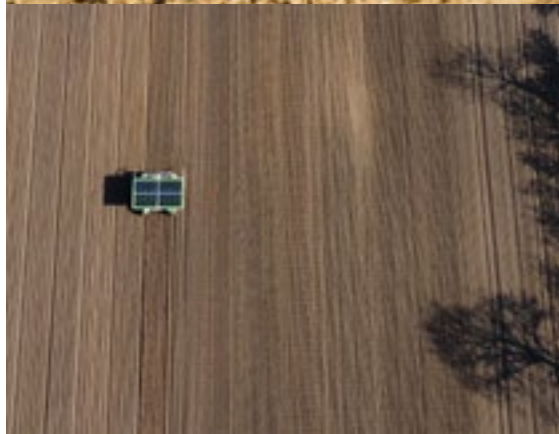


FD20

AUTOMATIC SEEDING & WEEDING ROBOT





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Dear Fellow Farmer,

We know firsthand the hurdles you face daily. The increasing difficulty in securing manual labor for organic farming, and the diminishing options for plant protection for conventional farms, are challenges we are intimately familiar with.

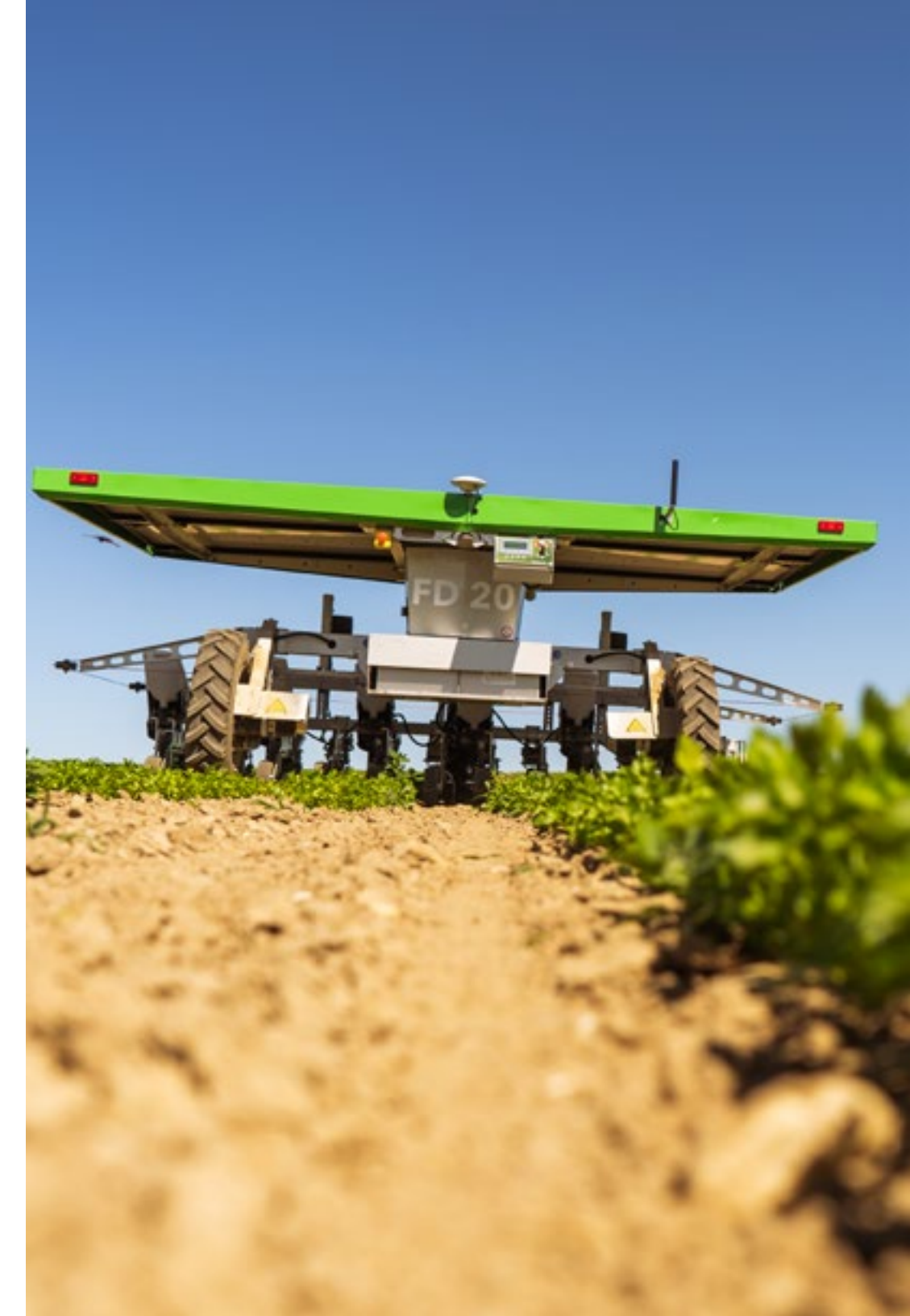
That is precisely why the FarmDroid FD20 was born. Designed by farmers, for farmers, we crafted this machine rooted in our shared experiences, the very challenges that we, as a farming community, face every day.

