



ADAPTIVE IRRIGATION

Water • Nutrients • Manure • Digestate

ADAPTIVE IRRIGATION

360 RAIN is an adaptive irrigation machine that autonomously delivers water, nutrients, manure, byproduct, and other resources of your choice, banded or broadcast, across your entire field, even in irregular shapes – no corners cut.

APPLICATION OF **WATER**

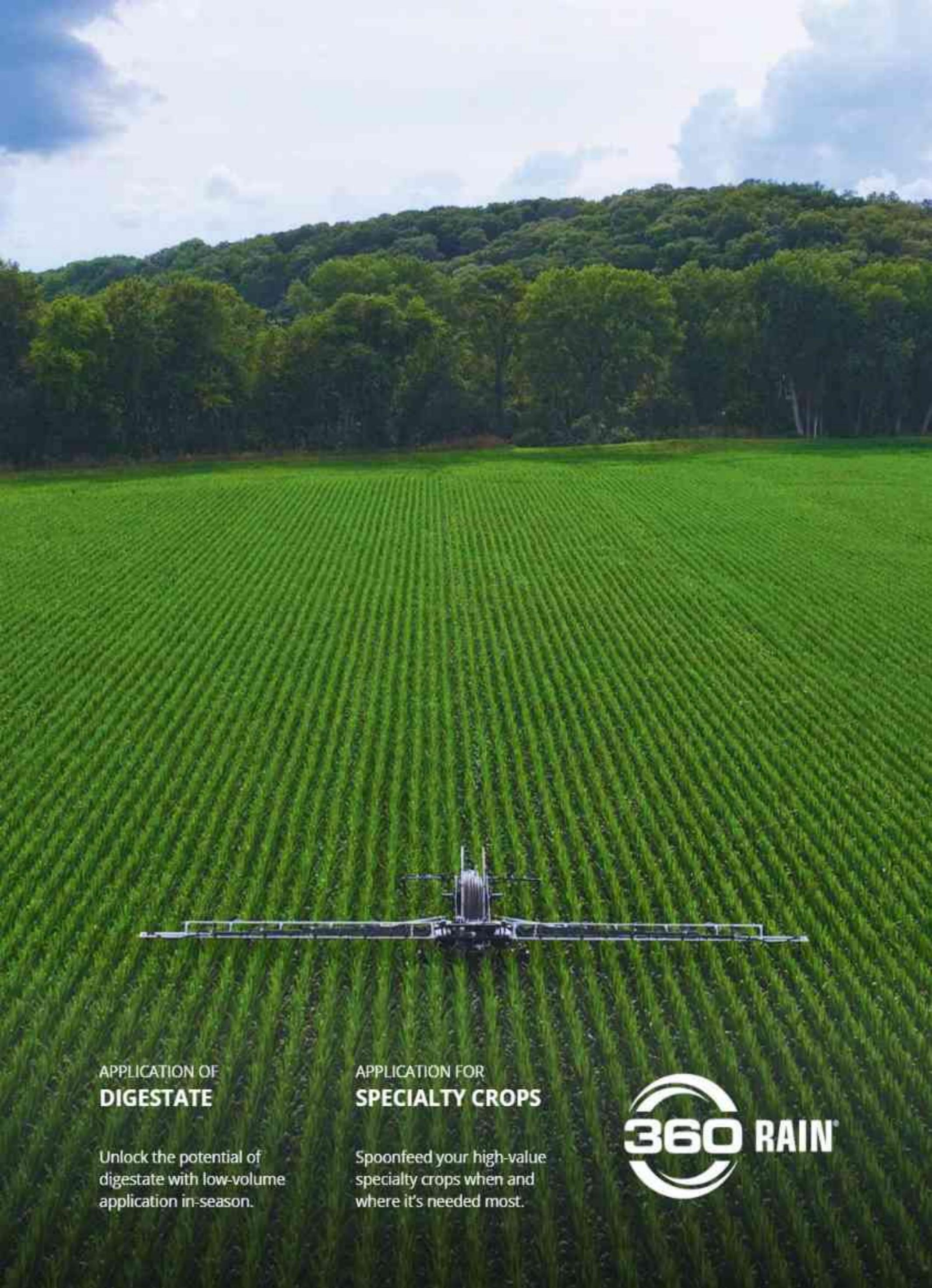
Autonomous delivery of water, banded or broadcast, across your entire field.

APPLICATION OF **NUTRIENTS**

Nutrient delivery directly to the root zone with banded, in-season applications.

APPLICATION OF **MANURE**

Apply liquid manure in-season, directly to the growing crop right at the root zone.



APPLICATION OF
DIGESTATE

Unlock the potential of digestate with low-volume application in-season.

APPLICATION FOR
SPECIALTY CROPS

Spoonfeed your high-value specialty crops when and where it's needed most.



HOW IT WORKS

SMART NAVIGATION

360 RAIN connects to wells, lagoons, or reservoirs requiring just 200–250 GPM at roughly 115 PSI. A 3,000-foot, 3-inch hose links to the water source at a field riser.

A field-edge base station (110 V AC) powers GPS, cellular communication, and pump controls. Add the 360 Injection Skid for even more control of your nutrient or manure application.

GPS data recorded from the planter pass guide 360 RAIN allowing it to navigate irregular fields, even around obstacles. A cellular link keeps you connected via the mobile app.

As RAIN moves down the field, it dispenses its hose. When it reaches the end of the path, it simply backs up along the same track and neatly retrieves its hose.

360 RAIN has separate front and rear booms with a manifold system that switches automatically. As the machine moves forward, the outer drops apply. When it backs up, the inner drops take over. This ensures water is always applied behind the wheels so the machine never drives through freshly watered ground.



