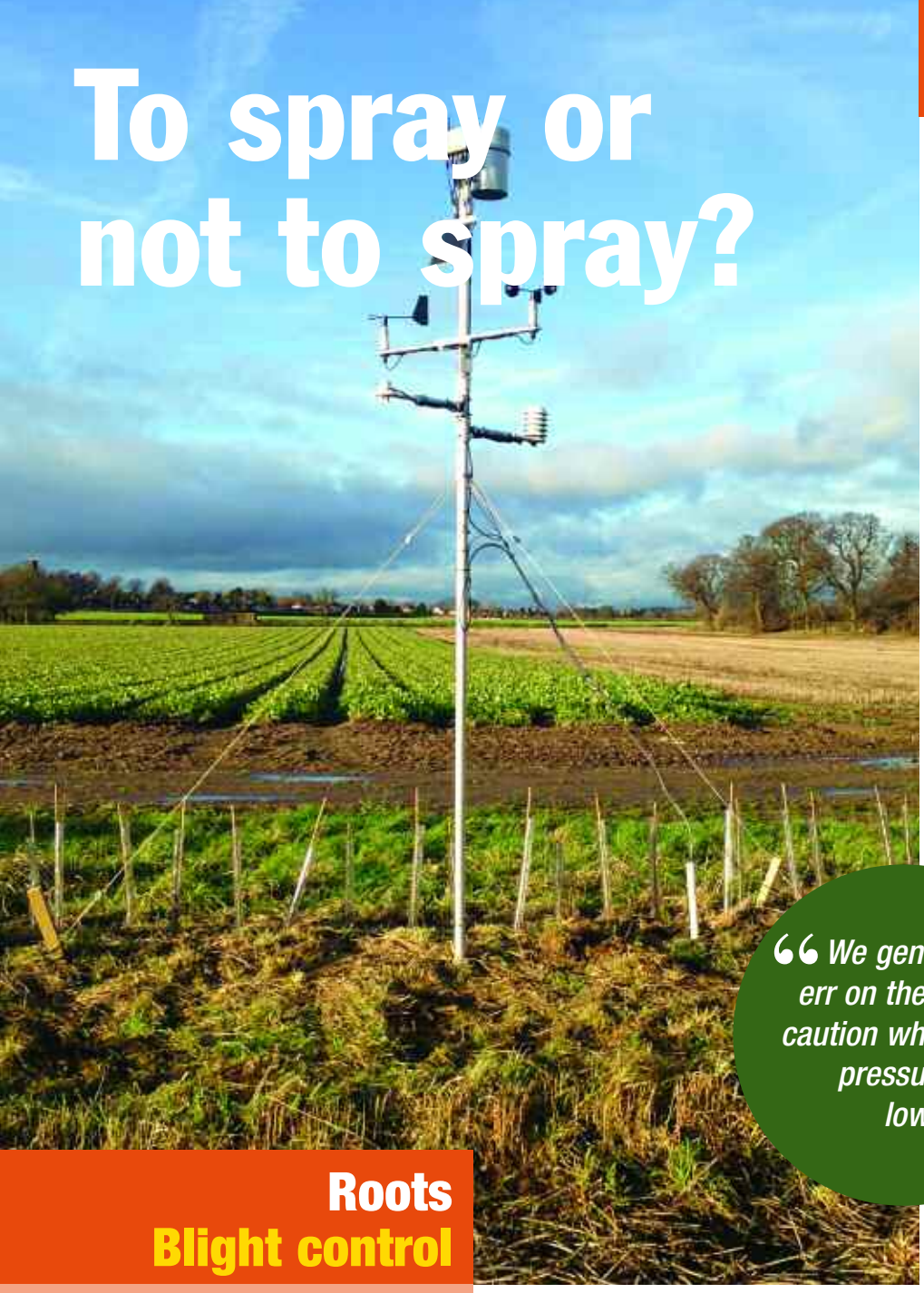
To spray or not to spray?



Roots Blight control

For many it's been a reatively low-pressure few months for blight. *CPM* looks at a new decision-support system that can provide guidance on spray intervals.

By Rob Jones

Agrovista's blight-monitoring service is finding favour with a North Yorks grower, who's trialling the system for the first time this season.

Ben Sykes grows 230ha of processing potatoes, about a third on the home farm near Tadcaster, and the rest on rented ground scattered over a radius of several miles.

The business, J N Sykes & Sons, supplies potatoes to end-users, mainly McCain and some to KP, on an almost year-round basis. Delivery starts from the field when the first tubers are lifted at the beginning of Aug, through to the following July when stores are finally emptied.

Historical knowledge

Late blight control is a priority for all potato growers, and is critical for a finely tuned business such as this. Ben Sykes, a third-generation potato grower, says his blight control to date has been based on a good historical knowledge of how the disease behaves in the area, keeping abreast of new genotypes and the threat they pose, as well as matching spray products to the potential threat.

"I would describe it as a pretty basic approach, but one that's been fairly successful. We haven't had a big blight problem and we don't want one either," he comments.

