#### MANAGE RESISTANCE/Vow Protect your land, one field at a time

#### CASE STUDY ANSELM LANKHUIJZEN

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# In-field monitoring key to the fight against blight and fungicide resistance

If there's one key practice that Anselm Lankhuijzen promotes in the fight against fungicide resistance in potatoes, it's this: Routinely scout your fields.

Anselm, his father and a trained scout all take turns scouting and never go longer than four to five days without examining a field. To ignore the tubers could be an error affecting the entire 90- to 110-day growing season.

All of their processing potatoes are grown on contract for Frito-Lay, where they are turned into potato chips. For Lankhuijzen, his chief concerns are early and late blight. Secondary concerns are white mold, *Fusarium* wilt and *Verticillium* wilt as well as brown spot, black dot and the occasional rot issue.

His approach to manage disease and fungicide resistance is multi-layered through numerous best management practices (BMPs).

### Focus on multiple BMPs for greater chance of success

Each year, Lankhuijzen buys and plants Certified seed. This is the best chance to eliminate rot issues and have a successful crop.

"Our main strategy is to tank mix by mixing different products. We also rotate chemistries and never use the same chemistries consecutively — or more than three times total in a growing season." All his potatoes are under irrigation, which is critical for growth in dry years, but also means he has taken the step to set up tile drainage and ensure standing water won't accumulate to create ideal environments for pathogens to thrive.

They also strictly adhere to a one-in-three potato rotation to break up disease pathogens and improve soil fertility.

"We need enough nutrients and we soil sample just to make sure the plant is as healthy as possible before disease comes in," he says. "We find more disease issues on-farm when the soil has less fertility."

#### Proper spraying setup an essential to manage disease

From there, it's constant visual scouting as well as spraying when needed. Annually, he calibrates his high-clearance sprayer to make sure it's working properly and that plants will receive the most accurate, uniform coverage.

"Using the right rate of chemical is very important, going by the label and not reducing the rate," he says. "Also, the timing of the sprays; the leaf has to be completely dry. Any surface that's not getting covered could potentially be a host for disease." Wind speed can also impact coverage when spraying, another important consideration when deciding on timing.

The first application goes on at growth stage two, or vegetative growth stage, when the plant is seven to eight inches in height. Lankhuijzen uses a Group M-5 application for the initial and then the rest of the 10-12 applications throughout the growing season vary between Groups 3, 7, 11, 40 and 49. He always tank-mixes and never goes back-to-back on a chemistry to maintain efficacy of active ingredients.

"Our main strategy is to tank mix by mixing different products. We also rotate chemistries and never use the same chemistries consecutively — or more than three times total in a growing season," he says. "The more modes-ofaction the better. Some are contact, some are systemic; getting two together will give us our best protection."

Depending on the growing season, moisture content and disease pressure, Lankhuijzen sprays every four to 10 days.

"It is really dependent on the weather. If there's rain coming, I'll get a spray on 12 to 24 hours before the rain just to give the leaf a protection to that rain," he says. "If we can't get into the field for three or four days after, it's very important to have that pre-rain spray."

## Deadly diseases an ongoing, yet manageable, struggle

Despite a combination of strategies, Lankhuijzen annually deals with varying levels of both early and late blight not because of resistance, but simply because those pathogens are so aggressive they're proven impossible to fully stamp out. However, he can recognize the warning signs such as damp wet weather and prolonged leaf wetness, letting him take effective measures through fungicide application.

Due to potatoes' rapid growth, new leaves can come as often as every second day, which is another exposed area for disease to infest.

"It's going to come in every year no matter what," he says. "In the early morning, if you have a few days of dew or fog, it will come in regardless. As long as a leaf is wet for 12 hours, disease will come in. Then it just becomes about managing disease and keeping it under control."

Above all, Lankhuijzen encourages other potato growers to constantly scout.

"Stay on top of it. Visit each field once a week and walk in it," he says. "Do not let anything get away from you. If you leave a field for a week or two and it's already covered in disease; it's incredibly hard to stop the development and it can reduce yield significantly."

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