1

Machine leaves the riser, turns into first pass, and waters with outer drops while laying hose down.

2

Machine backs up along the same pass and waters with inner drops while picking hose up.



COMMUNICATIONS

360 RAIN is operated through cellular and dedicated RTK networks.



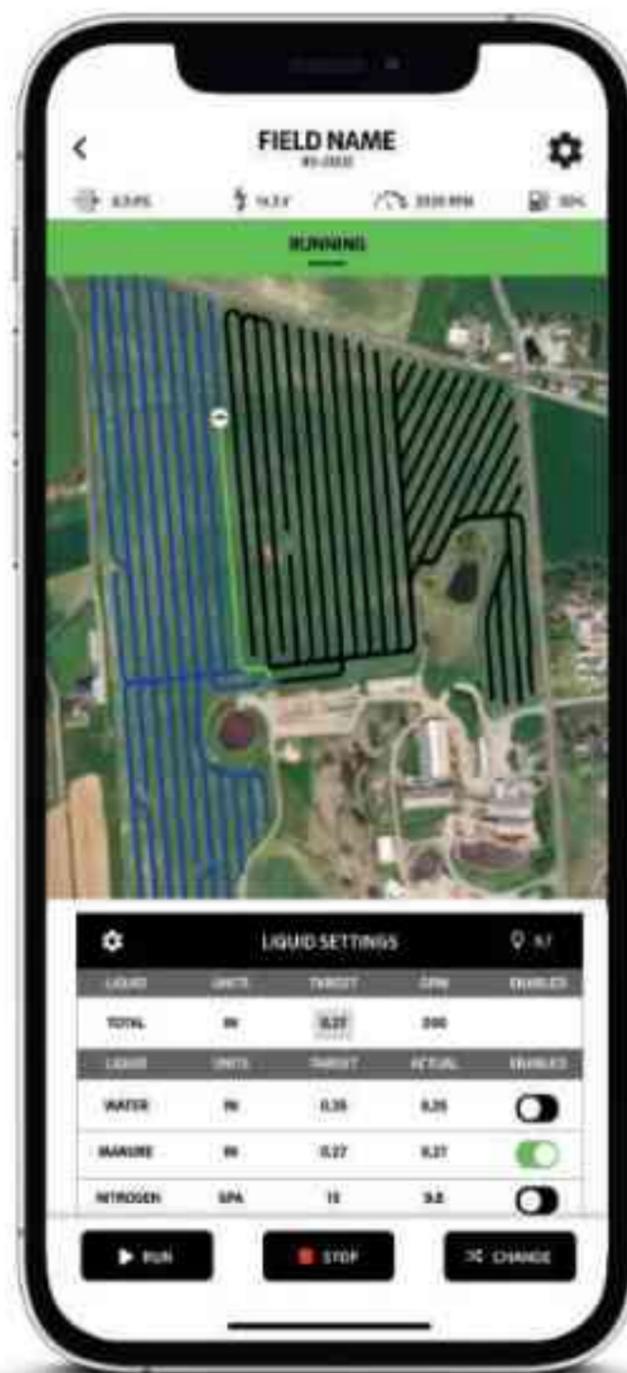
HOSE SYSTEM

With 3,000 ft of 3" hose, 360 RAIN can cover up to 200 acres.



HYBRID ENGINE

The diesel-electric drive uses only 1/8 gallon of fuel per hour. With two, 150-gallon diesel tanks 360 RAIN can run up to 600 hours per fill.

