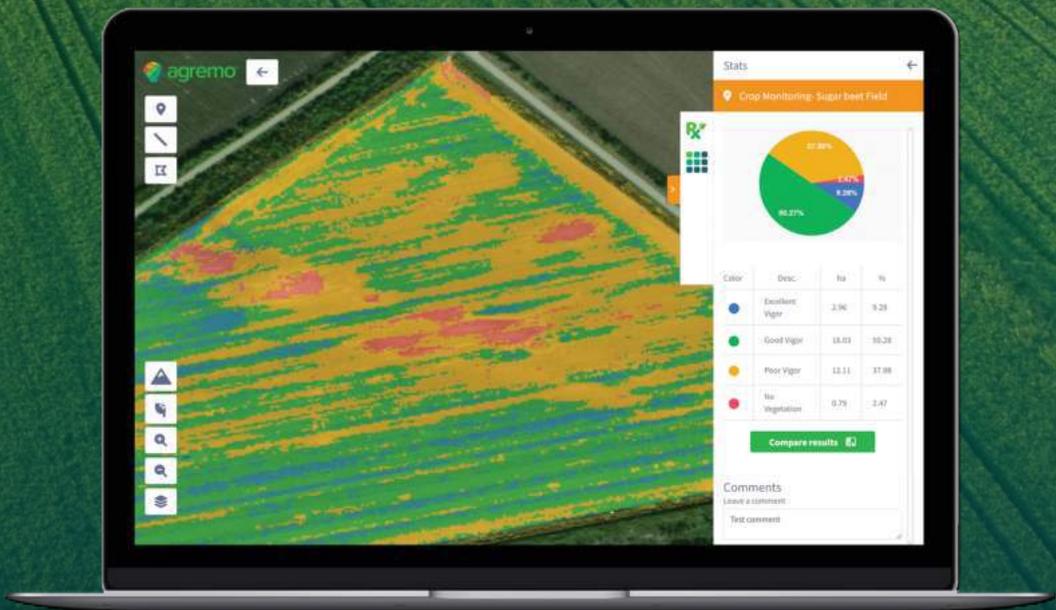


Crop Production with Agremo AI

Tool for better understanding your
crops & production fields



Track crop development through the season,
create spraying maps, and understand yield zones.

Agremo - AI Crop analytics tailored for Ag professionals

Agremo is built on the feedback from our customers from more than 100 countries. Farmers, enterprise growers, cooperatives, agronomists, trustful advisors, production managers, and machinery producers to trust Agremo with highly accurate crop analytics.

Depending on the usecase, Agremo can support aerial imagery (Satellites and Drones) and allow you to better understand your crop production, such as, stand count and crop emergence; herbicide and fertilizer spraying maps for ground and drone sprayers; yield performance zones.

Agremo gives your Precision Ag machinery and Spraying drones brain, so every minute of your time, and every cent you invest goes right where it is needed.



JOHN DEERE
OPERATIONS CENTER

 **Black Gold**
FARMS

KWS


 ADAMA





“

Agremo provides a new window into understanding what is happening in our fields at a more granular level and how to move the needle in the best direction.

Bryan Bowen
Director of Agronomy at Black Gold Farms

”





Who is this for

Agremo AI

Growers

Agronomists

Crop Production Managers

Precision Ag Engineers

- » In-depth seasonal monitoring of production fields & crops.
- » Make smarter decisions & investments.
- » Introduce a crop production phase control.



Power of aerial imagery

Aerial imagery (drones & satellites) provide a faster, more efficient way to assess crop performance and identify potential issues compared to traditional on-foot scouting methods. Aerial imagery also provides more details, transparency and finer granulation of data needed for precision agriculture. Aerial data collection allows easier access hard-to-reach or muddy areas.



AI objectivity on any field size

Agremo is powered by AI, machine learning, and computer vision, making use of one of the most extensive knowledge bases available. This allows Agremo AI to deliver accurate and comprehensive crop information, while also removing any human-based biases and errors. By analyzing the entire crop production field, Agremo empowers you to evaluate variable rate seeding and create precise spraying maps for both ground and drone sprayers.



In-season actions and season evaluation

Agremo reports allow you to take targeted in-season action or share valuable insights with your clients. AI reports allow you to quickly identify where yield loss is occurring, the underlying causes, and how to prevent them from happening in the future. With this level of insight, you can gain a deeper understanding of the entire season and make more informed decisions for your operations.



