Operator Aid System (OAS)

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The operator aid system was developed to improve the performance of spray rigs and bug vacuum systems by monitoring various performance factors and communicating real-time information to both the operators and the managers. Each OAS unit can monitor equipment speed, location, travel path, implement height, air speed in a bug vacuum barrel, nozzle pressure in a spray rig, estimated cost per operation, and other operational factors of interest. The system communicates to operators with gauges and LED lights to indicate the real-time performance of their operation and when to make changes. All measured factors are communicated with managers via a web-accessible dashboard that allows them to see real-time information on the current operation and compare previous operations of all tracked equipment. A demonstration of the OAS dashboard is shown below (Fig. 1). Preliminary results indicate that this system can be beneficial in enhancing the efficacy of the bug vacuum for reducing Lygus bugs and increasing spray rig coverage and uniformity.

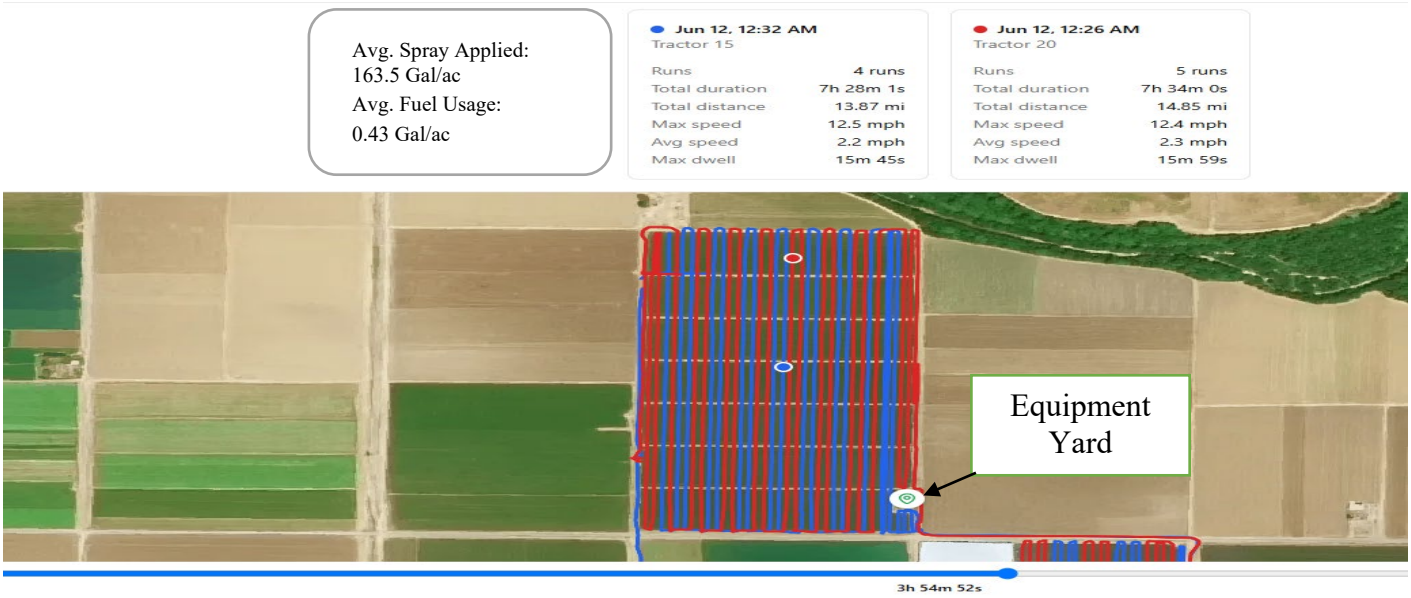


Figure 1. The web-accessible OAS dashboard demonstrates the comparison of two spray rigs operating together on a commercial field. Operational factors are displayed such as tractor idle time, speed, and location, all referenced on a satellite image of the ranch. Managers can scrub through each operation to follow equipment routes and view data by the minute.



Figure 2. A spray rig on a commerical field that is equipped with an OAS monitoring the performance of the operation and communicating relevant data to the operator and manager to help increase spray efficiency.