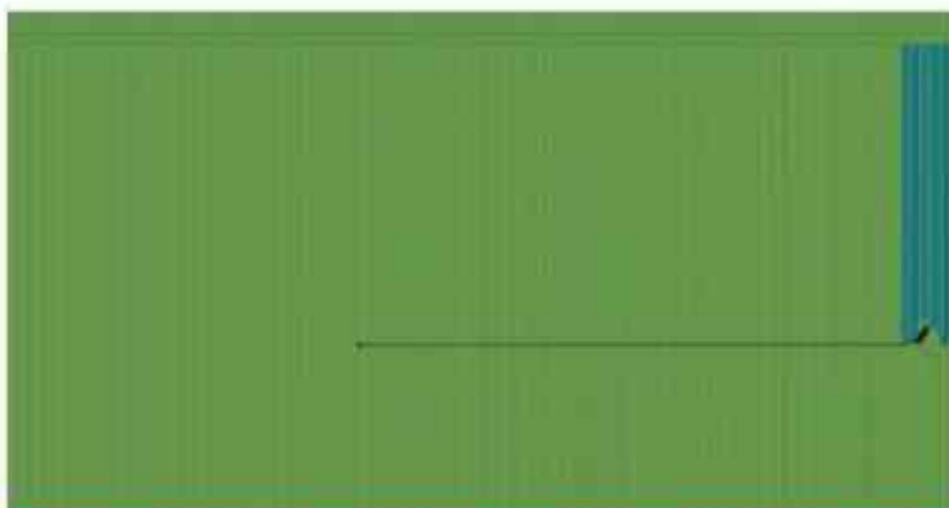


CONTROL AT YOUR FINGERTIPS

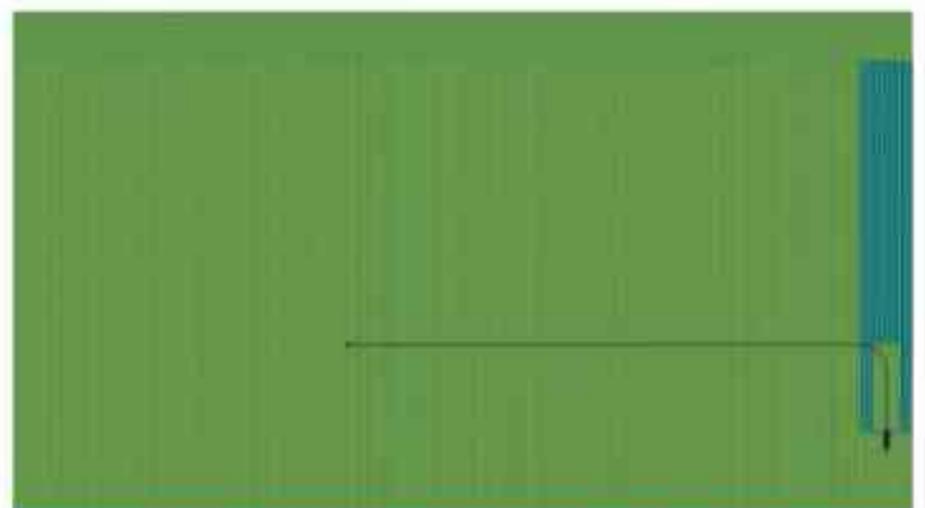
Control is truly at your fingertips as you monitor live machine status, start or stop operation, and even turn liquid systems on or off with a simple tap within the RAIN app. The app also provides live diagnostic information giving you valuable insights into system performance. Cameras on the machine allow you to visually confirm and remotely troubleshoot events in real time. Whether you're in the field or miles away, the 360 RAIN app keeps you connected, informed, and in control.



Our RAIN is in a nice, square, 160-acre field; however, there's a building lot, two windmills and a row of transmission lines in the field. We knew it would benefit from irrigation and we thought RAIN was the best fit. - **Trent Stoller, Ohio, USA**



3 Machine backs into the backbone until it has enough room to turn into the next pass.



4 Machine moves forward into the next pass, watering with the outer drops and laying hose.

AUTONOMOUS IRRIGATION ADAPTED TO WATER



WATER WHERE IT COUNTS

Where water and nutrients are applied in a growing crop dictates the total amount needed for application and has a tremendous effect on the efficiency of the application.



With **banded drops**, 360 RAIN delivers water and nutrients in a 15" band at the base of the plant. By doing so, the plant benefits from the power of banding - seeing 2x the amount of water compared to a broadcast application. Banding directly over the root zone eliminates evaporation common in pivot irrigation systems, allowing many growers to use less and still achieve the same or better yield results.

Be even more efficient with your application with Variable Rate (*beta*). With this feature, you can create zones and fine-tune how much water each one receives.



WATER REQUIREMENTS

360 RAIN operates with wells supplying, on average, just 200-250 gallons per minute – easily half the volume required for center pivot systems.

There are a wide variety of ways to provide that water. The system can be connected directly to a well, connected to a riser and pipeline fed from outside your field, or supplied by surface water.



Fan-style drop options provide a broadcast application, ideal for solid-seeded or hay crops.

YIELD RESULTS

360 RAIN VS. NATURAL RAINFALL



MINNESOTA, USA

Crop: Corn
Natural Rainfall → 169.8 bu/ac
360 RAIN → 221.8 bu/ac

+52
bu/ac



AUTONOMOUS IRRIGATION

ADAPTED TO

NUTRIENTS

NUTRIENTS ON-DEMAND

360 RAIN delivers liquid fertilizer directly to the base of the plant throughout the growing season right **when the crop needs it most**. Your nutrients go to work when uptake is at its peak, maximizing efficiency and yield potential because applications are made incrementally and in smaller doses.

360 RAIN can apply a variety of liquid fertilizers including **nitrogen, sulfur, boron, and other micronutrients**.

These nutrients are delivered in a 15" band over the root zone, improving access and absorption, and reducing losses from evaporation, volatilization, leaching, and runoff.





FERTILIZER PUMP

1 HP • 34 GPH at 100 PSI

60'
BOOM

- at 3"/sec can apply 145 lbs/acre
- at 8"/sec can apply 55 lbs/acre

80'
BOOM

- at 3"/sec can apply 110 lbs/acre
- at 8"/sec can apply 40 lbs/acre



TURN-KEY CONTROL

Pair your 360 RAIN machine with a 360 Injection Skid to get precise control over your nutrient application. The Injection Skid uses advanced pumping technology and VFD controls to mix and deliver nutrients, allowing you to adjust rates and blends to match crop stage and field conditions. To optimize the efficiency of the application utilize Variable Rate (*beta*). Create zones and apply just the right amount where it's needed.

The system is complemented by its integration with the 360 RAIN app for iPhone and iPad, giving farmers the ability to remotely monitor and control the operation of the 360 Injection Skid from anywhere. Through the app, users can adjust settings for water, manure and nutrient delivery, track the system's performance, and receive alerts for maintenance or operation issues.



AUTONOMOUS IRRIGATION

ADAPTED TO

DAIRY MANURE

BURDEN TO BENEFIT

Empty lagoons in season, using 360 RAIN to deliver manure to the growing crop. Eliminate fall spreading costs and put the manure to work in season, boosting silage and forage tonnage.

Application at the base of the plant, reduces the risk of disease pressure. Rapid uptake by the growing plant also reduces the risk of runoff. **And it smells better too!**



YIELD RESULTS

\$410 TOTAL REVENUE BOOST PER ACRE



Reduced Purchased Nitrogen → + \$80/ac
Eliminated Custom App Cost → + \$150/ac
30 bu/ac yield gain x \$6/bu → +\$180/ac

\$410
per acre
revenue boost

WISCONSIN, USA

SILAGE YIELD STUDY



OHIO, USA

2023 → +4 ton/acre
2024 → +5 ton/acre

+4.5
ton/acre
average



HANDLE THE TOUGH STUFF

360 RAIN can apply a wide range of manure from dairy operations including leachate water, separated liquid manure from a lagoon, and even pure manure. When used in combination with a grinder pump, the unit can tolerate up to 10% solids. Overall infrastructure design is critical to the achievable flow rates of the system. Machines equipped for manure application include a manure manifold and bucket with an impeller. The impeller breaks up solids and is the final step in eliminating solids and foreign material just before the stream enters the boom distribution lines, eliminating most plugging. Additional screening and agitation may still be recommended.

