How we determine
the right application timing?

Digital Farming Solutions

INPUT

To provide you with the **right field-specific spray time,** we incorporate a number of different types of data into our growth stage and disease risk models.
We gather the following data for individual fields:

- Geolocation
- Crop rotation
- Tillage
- Seeding date
- Crop/Variety
- Previous fungicide applications
- Observed infestation

We combine the field-specific information with our expertise in the areas listed below.

Variety data
- Susceptibilities
- Growth stage characteristics

Field data

Expertise

External data

Crop protection expertise
- Country specifications (regulations)
- Efficiency
- Protection times

Local weather data and forecasts provided by external experts
- Air temperature & humidity
- Soil temperature & humidity
- Rainfall & Wind
- Sunshine index

ANALYSIS

After collecting and preprocessing the raw data, we add the information to the following tried-and-tested models:
- Growth stage model
- Disease risk model (including 8 analyzed diseases)

Based on these models, we can evaluate the individual disease risk for each field. In the first step, we **assess the basic risk** of the field by analyzing field-specific parameters like the current growth stage or crop variety. If we recognize known patterns for infestations, we expand the risk assessment. We will also check whether the **current and historical weather** indicates a risk of infestation. Observed infestation levels can correct our estimations or be starting points for recalculations. When there is a serious disease risk, we **check the protective effects of previous applications. In case of expiring protection or conditions conducive to infection,** we will **recommend an application.**

OUTPUT
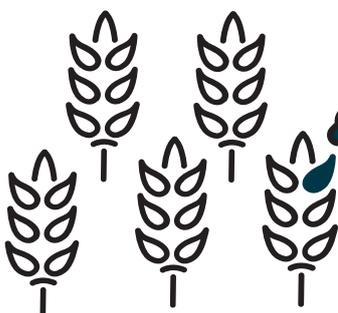
When an **application is necessary, we will notify you** on your mobile. Our notification includes a recommendation on the right timing for your applications based on local weather forecast and the expected course of infestation.