Our unwavering promise to you is this: in everything we do, our focus remains on making your life as a farmer easier, reducing your costs, and maximizing your yield.

Stepping into the realm of agricultural robotics might feel like venturing into the future. Yet, with us, that future has already dawned. With our network of trusted distributors spanning the globe, you are not just investing in a machine; you are joining a community. From the initial setup of the FD20 in your fields to unwavering support throughout each season, you will always have a trusted partner by your side.

At our core, we have the DNA of a farmer. We understand, we innovate, and most importantly, we are here for you. The culmination of our work is where cutting-edge technology meets dedication, blending robotic precision with a genuine human touch.

Warm regards, the FarmDroid Team





The FarmDroid FD20 Seeding System: Putting the Precision in Precision Farming

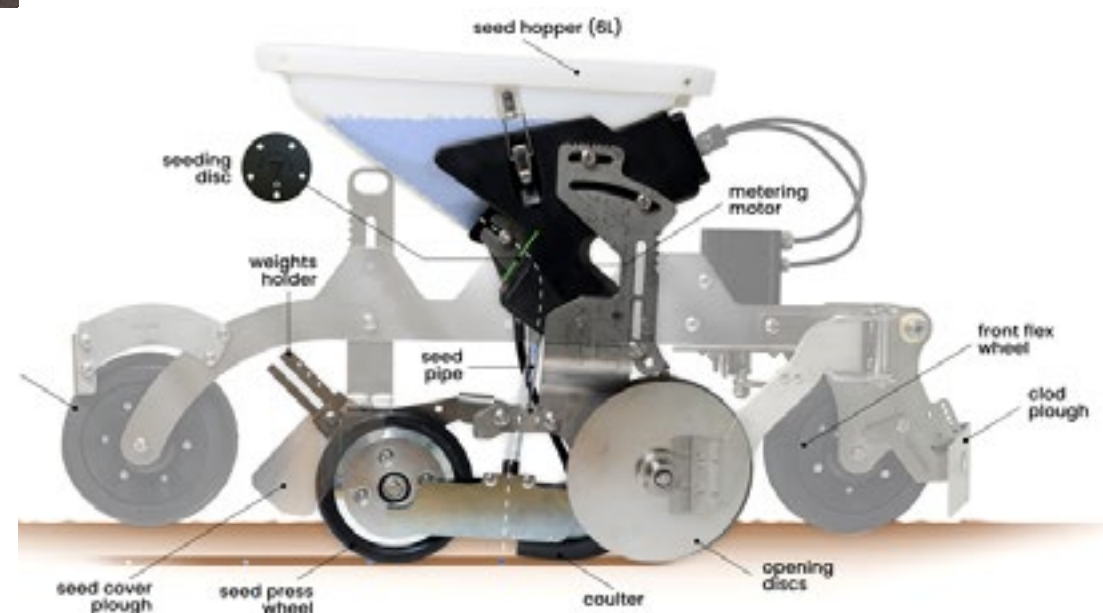
At the core of the FD20 is its advanced seeding system. Once set up, the robot plans the entire field layout, placing each seed with an accuracy of down to 8mm from its designated spot. The result? A uniform pattern across the field, ensuring every seed has the optimal space to flourish.

What truly differentiates the FarmDroid FD20 is its memory. It recalls the exact location of each seed, enabling it to commence weed control even before crops emerge — a unique capability that remains unmatched. Fewer weeds mean higher yields.

A Robot You Can Trust

Using the FD20 is worry-free. As it seeds, the robot counts every seed. If a seed gets stuck or if the robot runs out of seeds, it stops and sends a notification to your smartphone right away.

Versatility is another hallmark of the FD20 seeding system. Suitable for over 50 different crops and vegetables, and with adjustable row spacings from 22.5 cm to 90 cm, it's designed to cater to diverse planting requirements.



If We Can Seed It, We Can Weed It!