Pair your machine with the **360 Injection Skid** for seamless mixing and application. With its precise control from the iPhone app, you can easily dial in your desired manure-to-water ratio and adjust it throughout the growing season to respond to changing conditions and crop needs. Use Variable Rate (*beta*) to create zones or setbacks and control where manure goes.

ANNUAL APPLICATION TARGETS

Annual dairy manure application targets through 360 RAIN typically range between 7,000 and 18,000 gallons per acre. This target varies depending on manure properties, soil characteristics, crop needs, and environmental factors, as well as local regulations. We recommend splitting this total across four passes utilizing a 50/50 ratio of manure to water.

With a 50/50 blend at a total flow rate of about 200 gallons per minute, one RAIN machine has the ability to apply roughly 125,000 gallons of manure per day.

EXAMPLE

A farmer wants to apply 14,000 gallons per acre of dairy manure over a 160-acre field. That's 4 passes of 3,500 gallons per acre of manure in a 50/50 ratio blend with water. 2.24 million gallons of manure would be applied across the field over roughly 3 weeks.



MANURE PUMP OPTIONS

- 1 Razor Grinder Pump**
Single 2HP Grinder Pump • 20-40 GPM
- 2 Blade Grinder Pump**
Single 5HP Grinder Pump • 30-80 GPM
Double 5HP Grinder Pump • 60-160 GPM
Additional configurations available upon request.

Pump pontoons are optionally available.

AUTONOMOUS IRRIGATION

ADAPTED TO

HOG MANURE

IN-SEASON APPLICATION

Managing pit levels and manure storage in hog operations can be a logistical headache. 360 RAIN puts you in control by applying liquid manure during the growing season. Free up pit space, make fewer spring and fall applications, and turn manure into a powerful on-farm nutrient for an in-season yield booster. And, by injecting manure into the water stream, odor is reduced as the water/manure blend soaks quickly into the soil.





MANURE PUMP OPTIONS

- 1 **Razor Grinder Pump**
Single 2HP Grinder Pump • 20-40 GPM
- 2 **Blade Grinder Pump**
Single 5HP Grinder Pump • 30-80 GPM
Double 5HP Grinder Pump • 60-160 GPM
Additional configurations available upon request.

Hog confinement mounts are optionally available.



Razor Grinder Pump

Blade Grinder Pump

FROM PIT TO PLANT, SEAMLESSLY

When used in combination with a grinder pump and added water, 360 RAIN can handle up to 10% solids. While grinding is still required, a manure manifold with an impeller helps cut plugging risks from solids, bedding, and debris. For hog manure, our grinder pumps break down foreign material for smooth delivery. Overall infrastructure design is critical to the achievable flow rates of the system.

Pair with the **360 Injection Skid** for precise mixing and application. Its adjustable control from the iPhone app lets you fine-tune manure-to-water ratios throughout the season to match changing conditions and crop needs. Use Variable Rate (*beta*) to create zones or setbacks and control where manure goes.

ANNUAL APPLICATION TARGETS

Annual hog manure application targets through 360 RAIN typically range between 3,000 and 8,000 gallons per acre. This target varies depending on the nutrient analysis (N, P, & K) of the manure as well as local regulations. We recommend splitting this total across four passes utilizing a 25/75 ratio of manure to water.

With a 25/75 blend at a total flow rate of about 200 gallons per minute, one RAIN machine has the ability to apply roughly 65,000 gallons of manure per day.

EXAMPLE

A farmer wants to apply 4,500 gallons per acre of hog manure over a 160-acre field. That's 4 passes of 1,125 gallons per acre of manure in a 25/75 ratio blend with water. 720,000 gallons of hog manure would be applied across the field over roughly 3 weeks.

AUTONOMOUS IRRIGATION
ADAPTED TO

DIGESTATE



UNLOCK POTENTIAL

Digestate is rich in nutrients, but managing and applying it effectively can be challenging.

360 RAIN makes management simple by delivering digestate in-season, directly to the base of the growing crop in low-volume bands. No runoff. No burn. No wasted value. **With 360 RAIN, you unlock the full potential of digestate.**

Applying digestate throughout the crop cycle with 360 RAIN offers a powerful way to deliver essential mineralized nitrogen and organic matter, significantly improving nutrient efficiency. This practice reduces the reliance on synthetic nitrogen fertilizers, aligning with sustainable farming goals.





