

Fall Armyworm Risk Prediction System

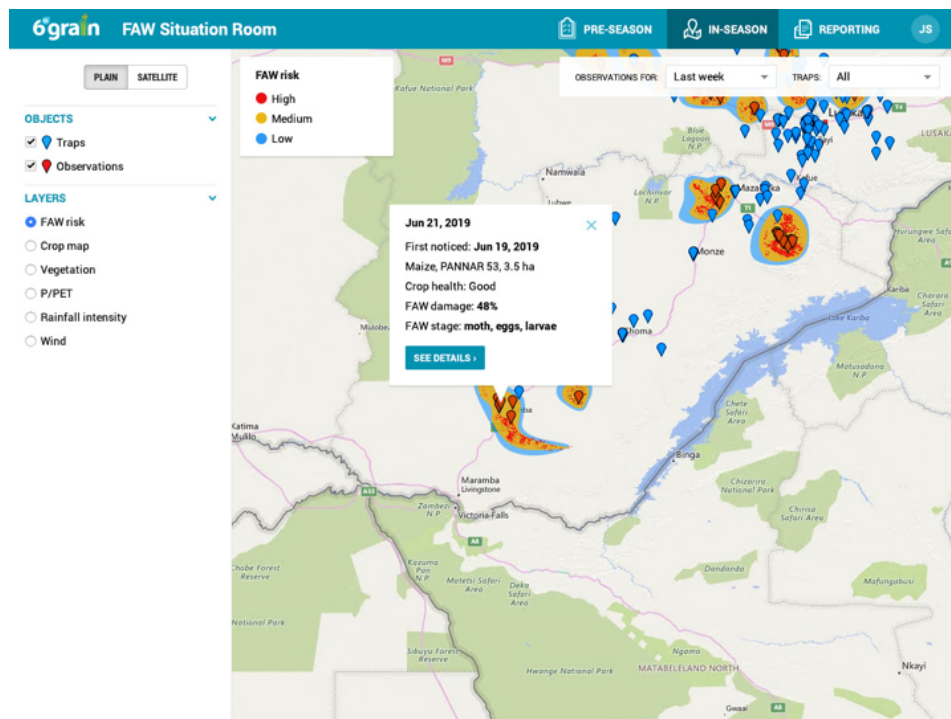
We are developing a Fall Armyworm risk prediction model based on remote sensing and ground data focused on providing early and actionable information for decision makers. Improved decision making regarding the need for and method of intervention for farmers, and to improve planning for these interventions in the coming season. The first phase of the project focuses on model development and hypothesis validation where we ask the following questions:

- Can we get a machine learning and satellite model that **adds value** to insect capture and crop damage data?
- How early is early enough for action?
- How accurate does the model need to be?
- What is the spatial resolution needed for decision making (field, community, region, country)?

We plan to use satellite remote sensing-derived cropped area maps and weather variables together with ground observations of insects and crop damage to derive a machine learning model that can estimate insect densities. Satellite data is used to estimate where maize is planted and use that information as FAW host maps. By knowing where maize fields are located, as well as regions where FAW moths and damage has been observed, we can determine where the pest will move in the coming weeks.

We seek partners to develop a response ecosystem to help inform farmer decision making and help to improve understanding of the fall armyworm dynamics. We seek to provide services to help inform farmer decision making:

- Customers - Intermediary organizations that provide a service to the farmer, agro-dealers, extension agents, retailers, large farmers
- Risk reduction - reduce risk in your region from moths coming from elsewhere



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