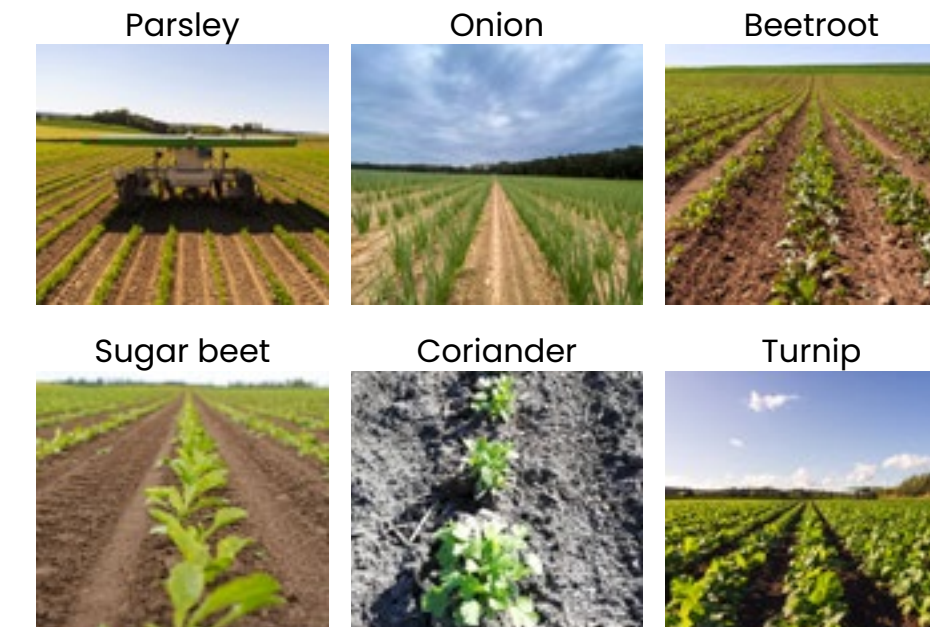
FarmDroid FD20 began its journey with a primary focus on seeding and weeding sugar beets. Yet, our vision was always grander.

We believe that precision farming is the future for a wide range of crops, and our commitment has driven us to constantly evolve and adapt. In close partnership with our valued customers and dedicated distributors, we've expanded the FarmDroid's capabilities beyond its initial design.

The results speak for themselves. From our initial focus on sugar beets to the wide array of crops today, FarmDroid confidently ensures precision in both seeding and weeding.

As of today, the robot has already with great success taken care of many different crops, such as:

- Beetroot
- Cabbage
- Carrot
- Cauliflower
- Chicory
- Coriander
- Dill
- Hemp
- Lettuce
- Onion
- Parsley
- Radish
- Rapeseed
- Salad
- Savory
- Spinach
- Sugar beet
- Turnip



Seed Testing Lab

Our Seed Test Lab closely collaborates with farmers to experiment with new crops, and we have now successfully made it work with more than 50 different crops.



Precision in Weed Management & Plant Protection

The FarmDroid FD20 takes a new approach to weed management. Its unmatched precision from seeding means the robot inherently knows the position of each seed, enabling it to perform both interrow and intrarow weeding. For organic farmers, this translates to a significant reduction in manual weeding – a task that is not only labor-intensive but also costly.

Additionally, our new innovative Spot Application System offers conventional farmers a unique advantage. By combining mechanical and conventional weed control, it can result in up to a 94% reduction in chemical inputs. This not only benefits the environment but also significantly cuts down on operational costs.

Unlike systems relying on cameras, the FarmDroid FD20 begins its weeding process even before the crop emerges. Traditional camera systems require visible crops to differentiate, but FarmDroid's knowledge of seed positions eliminates this limitation.

The robot employs three weeding wires per row, ensuring that weeds between the rows are effectively dealt with. For those pesky intrarow weeds, an electrically operated weeding arm dynamically adjusts its timing based on the seeding distance, making certain that weeds between the plants are also removed. While this system is optimized for general use, we understand the unique nature of every farm. Hence, adjustments can easily be made to cater to specific needs.

With this comprehensive approach, FarmDroid ensures that your crops have the best conditions to flourish, free from competitive weeds.



What Our Customers Say



"It was decisive for us to invest in a FarmDroid"

Johan Tremmel has had great success with his FarmDroid FD20. He has used it for both parsley and sugar beets. It was getting more and more difficult for him to find labor and the corona-pandemic made it even worse. Therefore, it was crucial for him to invest in an automatic seeding and weeding robot.

