Acreage mapping collects data in record time

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At this time of year, Phil Tregunno takes pride in walking his peach orchard which he expects to be in bloom in early May near Niagara-on-the-Lake, Ontario. As chair of the Ontario Tender Fruit Producers' Marketing Board, he's an adopter and proponent of the Fruit Tracker program which provides comprehensive orchard management tools. More than 75 per cent of Ontario's 10,000 acres are signed up. Photos by Denis Cahill.

Niagara-on-the-Lake, Ontario – More than three-quarters of Ontario's 10,000 tender fruit acres will be mapped this spring with a Fruit Tracker management program. From spray tracking to inventory control to CanadaGAP report filing, this timesaving management software is widely accepted yet is still a work in progress.

"This is the most robust program in Canada," states Phil Tregunno, chair, Ontario Tender Fruit Producers' Marketing Board (OTFPMB). With 700 acres of his own peaches and nectarines on the Fruit Tracker program, he shows the speed of accessing each block of trees from his home office computer. This month, he'll have his crop scouts identifying pests in specific blocks and then emailing the data in real time using a smartphone.

The seeds of the current project were sown in the Apple Tracker and Grape Tracker programs, both of which started as a recording tool for spraying. About eight years ago, apple growers in Durham-Northumberland counties spotted the electronic records of competing growers in New York State. A number of apple and grape growers volunteered to test drive an Ontario-made program in computer labs, sensing a practical solution based on evolving computer technology.

"The turning point for Fruit Tracker was when it became web-based," recalls Margaret Appleby, OMAF and MRA IPM specialist, who has consulted closely with the growers since 2005. "A web-based program also solved compatibility issues for different computers."

The program has evolved far beyond spray regimes. By adding fertilizer, harvest and other event data into the system, growers can track crop protection usage, pre-harvest intervals, re-entry intervals and generate reports on their orchards on a block basis. With this sophisticated insight, growers can better manage food and worker safety, pest management and production.

"As we began applying Fruit Tracker to recording tender fruit and apple orchards, we enlisted the help of a few keen, enthusiastic growers," says Larissa Osborne, OTFPMB marketing and production analyst. That focus group added much value to the evolution of the program.

"Generating CanadaGAP reports in the required format is great," the group said, "but wouldn't it be even better if at the same time we could track how much spray we used and how much it cost us to spray by orchard or by block." That's how the chemical inventory module was born. Growers input their current inventory, record purchases and the program tracks what is in their spray shed by deducting quantities from inventories each time a spray event is recorded.

Appleby agrees that the pesticide application features are a key benefit. Each chemical is linked to the label. The program's dropdown box shows existing treatments from OMAF's publication 360, showing the name, formulation, rates and target pest. Growers are then prompted to answer the when, why, where and what for each spray event. With this information recorded, the Fruit Tracker program will then email alerts when re-entry intervals have passed or when it is safe to harvest.

> *"Fruit Tracker is the most robust program in Canada."*
>
> *~ Phil Tregunno*

More functionality will be programmed in the future including the ability to produce cost of production reports by block, to integrate weather data and to input packing and shipping events. "We are excited to see the iPad scouting app being developed too," says Appleby.

To sign up for Fruit Tracker, growers must agree to Geographical Information System (GIS) mapping of their orchards, best described as a merger between cartography, statistical analysis and database technology. Agricorp, the government agency that delivers risk management programs in Ontario, has partnered on the project, sending field agents to enter orchard coordinates whether growers participate in programs or not.

"Agricorp's Fruition program uploads details such as the special shape mapping files, tree counts, tree ages and variety type and links them with the collection of yield data," explains David Hughes, of Agricorp's program management and industry relations department. Agricorp employees are busy inputting the data during and following visits to each grower's farm before the production season is in swing.

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The GIS mapping will improve efficiency in delivering production insurance for fruit plans and will assist in future plan enhancements. Agricorp's data is kept up-to-date on new production practices and the planting of new varieties with the benefit that growers producing apples and tender fruit can use the same program for both types of produce.

Long-term, the Fruit Tracker program is expected to be a boon for all growers, helping the OTF-PMB with marketing and promotional strategies. With reliable, variety-specific data only a keystroke away, general manager Sarah Marshall can provide more accurate and timely information to the industry.

"We have seen this system grow steadily into a one-stop window of opportunity across the value chain," says Marshall. "With abilities to upload data from scout to grower to marketer to marketing board, our industry will be able to predict, project and promote with more accuracy than we have ever seen before."

Tech-savvy growers are embracing Fruit Tracker for multiple reasons, not the least of which is guaranteeing food safety to their customers. Grant funding was provided through the Traceability Foundations Initiative. Down the road, look for more crops to be added to the program. Berries are the next likely commodity.