DTN Smart Traps – Worth it or Not?

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The DTN Agronomic Platform (DTN AP) is a comprehensive agronomic software tool that integrates precision ag technology into a single, easy-to-use interface (https://www.dtn.com/agriculture/agribusiness/dtn-agronomic-platform/). Optional components of the DTN AP are automated "Smart Traps" that upload pheromone-based trap catch pictures to their cloud-based AP. Smart Traps are essentially wing-type pheromone traps that capture a digital picture of the daily adult moth catch (codling moth, Oriental fruit moth, oblique banded leafroller typically in orchards), including species identification, eliminating insect catches that are not the target pest, and upload these pictures to the DTN AP cloud. Daily and cumulative catch totals, including the trap bottom picture are available after logging into the DTN AP. Data can be charted, exported, and alerts can be set when thresholds are exceeded.

Smart Traps were deployed in a commercial orchard in eastern Massachusetts in 2018 and at the UMass Orchard in Belchertown in 2019. As mentioned, three traps, one each for Oriental fruit moth, codling moth, and oblique banded leafroller were fully charged at the beginning of the season and placed head-height in the

apple orchard block (Figure 1). Barring a few minor technical difficulties, traps were easy to deploy, obtained a cellular signal for data transmission to the cloud, and the battery lasted all season. With the exception of occasional trap bottom and pheromone replacement, the Smart Traps were virtually maintenance free. There was a learning curve to use the web interface "Dashboard" to use the DTN AP, but once figured out, monitoring and visualizing trap catch data, including pictures of the trap insert (and whatever was stuck to it!) was easy (Figure 2). Identifying the correct insect pest in the trap seemed to work just fine, including keeping track of new catches vs. previous catches. One advantage of the Smart Traps vs. manually checked pheromone traps is the setting of a biofix, which should prove to be more accurate because daily catch counts are made vs. weekly or bi-weekly, which is more typical of manual scouting. But it comes with a cost at $395 per year per trap, however, that includes the DTN AP which can be used for scouting with a smart phone. There is much value-added to their AP Dashboard and Smart Traps which might be particularly useful to researchers, crop consultants, and Extension advisors.
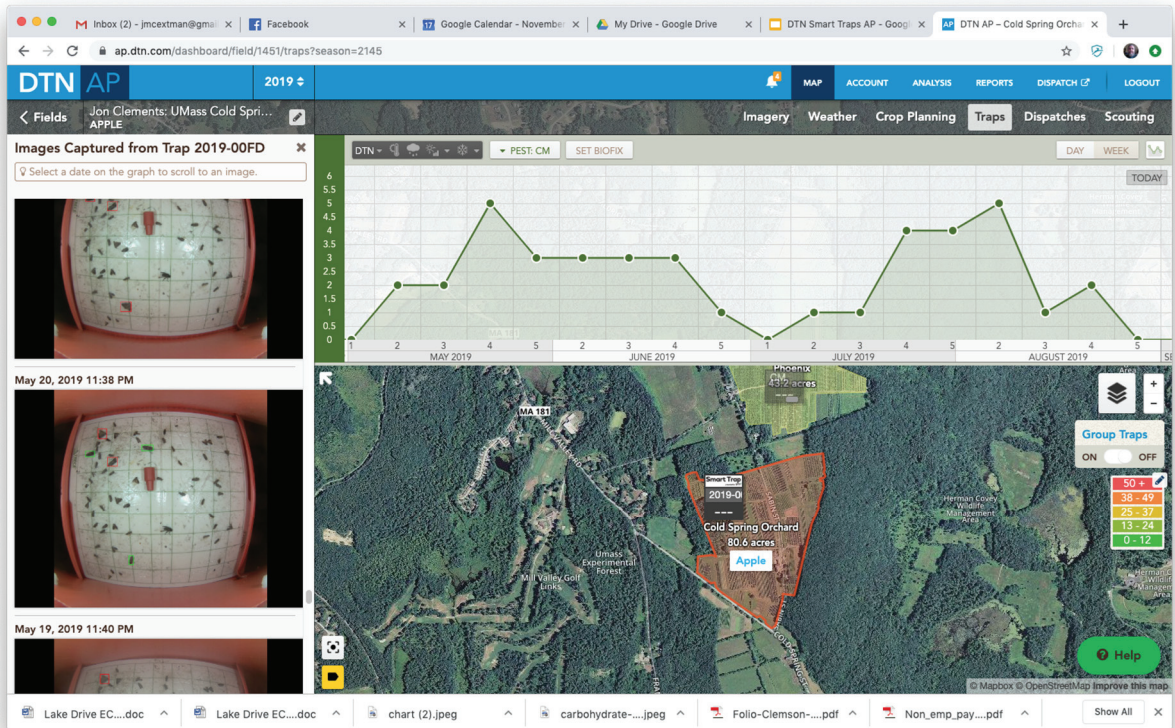

Figure 1. Smart Traps in an apple orchard block at the UMass Orchard with oblique banded leafroller pheromone catch.

Figure 2. The DTN AP "Dashboard" charting trap catches, trap location, and pictures of trap catch for codling moth at the UMass Orchard.