"It was easier for me"

Michael Naderer owns a conventional and organic farm with his three brothers. They almost gave up growing sugar beets because it was too demanding for them. The weeding was a vast challenge, so they started looking for other solutions and decided to give FarmDroid a try. It has saved them time and money.



"It's easy to use and very precise!"

Anders Tornslev Bach owns Tornslev Landbrug with both organic and conventional plant production. For him it was important that the robot could do blind weeding before the plants germinated. He feels more in control of the work with the robot, because he does not need to hire or involve external help.

How it Works



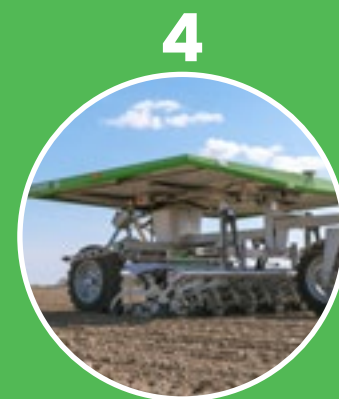
1 Delivery
Unpack the robot and install the GPS base station within 10 km from the field(s).



2 Setup
Mark the field's corner points as well as any obstacles in the field.



3 Start seeding
Fill the seeds in the seed containers, set the desired seed depth and seed distance. Now you're ready to start seeding.



4 Blind weeding
You can perform blind weeding after seeding, before the crop germinates. By doing so, you let the plants germinate without competition from weeds.



5 Interrow and intrarow weeding
Adjust how close to the crop the FD20 should weed inside the row and start weeding both interrow and intrarow.



Powered by the Sun

The FarmDroid FD20 epitomizes the future of sustainable farming, drawing all its operational energy directly from the sun. This solar powered approach not only champions green energy but also offers unparalleled convenience.

Farmers can leave the FD20 in the field without concerns about refueling or recharging. No more back-and-forths for energy top-ups; the field remains its primary domain.

With four solar panels, the FD20 efficiently converts sunlight into power for its two batteries. These panels boast a maximum output of 1.6 kWh. Depending on weather conditions and operational demands, this energy storage facilitates 18-24 hours of continuous work. Traveling at a steady pace of 950 metres per hour and with the capability to operate for up to 24 hours daily, the FD20 covers up to 6.5 hectares in a day.

In an era where sustainability is paramount, the FarmDroid FD20 offers farmers the dual benefits of operational efficiency and environmental responsibility. Its completely CO₂-neutral operation ensures that while you are boosting productivity, you are also contributing to a greener future.



Features



Solar powered



Up to 24 hours daily operation



450 - 950 meters per hour



Up to 6,5 hectares per day



3 meters working width



Row-spacing 22,5cm-90cm

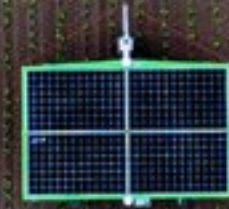


Works with 50+ types of crops

Connectivity. Precision and Convenience

Harnessing the power of a high-precision RTK GPS system connected to a dedicated base station on your farm, the FarmDroid FD20 boasts an unparalleled navigational accuracy of up to 8mm. This ensures its operations remain seamlessly precise to the millimeter, setting a new standard in robotic farming precision.

Yet, this is not just a robot that knows where it is; it is a robot that lets you know where it is, anytime, anywhere. With its integrated SIM card providing cellular connectivity, the FD20 keeps you in the loop at all times. Whether through email, SMS, or push-notifications, it communicates as per your preference. Encounter a hiccup? Need to see what is happening under the robot? Just log on and view a live video feed, while also accessing a real-time map detailing the robot's current position in the field.