NUTRIENT EFFICIENCY

360 RAIN makes multiple applications throughout the crop cycle.



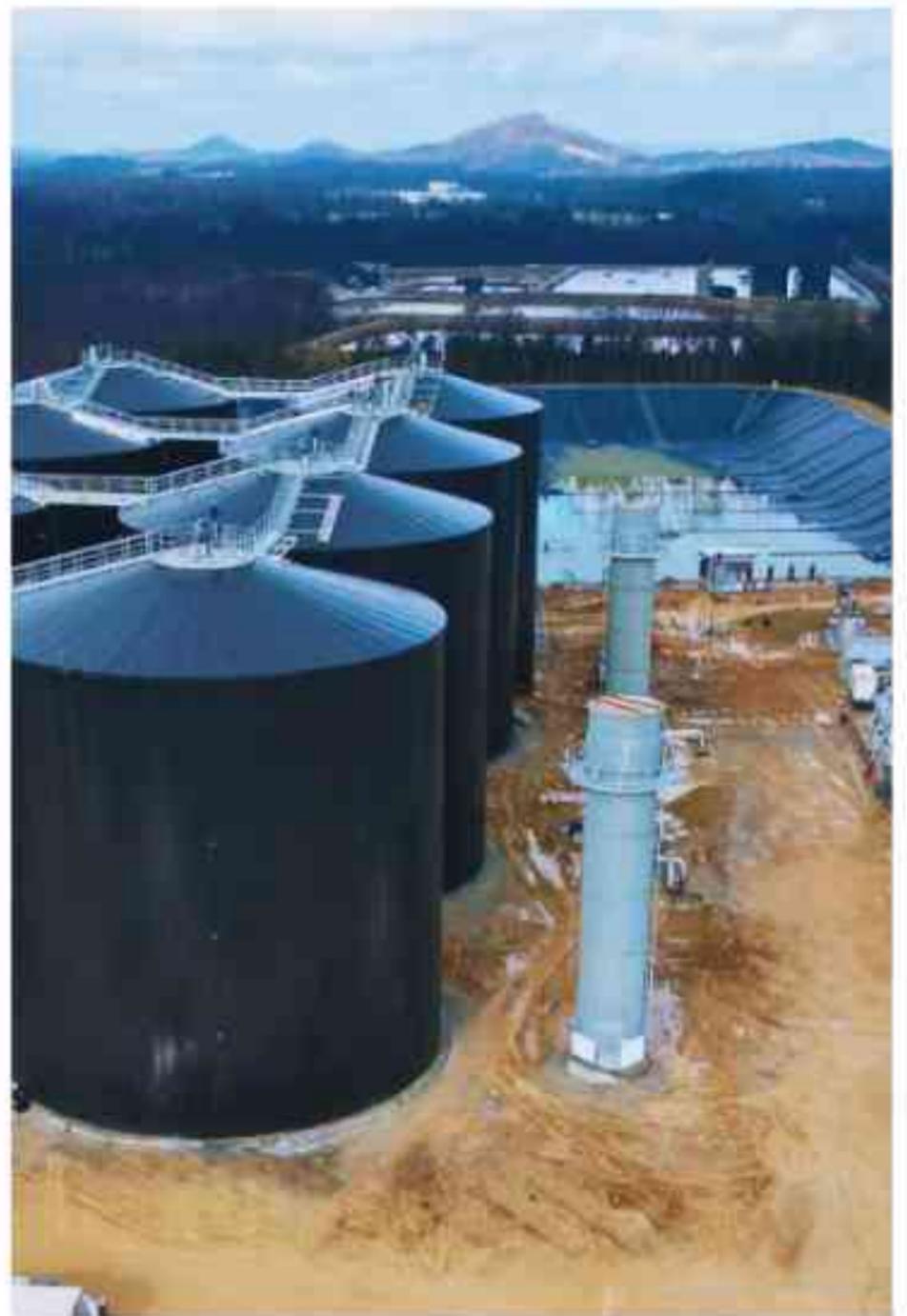
APPROPRIATE RATE

Apply the appropriate rate adapted to the crop requirements.



BANDED APPLICATION

Banded application over the root zone improves soil health.



PUT DIGESTATE TO WORK

Using smaller, frequent applications of digestate blended with water during crop growth offers additional benefits. It dramatically reduces nitrate leaching compared to traditional methods, such as slurry tankers or umbilical systems.

360 RAIN's banded application enhances soil health by building organic carbon in the root zone, leveraging the high humification potential of digestate's organic compounds. This not only improves the soil's capacity to retain water and nutrients, but also bolsters its resilience.

Blending water with digestate mitigates odors and reduces gaseous ammonia emissions during application, making nutrient management more efficient and environmentally friendly.



AUTONOMOUS IRRIGATION

ADAPTED TO

SPECIALTY CROPS

BUILT FOR MANY CROPS

High-value specialty crops demand precision. 360 RAIN spoon-feeds water, nutrients, and manure directly to the crop when and where it's needed most. With 360 RAIN, you get the precision and flexibility to meet premium quality standards while making every input count.

360 RAIN has been used on a wide variety of specialty crops including **seed corn, organic corn, small grains, potatoes, and onions.**



POTATOES





GRASS

SPOON-FED FOR SUCCESS

Organic crop systems rely on natural fertilizers, like manure, which can be difficult to manage effectively in large applications. Spoon-feeding allows nutrients to be delivered incrementally, avoiding nutrient runoff and maximizing plant uptake.

Match the drop style to your application. Choose banded drops for 15" placement at the base of row crops or flat-fan drops for even coverage on hay and solid-seeded crops. Each is sized to handle manure solids without plugging. The drops are designed for improved water efficiency, better plant health, and more profit from every acre.

As 360 RAIN is being used on new crops each season, additional drops may be designed in the future.