> *"We generally err on the side of caution when blight pressure is low."*

Ben Sykes is finding the Agrovista system is a useful back-up to his decision-making processes.

This season, his agronomist Matt Palmer, suggested he try Agrovista's blight-monitoring service, supported by Plantsystems, to help fine-tune blight prediction and control.

Matt Palmer explains the system has proven to be an accurate way of predicting blight pressure, based on very local information that's constantly updated.

"This means we can make more informed decisions about our blight-control programmes, in terms of spray intervals and which curative, protectant and/or eradicant products we need to use," he adds.

The system, which is being trialled by a few select growers across the UK, is based on a detailed weather-forecasting system derived from local Plantsystems weather stations.

Growers can take data from one of the company's existing national network of weather stations, which generally provide sufficiently accurate data up to a 10-mile radius.

If preferred, growers can opt to rent or buy one to use on their own farm for optimum accuracy and this is what Ben Sykes chose to do.

The station monitors a range of climatic ▸

The system helps growers make more informed decisions about when to blight spray and which products to use.

▸ data including temperature, rainfall, humidity and wind speed every hour. This information is forwarded to a central server. Here, it's combined with local weather-forecasting data for each farm. This consists of a detailed 48-hour forecast and a more general seven-day outlook, which growers can access at any time to help with all farming operations.

For the first six weeks after emergence, a weekly crop height report is also fed in to the model to allow for seasonal effects on early growth.

The model is then run to provide an overview of current and future blight risk for the crop. To do this, it also takes into account the amount of fungicide remaining on the crop from previous applications, based on which product was used last and the weather conditions since it was applied. It combines this information to help calculate more accurate spray intervals.

Using all this information, a seven-day disease risk assessment is emailed to farmers every morning during the season.

In addition, a forecast of spraying conditions for the following week is also provided, based on windspeed, rainfall and dew presence. Each day is divided into three eight-hour periods, colour coded to represent good to bad spraying conditions.

This provides all the key information needed to make decisions on spray timings and product choice, says Ben Sykes.

"I would describe it as an addition to my current system, rather than a replacement. Blight control is all about having an integrated approach, and the Agrovista system is part of a larger toolbox. We have a number of different fields and varieties on the system.

"I haven't bought into it to save money, but more for reassurance and to back up our decision-making process. One key benefit is that we can use it to check what we're doing is right, in terms of timings and product choice.

Peace of mind

"We're still using our eyes and ears, but it gives peace of mind knowing you're doing the right thing when you're under high blight pressure. If we do have a blight problem, we could go back through the records and see where and when it had got in, and we then learn from that."

The system also confirms Ben Sykes' decision-making process and that he's using products in a sustainable way. "It'll also help us justify the use of inputs to meet environmental and end-user requirements," he says.

A dose of common sense is still required, he believes. "The forecasts do appear to be accurate, especially the 48-hour ones, but I have over-ruled the system on occasion.

"For example, earlier in the season it said we had enough fungicide coverage left on the crop to postpone spraying for a further couple of days. The forecast was for heavy rain the next day, although conditions on the proposed day of application were perfect. However, I knew I'd have trouble travelling after the rain, so I decided to treat the crop rather than delay."

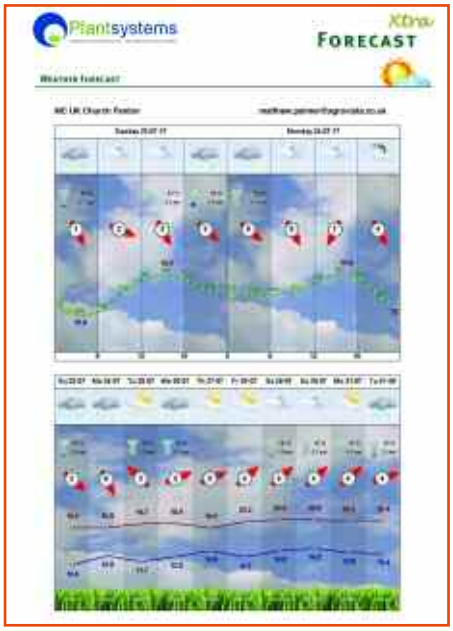
Matt Palmer believes the system will be of most benefit when blight pressure is low. "We all recognise when blight pressure is high and what we have to do to manage it, though it's good to have another pair of eyes looking over your shoulder.

"But we generally err on the side of caution when blight pressure is low. This is when the system really comes in to its own, both in terms of spray intervals and helping us decide which products to use."

In hindsight, Ben Sykes agrees it appears that the business could have reduced the intensity of its generally robust blight programmes during low-risk periods.

"I would agree that this is perhaps the area where we stand to gain the most. For example, the model might suggest we don't need to include a curative partner, even though we might not have sprayed for seven days or more.

"Low-pressure management techniques are just as interesting as high-pressure ones, and perhaps its the area where we have the most to learn." ■



Each day is divided into three eight-hour periods, colour coded to represent good to bad spraying conditions.