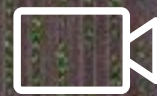
High precision
RTK GPS



IoT cellular
network



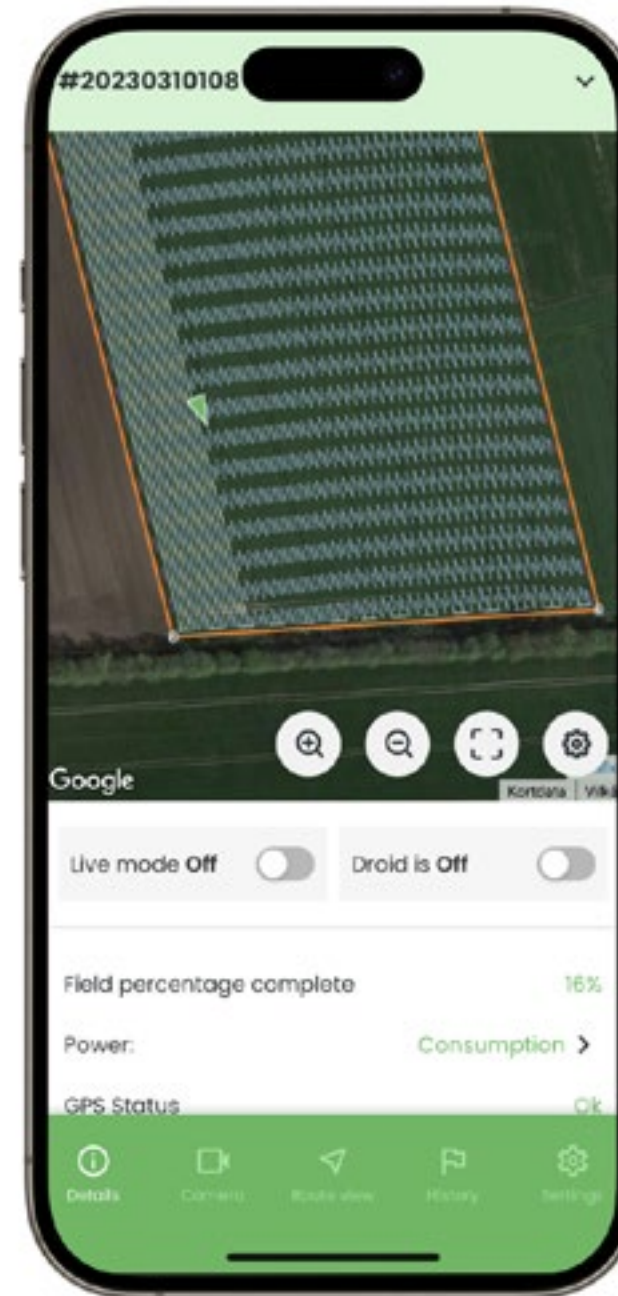
Instant
notifications



Live video feed
from the robot



Live progress of
the robot in the
field



Farming at Your Fingertips: The FarmDroid App

Step into the future of farming management with the FarmDroid App. This mobile application serves as your virtual window to the FD20, keeping you informed and in control.

Status Updates: Instant notifications if an error arises, with detailed insights available right on the app.

Live Monitoring: Skip the drive to the field. With a tap, access the robot's live camera feed directly from your device, giving you a front-row seat to its operations.

Effortless Field Setup: Setting up your field has never been easier. Armed with your phone and the Field Setup Tool, the app will guide you through every stage, ensuring that you are always set for success.

Moreover, in the unlikely event of an operational hiccup, our FarmDroid Care Support team can remotely access all robot systems, assisting you promptly and ensuring smooth operations. With FarmDroid FD20, you are never alone in the field; expertise and support are always only a click away.

One Platform Three Robots

Every terrain and farming practice is unique. Recognizing this, the FarmDroid FD20 offers three distinct front wheel setups to cater to diverse agricultural needs. For all three configurations, the dual back wheels can be adjusted between 160–230 cm in 10 cm increments.

With these configurations, the FarmDroid FD20 promises optimized performance tailored to your specific farming conditions. Choose the wheel setup that aligns with your terrain and watch the robot enhance your farming operations.



1. *Passive Front Wheel*

The Passive Front Wheel is the default configuration, offering an efficient solution for a lot of farm terrains and crops. The Passive Front Wheel is there to stabilize and guide the robot.

Choose this for: Flat fields. Crops with wider row spacings e.g., sugar beet.

2. *Dual Front Wheel*

With the Dual Front Wheel, the FD20 is equipped with two wheels in the front replacing the Passive Front Wheel. Whether you're acquiring a new robot or retrofitting your existing one, the Dual Front Wheel setup can be integrated based on your preferences as the spacing between the wheels can be adjusted, similar to the back wheels between 160–230 cm in 10 cm increments.

Choose this for: Raised beds and flat fields. Crops and vegetables with narrower row spacings e.g., onions.

3. *Active Front Wheel*

With the Active Front Wheel, the FD20 is equipped with an actuator for tilting the front wheel to either side to ensure adaptability on varying terrains. Tailored for hilly terrains, the tilting mechanism of the front wheel allows the FD20 to maintain balance and efficiency even on steep pitches and inclines. By continuously monitoring the load on its two electrical motors, it tilts the front wheel to the opposite side to maintain an even distribution of load on the back wheels, ensuring traction and performance.

Choose this for: Hilly terrain with pitches greater than 5% and inclines greater than 8%. Crops with wider row spacings, similar to the Passive Front Wheel.

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