BANDED DROP



FLAT-FAN DROP



SEED CORN



ONIONS

YIELD RESULTS

ORGANIC CORN STUDY

Natural Rainfall
→ 200 bu/ac

360 RAIN - Water Applied
→ 230 bu/ac

360 RAIN - Water + Manure Applied
→ 245 bu/ac

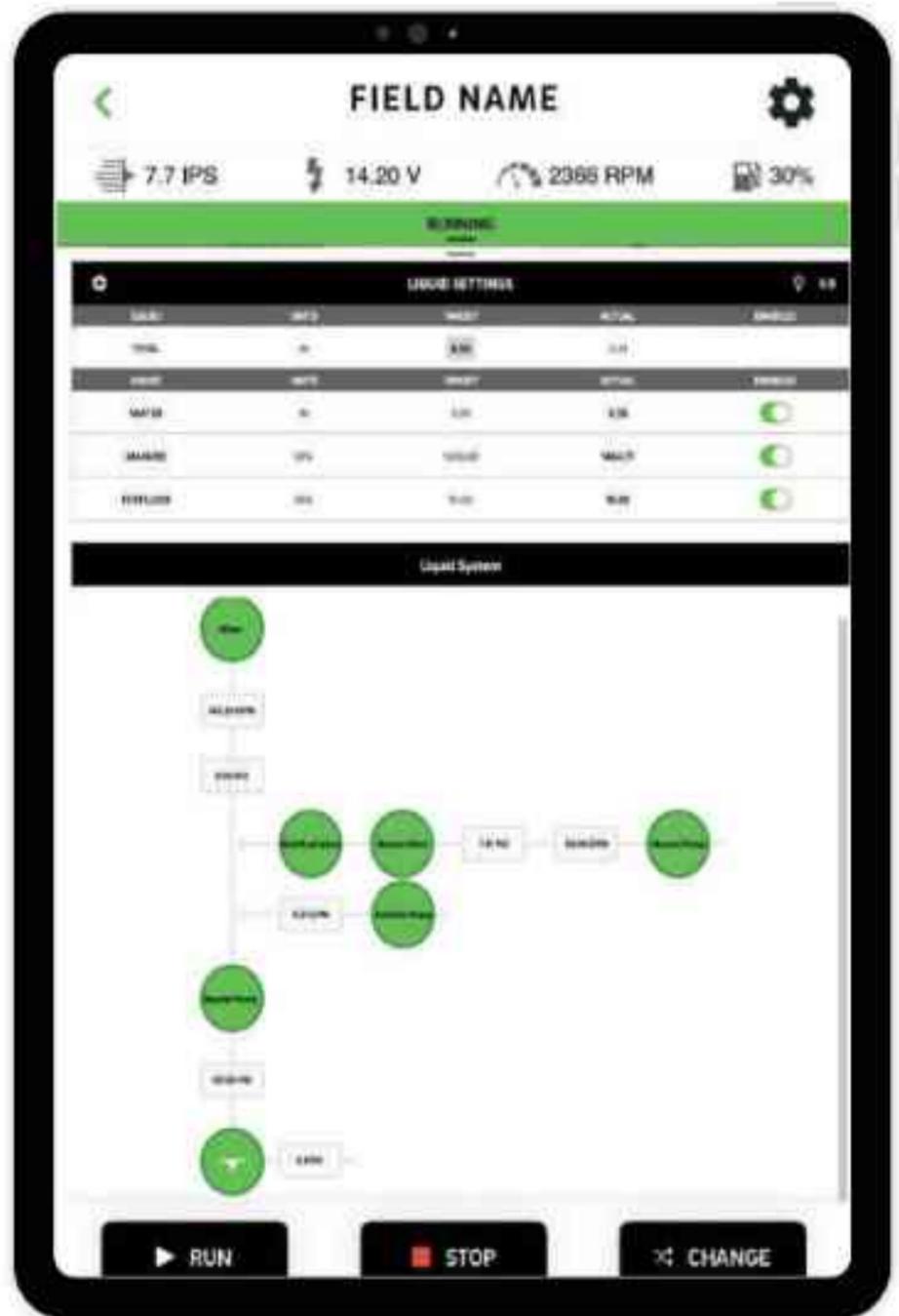
+30
BU/AC

+45
BU/AC



IOWA, USA

INJECTION SKID



APPLICATION CONTROL

Designed to provide precise application control of water, fertilizer, and other essential nutrients, the **360 Injection Skid** pairs perfectly with 360 RAIN. The 360 Injection Skid consists of a combination of advanced pumping technology and controls. With variable frequency drive (VFD) technology, users can adjust the pump speed to meet specific application needs, optimizing liquid usage and efficiency.

The system is complemented by its integration with the 360 RAIN app for iPhone and iPad, giving farmers the ability to remotely monitor and control the operation of the 360 Injection Skid. Through the app, users can adjust settings for water, manure and nutrient delivery, track the system's performance, and receive alerts for maintenance or operation issues.

Experience even more control over your 360 RAIN application with the Variable Rate (beta). This feature offers personalized application control to optimize input application.





“

The skid puts us in full control of manure and nutrient application rates. This allows us to turn the dials from year to year according to what each crop needs. - Ryan Schmitmeyer, Ohio, USA

360 Injection Skid - Base Components:

1. Booster Pump 2. Outlet Pressure 3. Outlet (to RAIN Machine) - 120 PSI 4. Inlet Pressure 5. Water Flow Meter 6. Water Inlet

360 Injection Skid - Manure Components (optional):

7. Back-flush Valve 8. Manure Pressure 9. Manure Valve 10. Manure Flow Meter 11. Manure Inlet (up to 80 GPM)

360 Injection Skid - Fertilizer Components (optional):

12. Fertilizer Flow Meter 13. Fertilizer Pump (30 GPH)



A. Main Disconnect B. Pond VFD C. Booster VFD
D. Fertilizer VFD E. Manure VFD

WATER PUMP OPTIONS

3 HP Pond Pump • 7.75" Impeller • 200 GPM at 20 PSI

VFD to control a customer supplied pump such as
5-7.5 HP Well • 10-15 HP Well • 20-25 HP Well

MANURE PUMP OPTIONS

Razor Grinder Pump

Single 2HP Grinder Pump • 20-40 GPM

Blade Grinder Pump

Single 5HP Grinder Pump • 30-80 GPM
Double 5HP Grinder Pump • 60-160 GPM

Additional configurations available upon request.