Gain from Variable rate technology

Creating nutrient response zones and assigning fertilizer rates can be challenging for farmers. To address these issues, Agremo has developed an aid tool for creating variable-rate prescriptions. Based on Agremo AI analyses, farmers can start using VRT to automate their fertilizer application or create VRT herbicide spraying zones to target weeds, for ground and drone spraying. By using VRS maps, farmers can easily calculate the number of plants in each zone with the applied seeding rate.

Missing plant detection for replanting decisions

Input:
Drone Imagery

Period:
After planting

Our AI technology provides an unmatched advantage for identifying missing plant detection for replanting decisions after planting through our Stand assessment tools. By using our precise Stand Count analysis, you can accurately determine the number of plants in a specific area and compare it to expected results to calculate percentages under the norm. Additionally, our Canopy and Plant Stress analyses can help identify areas where crops haven't emerged as healthy plants or have emerged at all, indicating potential yield losses. Finally, our Plant Vigor analysis can determine the location and condition of vegetation, providing critical information on where to perform soil samplings or apply necessary ag operations. By utilizing these powerful tools, you can identify missing plants, determine the cause of any yield-limiting factors, and make informed replanting decisions to optimize returns.



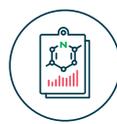
Stand Count



Canopy Cover



Plant Stress



Plant Vigor

Early yield estimation/ benchmarking for forward contracting decisions and supply planning

Input:
Drone Imagery

Period:
After planting

Agremo provides farmers with a competitive edge in the agriculture industry by using drone imagery and AI analytics to make data-driven decisions. For example, a farmer can use our technology to analyze their soybean field and determine the actual number of soybean plants per acre. This data can be used to make an early yield estimate and adjust forward contracting decisions accordingly, potentially avoiding over-commitment to buyers. Furthermore, with the help of Canopy and Plant Vigor analysis, farmers can determine the optimal LAI and nutrient requirements for their crops, ensuring maximum yield potential. By using Agremo's technology, farmers can plan their supply more accurately, optimize their input usage, and ultimately increase their returns on investment.



Stand Count



Canopy Cover



Plant Stress



Plant Vigor

Herbicide distribution optimization using VRA or Spot spraying map

Input:
Drone Imagery

Period:
Crop evaluation and treatment

Generate VR maps that are compatible with both ag machinery sprayers and spraying drones. This means you can optimize your herbicide distribution and only apply the necessary amount of herbicides to areas that need it, reducing the risk of over-application and minimizing herbicide runoff, resulting in increased savings and improved efficiency. For example, a farmer can use Agremo's Weed Detection analysis to generate a VR map that shows the areas with the highest weed density, which can then be used to create a spot spraying map for the spraying drone, ensuring that the herbicide is applied only where it's needed. Agremo provides VR maps for major ground machinery brands and DJI Agras spraying drone platforms.



Weed Detection

Seed hybrid performance evaluation using AI & drone map

Input:
Drone/Satellite Imagery

Period:
Crop evaluation and treatment

Our ai-powered drone imagery analysis can provide valuable insights to breeders and farmers in evaluating different zones with different seed hybrids or varieties. By using our Stand Count, Canopy, Stress, Vigor, and Flowering analysis reports, you can identify which zones have the highest or lowest plant counts, the healthiest or most stressed vegetation, and the most or least flowering. This information can be used to evaluate the performance of different seed hybrids or varieties in each zone and help you make more informed decisions for next season's planting. For example, by using our technology, a farmer can evaluate the performance of two different seed hybrids in different zones of a field and determine which hybrid performs best in each zone, allowing them to select the best hybrid for each specific area of the field.



Stand Count



Canopy Cover



Plant Stress



Plant Vigor



Flowering Estimator

Getting the whole picture



“

Agremo's AI solution turns DJI's drone imagery into actionable insights, and its recipe maps make our AGRAS drone a truly intelligent and precise spraying tool. The integration of the Agremo platform between Agremo and the DJI drone is the best turnkey solution for precision agriculture.

Wing Zhong
Smart Farming Program Manager, DJI Agriculture

”



Mapping

Use any type of drone with RGB or MS sensor. Recommended GSD 2.5cm/pix.



Stitching

Integrated for the seamless creation of GeoTIFFs when you don't have one.



