm has spread to all provinces of Zimbabwe, including peri-urban areas (Figure 1).
- Damage levels range from 1-20% of the planted maize with most of the crop recovering after concerted spraying efforts.
- The pest control programmes were rolled out by trained personnel, who guided farmers throughout the provinces by providing knowledge of the behaviour of the pest and how to control it.
- Challenges of application methods were addressed in training sessions organised by the NPPOZ and rolled out in all provinces to train stakeholders on biology and management of the Fall Armyworm.
- The NPPOZ has started Fall Armyworm rearing under laboratory conditions for use in chemical bio-assays.
- Other pests observed attacking the maize and sorghum crops included beetles that were attacking maize leaves at Lusutu Irrigation Scheme in Lupane. The extent of spread of the beetles is currently being assessed.

Recommendations

- Resource support for training of additional relevant stakeholders to continuation of information dissemination in communities.
- Provision of vehicles to facilitate reaching out to more clients for training, advisory, pest damage assessments, surveillance and monitoring for early warning.

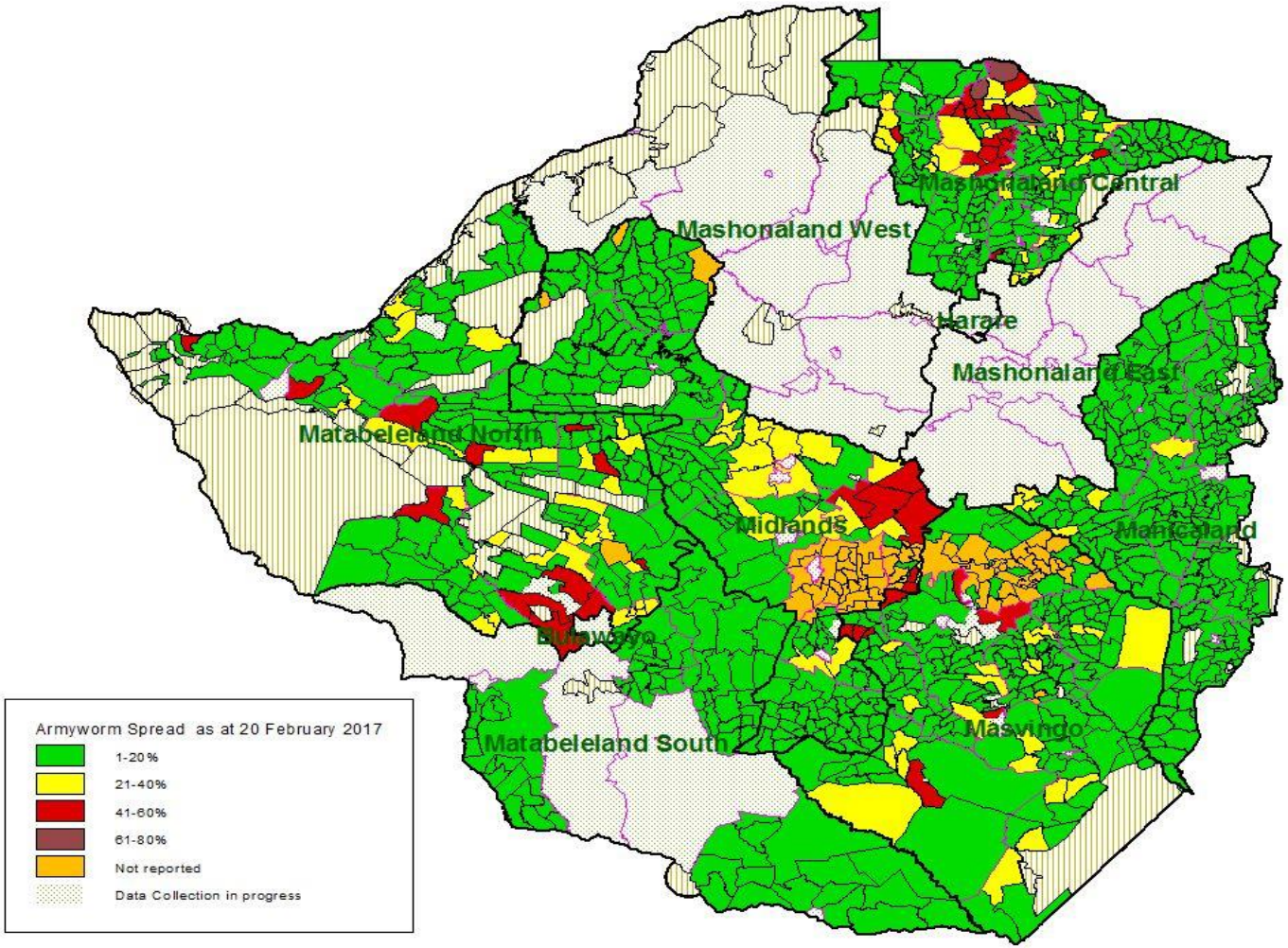

Figure 1: Map of Fall Armyworm distribution on maize crops at vegetative growth stage (Map done by AGRITEX, February, 2017)