Pump Pontoons and Hog Confinement mounts are optionally available.

FERTILIZER PUMP OPTIONS

1 HP • 34 GPH at 100 PSI

60' Boom at 3"/sec can apply 145 lbs/acre or
at 8"/sec can apply 55 lbs/acre

80' Boom at 3"/sec can apply 110 lbs/acre or
at 8"/sec can apply 40 lbs/acre

FREQUENTLY ASKED QUESTIONS

FAQ

WHAT DOES THE MACHINE DO WHEN IT GETS TO THE END OF A PASS?

The machine doesn't actually turn around at the end. Instead, it simply reverses direction—backing up on the same pass it just made while picking up its hose along the way.

DOESN'T THE MACHINE KNOCK OVER THE CROP WHEN IT TURNS AROUND?

No. The machine simply picks up its hose while backing up on the same path it was just on. It doesn't turn around at the end.

DOES SOMEONE HAVE TO MOVE IT OVER EVERY PASS?

No. The machine remains connected to the riser and uses a backbone system to drive from one path to the next autonomously.

HOW MUCH HOSE IN ON THE MACHINE'S REEL?

3,000 feet of 3-inch hose.

HOW FAST DOES IT GO?

The machine moves a max speed of 8 inches per second (or 0.4 MPH). The time it takes the 360 RAIN machine to completely cover your field is dependent on the rate of liquid being applied in combination with the total acres being covered.

HOW MANY ACRES DOES IT COVER?

Depending on your field shape and obstacles, the machine can cover 160 to 200 acres from one riser point. If you're curious how it could look in your field, a dealer can Map Your Field on their computer in minutes - just reach out!

HOW MUCH CAN IT APPLY PER PASS?

Most machines are applying 0.25 - 0.5 inches of water per pass. That's like a 0.5-inch rain across the field—but because we place it right at the base of the plant, the crop actually feels it like a 1-inch rain. We're concentrating the water where it matters most—at the plant, not the middle of the row—so the crop gets double the effective benefit.

HOW LONG WOULD IT TAKE TO COVER AN 80 ACRE FIELD?

Applying 0.45 inches of water across an 80-acre field with 360 RAIN would require about 977,500 gallons in total. At a pump rate of 200 gallons per minute (12,000 gallons per hour), the machine would complete the application in roughly 81 hours, or about 3.4 days of continuous runtime.

Check out the chart for other rate and coverage examples!

		COVERAGE		
		40 Acres @ 200 GPM	80 Acres @ 200 GPM	160 Acres @ 200 GPM
APPLICATION RATE	0.35 in	1.3 Days	2.6 Days	5.3 Days
	0.45 in	1.7 Days	3.4 Days	6.8 Days
	0.55 in	2.1 Days	4.2 Days	8.3 Days



HOW DOES THE 360 RAIN KNOW WHERE TO GO?
The 360 RAIN planter tower records GPS data from the planter pass.

HOW DOES RAIN COMPARE TO A PIVOT?

	360 RAIN	PIVOT
REQUIRED WATER FLOW	200-250 gpm	often 500+ gpm
WATER USAGE	Typically 40% less than pivot due to proper placement at the base of the plant (with banded drops).	Unnecessarily high due to poor placement and loss through evaporation and/or drift.
COVERAGE	Irregular, square, or around field obstacles.	Circular coverage only.
INJECTION	Designed to inject nutrients, manure, and even digestate into the water and place it where it is best used by the plant.	While some fertigation is possible, the capability is limited, distribution is uneven, and placement is not ideal for best uptake.
WIND	Little to no effect on banded drops.	Increased drifts and evaporation.

“ On windy days, we aren't able to run our center pivot because the wind blows the water and manure around. With the RAIN unit it's not a problem as it lays it right at the base of the plant. - Trent Stoller, Ohio, USA

HOW IS RAIN MORE EFFICIENT THAN OTHER OPTIONS?

EXAMPLE

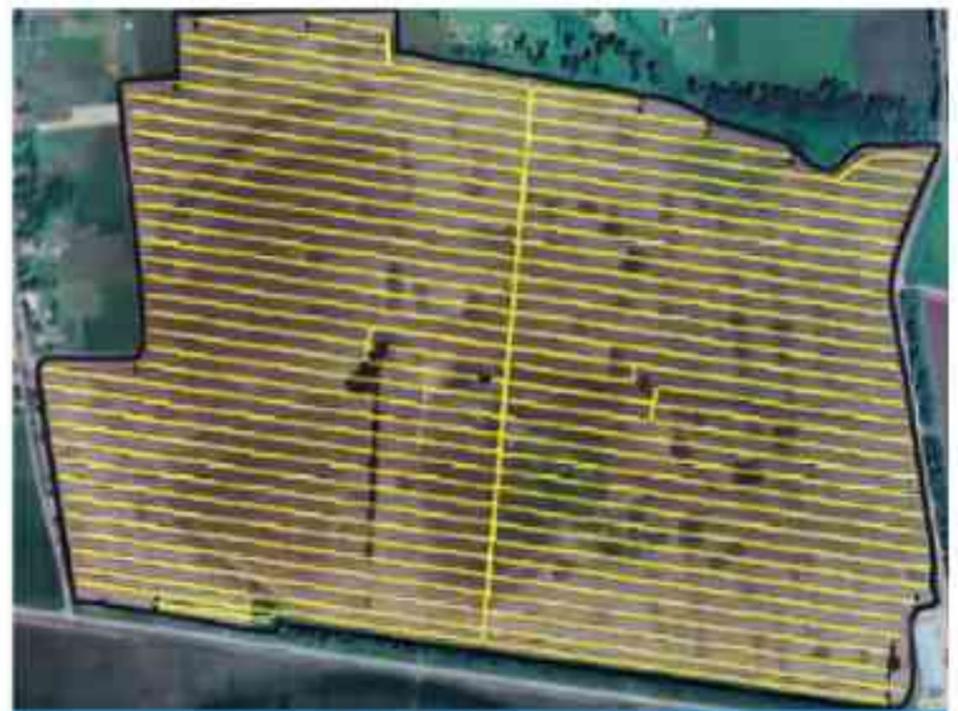
A farmer previously used a pivot on a 205 acre field and irrigated **141 acres** (69%) applying **0.8" acre/week** at a water flow consumption rate of **700 gal/minute**. The total water usage was **4.06 million gal/week**.