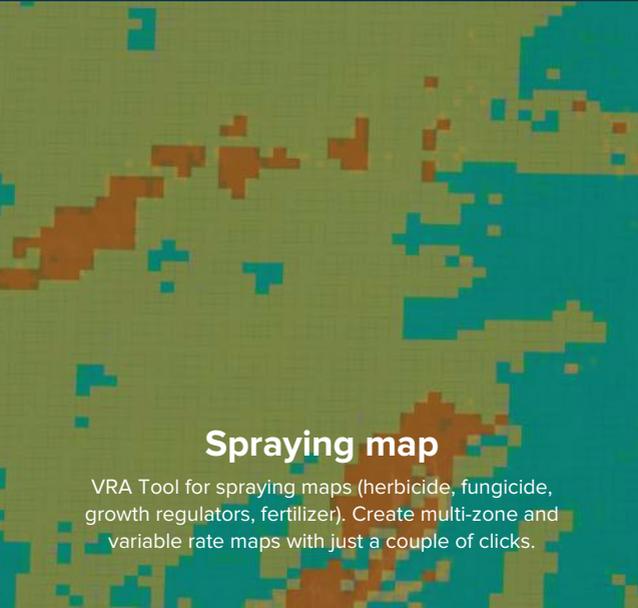
AI Analysis

Choose between plant numbers and different plant health and field performance indicators. The process requires just a few clicks.



Agremo reports

AI reports go beyond NDVI. Delivery time is within 2 business days, with an average time of 30 hours. Plant health index reports such as NDVI are instant.



Spraying map

VRA Tool for spraying maps (herbicide, fungicide, growth regulators, fertilizer). Create multi-zone and variable rate maps with just a couple of clicks.



Spraying

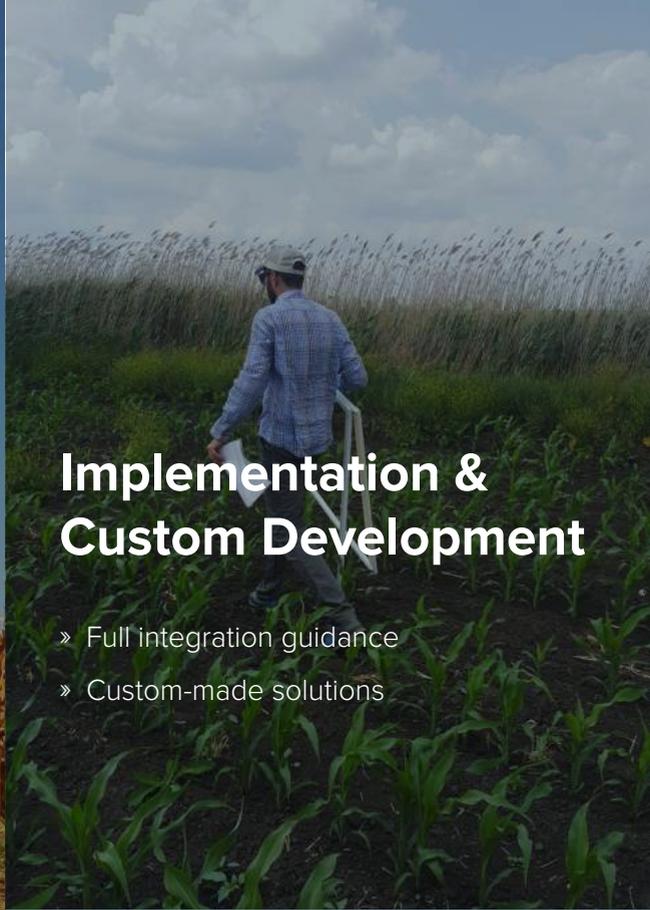
Outputs ready for ground machinery (SHP) and DJI AGRAS spraying drones (Tiff).

We will support you during the project.



