

WHAT STRATEGIES SHOULD BE IMPLEMENTED to cope with unpredictable weather?



Judging by the last few years, exceptional weather events that affect crops seem to be increasingly frequent and varied in nature. Stéphane Jézéquel, a scientist at Arvalis, analyses what could be done to adapt.

Perspectives Agricoles: How should this situation be tackled, in general?

Stéphane Jézéquel: Unpredictable weather should be integrated into cropping techniques, so that it is not considered helplessly as a blow dealt by fate. Knowledge of local meteorological history must be used to identify the risks that we should prepare for. Some basic cropping techniques can then be designed to limit the impact of those weather events, and, of course, adapted depending on actual conditions during the season. Each year being different, the success or failure of a crop must not influence this overall strategy. The idea is to consider the medium to long term, as the implementation of some of the changes made to adapt may take time.

P. A.: What approach should be adopted during the season?

S. J.: Regarding fertilisation, for example, we have noticed tremendous contrasts over the past few months, which means that usual practices cannot be used. Too much water at the end of autumn in northern France delayed applications and will probably require a greater number of split applications in the spring. Conversely, very dry conditions in the South saw very high levels of residual fertiliser at the end of November. The unpredictability of the weather therefore demands a daily effort of adaptation in order to find ways of maximising the effectiveness of crop operations. This requires very close monitoring of crops, in every field or block of fields.

P. A.: What measures can be taken in advance?

S. J.: Varietal choice must also be adapted to prioritise regular results over varieties bred for maximum performance. Beware of conjectural messages around the success of a given variety. There is nothing to say that those results will be reproduced the following year. It is a case of not putting all one's eggs in one basket by choosing complementary varieties that give, in a given environment, a varietal mix delivering yield and quality stability, even with different weather scenarios. Going several steps back in the decision-making process, the farmer can also consider changing his or her cropping system. This approach must be implemented before a technical or economic impasse has been reached. Changes can be made step by step, following a general guideline of reducing pressure from diseases, weeds, as well as the weather.

P. A.: Can we expect new solutions?

S. J.: In 2018, several of Arvalis's research projects will look at integrating into decision support tools some field data gathered during the season, by satellite, drone or sensor, or even through farmers' own observations. The models on which those tools are based are designed to autocorrect according to field data.

For instance, the "E-pilote" wheat research project focuses on gathering information on the state of crops, their needs as well as agronomic conditions, in order to provide farmers with relevant advice in real time, sent to their smartphone via their stockholding organisation. It will be possible to map the advice, in relation to yield potential, and ultimately, an assessment of the economic impact of each crop operation. It is a case of building a flexible system that takes all parameters into account.

Interview by Benoît Moureaux - b.moureaux@perspectives-agricoles.com

February 2018