The same farmer switched to 360 RAIN on the field and was able to irrigate **205 acres** (100%) applying 0.35" per acre but since it was banded at the base of the plant, the plant saw an equivalent of **0.7" acre/week** at a water flow consumption rate of **200 gal/min**. The total water usage was **1.47 million gal/week**.

This farmer, who's allotment of total water is heavily regulated, can cover 2.5x more acres with RAIN.



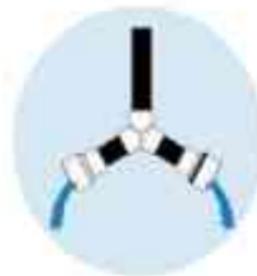
PIVOT COVERAGE



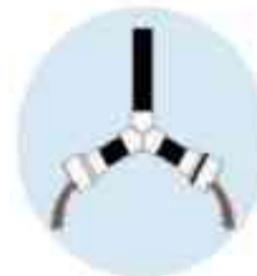
360 RAIN COVERAGE

360 RAIN SPEC SHEET

	STANDARD	METRIC
BOOM SYSTEM		
Boom Width	60 ft Boom Best matched with 6, 12, or 24 Row Planters	18 m Boom
	80 ft Boom Best matched with 8 or 16 Row Planters	24 m Boom
Drop Spacing	30 in Row Spacing	52.5 cm Row Spacing
	36 in Row Spacing	75 cm Row Spacing
DROP OPTIONS		



BANDED DROP
Water Only



BANDED DROP
Manure



FLAT FAN DROP

	STANDARD	METRIC
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DIMENSIONS

	STANDARD	METRIC
Distance Between Rear Tires (Centers)	120 in (30 in Row Spacing) 144 in (36 in Row Spacing)	305 cm (76.2 cm Row Spacing) 280 cm (70 cm Row Spacing) 286 cm (52.5 cm Row Spacing)
Tire Size	320/85R38	320/85R38
Transport Width	142 in	3.6 m
Transport Length (Frame)	285 in	7.25 m
Transport Length (Frame and 60' Boom)	340 in	8.6 m
Height with Reel	16 ft 1 in	4.8 m
Under Frame Clearance	7 ft 6 in	2.25 m
Under Boom Clearance	10 ft	3.1 m
Weight without Water and without Fuel (Shipping Weight)	12,400 lbs	5,630 kg
Weight with Water and Fuel (3,000' or 900 m of hose)	26,300 lbs	11,940 kg
Hose Type	High Density Polyethylene (HDPE)	High Density Polyethylene (HDPE)
Hose Size	3 in	7.62 cm
Hose Length (Max)	3,000 ft	900 m

	STANDARD	METRIC
POWER SYSTEM		
Diesel Engine Horsepower	24 HP	24 HP
Diesel Fuel Tank Capacity	300 gallons	1,140 Liters
Average Fuel Consumption	0.5 Gallon/Hour (estimated)	2 Liters/Hour (estimated)
Control System Voltage Drivetrain System Voltage	12 V 56 V	12V 56 V
Electric Motors: Drive Motors (3), Reel Motor (1), Dispenser Motor (1), Manure Motor (1) with Manure Option		
COMMUNICATION SYSTEM		
Planter GPS Package	<ul style="list-style-type: none"> • Receivers • GPS Tower of Mount System • Lift Switches • Harness 	
Base Station Package	Power needs 110V AC Inputs: up to four pressure or flow sensors Outputs: up to six on/off relays for well, booster pump, injector pumps, or valves (purchased separately)	
Cellular Service Needs (Machine)	Requires annual subscription to data plan managed by 360 Yield Center. Required for all machines and app connectivity.	
Cellular Communication	Inputs: up to four pressure or flow sensors Outputs: up to six on/off relays for well, booster pump, injector pumps, or valves (purchased separately) Uses an RCM controller and Cellular LTE device to set local RTK network. Requires an additional annual subscription to a data plan managed by 360 Yield Center.	
Range	900 MHz, machine controls require line-of-sight for proper communication. Cellular communication options are recommended in areas where line-of-sight communication cannot be achieved.	
PERFORMANCE		
Acres Covered Per Day	Up to 37 acres with 60ft boom Up to 50 acres with 80ft boom	Up to 15 ha with 18 m boom Up to 20 ha with 24 m boom
Liquid Supply Recommendations	3000 ft of Hose = 200 GPM at 115 PSI	900 m of Hose = 760 lpm at 9 bar
Distribution Plumbing Size	3 in main delivery line with equal distribution to individual row drops.	7.62 cm main delivery line with equal distribution to individual row drops.
Approved Liquids	Water, Nutrients, and Manure (sized less than 0.75 in output orifice)	Water, Nutrients, and Manure (sized less than 19 mm output orifice)
Speed Range	0.05 to 0.45 MPH (1 - 8 in/second)	0.08 to 0.72 km/h (0.02 - 0.2 m/s)
Watering Band	15 in centered at the base of the plant	38 cm centered at the base of the plant
Non-Towable Must be Hauled on Semi		



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