Implementation & Custom Development

- » Full integration guidance
- » Custom-made solutions



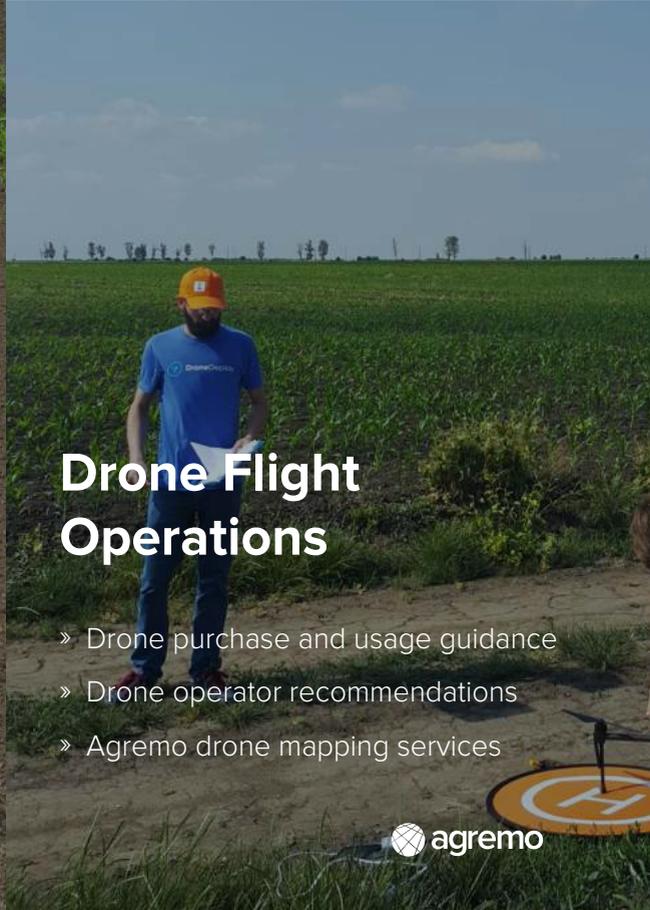
Project Support & Management

- » Professional advice on mapping
- » User onboarding and additional training
- » Customer Support service



Drone Flight Operations

- » Drone purchase and usage guidance
- » Drone operator recommendations
- » Agremo drone mapping services



VRA Spraying

Both drone and ground machinery spraying have advantages and downsides for precision agriculture. Drones can reach difficult-to-access areas, enable later-stage spraying without harming crops, and target specific areas with greater accuracy. They are also more cost-effective and safer to operate, but have smaller tank capacities and require more frequent refilling.

Ground machinery covers large areas quickly, but can cause soil compaction and damage to crops. It has larger tank capacities but is limited in its ability to customize spraying route. Ultimately, the choice between these two technologies depends on the specific needs and conditions of the farm and crops being grown.

Agremo provides VRA spraying maps for the DJI Agras spraying drones (TIFF) and ground machinery sprayers (SHP)





Drone spraying benefits

Coverage

Ground machinery covers large areas quickly, but can't reach steep slopes or narrow rows. Drones can fly over any terrain and access hard-to-reach areas.

Precision

Drones can target specific areas of a field more precisely than ground machinery, which can spray unnecessarily or miss areas, leading to inefficient chemical use and reduced yields.

Crop safety

Drones enable later crop development stage spraying without harming crops, unlike pulled or self-propelled sprayers.

Safety

Ground machinery can be dangerous to operate on uneven terrain, while drones can be operated safely from a distance.

Environmental impact

Ground machinery can damage crops and cause soil compaction, especially on wet soil. Drones, which do not touch the ground, can spray without causing these issues.

Cost

Ground machinery is expensive to purchase, maintain, and operate, while drones can be more cost-effective, especially for smaller farms.

ROI

Using drones for VRA and spot spraying is more cost-effective than traditional methods, as it requires less equipment, labor, and time.

Flexibility

Ground machinery is limited in customizing spraying to individual crops or fields, while drones can follow specific paths and spray at specific rates based on crop and field conditions.

Capacity

Ground machinery has larger tanks for longer spraying periods, while drones may require more frequent refilling due to their smaller tanks.

Terrain adaptation

Ground machinery struggles with steep or uneven terrain, leading to uneven coverage and reduced efficiency, while drones can fly over any terrain and adapt their paths to ensure even coverage.

Water usage

Drones use less water than ground machinery, as they apply chemicals directly to specific areas with greater accuracy, resulting in less waste of both water and chemicals. This can be especially important in areas where water is limited or during droughts.

Agremo

Crop Monitoring

Purchase an annual subscription and get extra tools for FREE



Spraying maps

Create VRA spraying maps for drones and machinery based on Agremo AI reports (weed, plant vigor...). Spraying maps come ready for both platforms.



Digital Agro Consultant powered by ChatGPT

Get a comprehensive interpretation of Agremo reports from our digital consultant powered by the most advanced generative AI.



Variable Rate Stand Count

Count plants even if you have zones with different sowing rates.



Stitching

Stitch collected images into a 2D map (orthomosaic) with a built-in stitching engine.



Client mode

Share maps and results with your clients or colleagues who will get a view-only mode.



Biomass calculator

Predict biomass in field crops to get better insights of your yields. Calculate plants density, the biomass of each plant and total biomass.



Corn Yield Calculator

Get the actual predictions of the corn yield on the analyzed field or field area. From high, average to low yield productivity, see how your corn yield is performing!



Zone management tool

Split your field into different zones to perform and manage important, but various ag activities.



Map comparison tool

Compare two different types of analyses on the same field or two same field analyses at a different growing crop stage.



