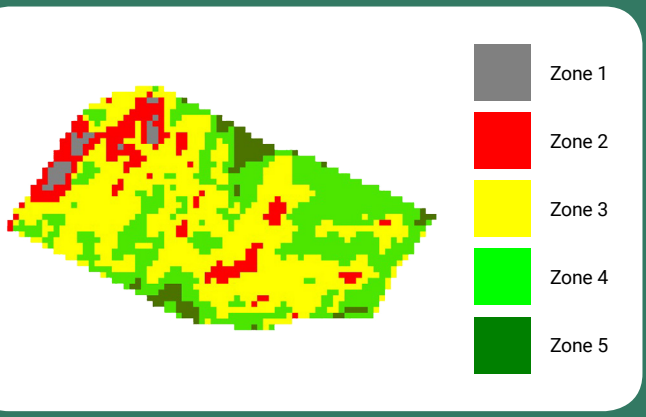
Fertilization Zoning Maps



Background

Over time, fields that grow crops lose the nutrition present in the soil. Farmers use fertilizers to replace the essential nutrients in the soil so that crops can continue to grow.

However, fertilizers emit a great deal of greenhouse gases. Whilst spreading fertilizer is beneficial for crop yields, it is also bad for the surrounding environment.

Problem

Farmers need to spread fertilizers to ensure that their crops grow, but fertilizers are expensive and farmers' profit margins are very tight.

Conventional methods of fertilizer application treat all areas of a field uniformly. Some parts of the field need more fertilizer, and other parts of the field need less. However, this is hard to judge and most farmers spread fertilizer evenly, resulting in higher costs, increased greenhouse gas emissions, soil acidification and water pollution.

Solution

Fertilization Zoning Maps clearly show farmers which parts of their fields need more or less fertilizer, based on AI, 5 years of historical data and 3 years of extensive research. The field can be divided in up to 5 zones. These zones are classified according to the variable fertilization rate the soil requires. Understanding the diverse requirements within a field allows for better placement of nutrients and consequently, improved nutrient uptake.

By using this precision agriculture technology, farmers can lower their fertilizer costs, get the right amount of fertilizer to the right zones of the field, increase their crop yields and decrease their greenhouse gas emissions.

Technology

Vultus collects images through different satellite platforms, with a frequency of 2-3 days in Europe and every 5 days around the Equator region.

Our patented AI algorithms and a selection of specialised spectral indices make Fertilization Zoning Maps for the field. These recommendations use the latest scientific research and are customised both according to the unique history of each field and the crop type.

Practical application

- Field Size: 1 ha+, Fertilization Zones accurate up to 10 m.
- Crops: Specially adjusted for Wheat, Cotton, Paddy Rice, Sugarcane, Maize/Corn, Barley, Potato, Soybean, Canola / Rapeseed, but also suitable for use with other crops.
- Application Method: Top Dressing (not suitable for Basal Application when sowing).
- Crop Growth Stage: Vegetative Stage.

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Benefits

- Reduces fertilizer costs by ⅓ and increase yields between 3-5%.
- Detects both low & high performing areas, understand intra-field variability over time.
- Helps farmers to decrease greenhouse gas emissions, soil acidification, water pollution and stay ahead of increasingly tough legislation for agriculture.

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