Elevation tool

Analyze the 3D model of your field and examine field data based on different elevation points. View your map from the other perspective!



Plant Health VI

Visualize, monitor and manage your plants with four vegetation indices available: VARI, EXG, GLI Index, Visual NDVI, SAVI, RENDVI, NDVI.



John Deere and Drone Deploy integration

Agremo tool is fully integrated with John Deere and Drone Deploy apps. Import field annotations from John Deere Operations Center or export the field analysis results and variable rate prescription map straight to your tractor.



Collaboration tool

Share every analysis report and leave a comment for your colleagues. Not only can you get accurate field data, but you can also collaborate with your team within the same tool.



Organization

This additional feature comes in handy when you want to work on multiple projects and collaborate more effectively with your team. Instantly share crop data with anyone and they can access the Agremo tool wherever they are.



Report Export

Get the full crop analysis report in PDF and Shapefile. Easily access the analysis history and download analysis reports in CSV file format.

Most Common Use Cases

Agremo's technology works successfully on more than 100 crop types. From our experience, these are the most popular crops supported by Agremo's crop monitoring product.

Crop Monitoring - Recommended Analyses

	Stand Count	Canopy Cover	Plant Stress	Weed Analysis	Plant Vigor	Water-logging
Corn	✓	✓	✓	✓	✓	✓
Wheat/Barley	✓	✓	✓	✓	✓	✓
Rice	✓	✓	✓	✓	✓	
Soybean	✓	✓	✓	✓	✓	✓
Potatoes	✓	✓	✓	✓	✓	✓
Canola	✓	✓	✓		✓	✓
Sunflower	✓		✓			✓
Sugar Cane	✓		✓	✓	✓	✓
Sugarbeat	✓	✓	✓	✓	✓	✓
Cotton	✓	✓	✓		✓	✓
Tobacco	✓	✓			✓	✓

Crop Production Insights package

The Crop Production Insights package is designed for the seasonal monitoring of field crops to support the decision-making process, monitor plant health, and optimize chemical usage.

Package Specification

Field & Crop data:

Stand Count, Canopy Coverage, Plant Vigor, Weed detection, Flowering.

Vegetation Indices:

RGB (NDVI, VARI, GLI, EXG), Multispectral (EXG, VARI, NDVI, OSAVI, GDVI, SAVI, GNDVI, SR, RGVI, MERCER, RENDVI, ARVI, SIPI)

Subscription duration:

12 months

Supported sensors:

RGB and Multispectral

Number of AI report requests:

unlimited

Processing time:

24-48h

Agremo set of features

Digital Elevation Model	Map comparison
Drone Image stitching engine	Biomass calculator
Drone Map creation	Variable Rate Maps
Shapefile export	Fertilizer and Herbicide (SHP, TIFF)
PDF and JPG data export	Co-branded platform and reports
Maps & Results sharing	

Analysis overview

Stand Count

Provide information about the number of plants, percentage under the expected norm, and location of missing plants.

Plant Vigor

Combining several crop variabilities such as canopy coverage, leaf structure, plant color, and plant height software identifies 4 zones with different plant health statuses, excellent, good, poor, and zone with no vegetation.

Weed detection

Differentiate weeds from plants and provides precise information about the size and location of weed zones.

Canopy Cover

Measures size and percentage of vegetative cover vs ground coverage.

Flowering

Provides flowering percentages in canola across the field.

Use Case

Missing plant detection for replanting decisions

Herbicide distribution optimization using VRA/precision spraying map

Fertilizer distribution optimization based on VRA map

In-field yield estimates and checks for forward contracting decisions, supply planning, and equipment & storage capacity scaling

Agremo Output

Stand Count/
Canopy Cover

Weed zones,
Spraying map

Plant Vigor,
Application map

Stand Count,
Plant Vigor,
Sampling plan,
Yield

Pricing

The Crop Production Insights is a license-based model for one user with an applied fair usage policy.

A team license model includes a minimum of 5 users, with a price security option, for any additional member joining the team.

The user's license includes User training and Project Support.

Please send us a Request For Quote with the number of users and the number of plots you have in your trials.

About us

Our platform is just one of the reasons why our clients love working with us.

**We firmly believe that
great progress needs to
have great people behind it.**

This is why we have agricultural consultants working with data analysts, passionate drone operators and savvy software engineers.

This unique blend of agriculture and technology enables us to know how to make the **right decisions at the right time.**

Do you want to know how Agremo can help you take your business to the sky?

Visit our website www.agremo.com
or get in touch sales@agremo.com