



**360 RAIN®**

*Creating new possibilities.*

[360rain.com](http://360rain.com) / [360yieldcenter.com](http://360yieldcenter.com)

# PROVIDING THAT “MILLION DOLLAR RAIN” *every day of the growing season.*

You know the impact a timely rain shower can have on your crop. You watch the forecast, the radar and the skies to the west with your fingers crossed. A half inch of rain on the right day can add 10 to 30 bushels or added tons. Repeated timely rains over the growing season can add 50 or more bushels per acre in corn.

***360 RAIN® can provide the moisture your crop needs to thrive. And at the same time, it can efficiently deliver nutrients directly to the root zone. And that includes manure.***

For the first time, dairy and hog producers can empty lagoons and pits in season, using 360 RAIN to deliver manure to the growing crop. That eliminates fall spreading costs and puts the manure to work in season boosting silage and forage tonnage.

***360 RAIN gives producers control – control over moisture; control over application costs and manure management plans.***

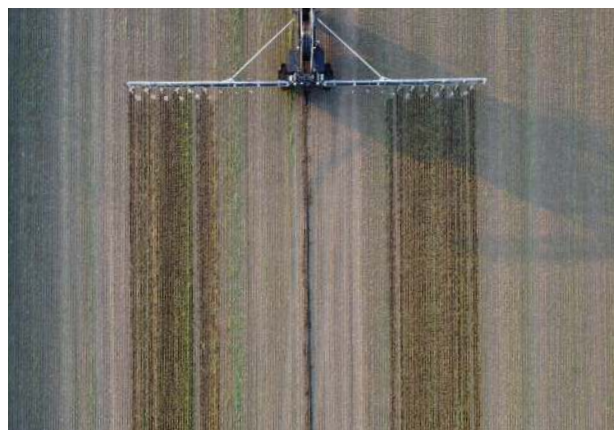
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## HOW IT WORKS

360 RAIN is an autonomous, diesel powered/electric drive machine that connects to a water source through a 3” hose providing up to 0.5” of water per pass. It can cover 200 acres with up 3,000 feet of hose.



CONNECTS TO WATER SOURCE



PROVIDES UP TO 0.5” PER PASS

## HOW IT WORKS

360 RAIN is operated through cellular and dedicated RTK networks.

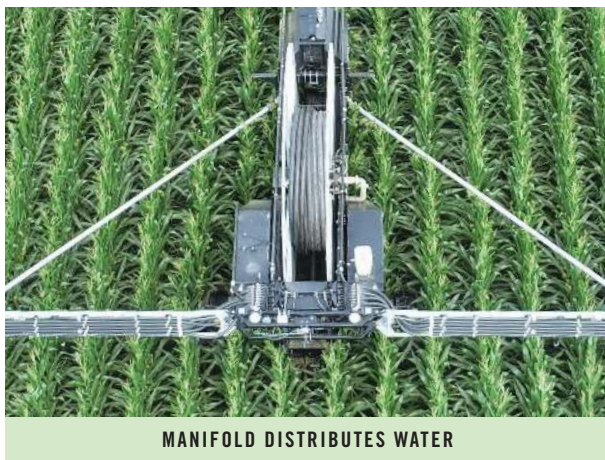
Moving through your field following paths created by your planter pass, 360 RAIN provides complete coverage of irregularly shaped fields — **anywhere the planter goes, 360 RAIN can follow.**

The vertical hose reel uses advanced sensor systems to lay hose as it moves along a backbone path away from the well or hydrant and then picks up the hose as it moves back toward the water source.



A manifold on the machine distributes the water and nutrients along the boom to drops that lay the water/nutrients in a 15" band, directly over the root zone.

*Banding water over the root zone eliminates evaporation common in pivot irrigation systems.*



While not eliminating the need for screening, a manure manifold uses an impeller to reduce plugging risks from solids, bedding and foreign objects.

# 360 RAIN IS BUILT

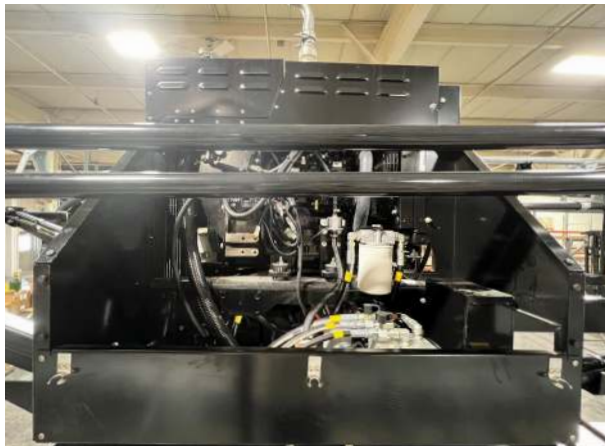
*for a marathon.*

## ELECTRIC DRIVE SYSTEM

360 RAIN uses a small 24 horsepower diesel engine to generate electricity to the motors on the three drive wheels, the manure manifold, the hose dispenser system and the hose reel.

The engine also provides the power for a small hydraulic motor that is used for steering the front tire and other machine functions.

*With a 300-gallon fuel tank, 360 RAIN runs all season with just a couple of fuel fills.*



**24 HORSEPOWER DIESEL ENGINE**



**ELECTRIC MOTOR ON WHEEL**



**POWERFUL ELECTRIC MOTORS & A LOW CENTER OF GRAVITY GIVE  
360 RAIN SOLID PERFORMANCE ON HILLS & SIDE SLOPES**

## HOSE MANAGEMENT

Moving through the field without damaging row crops is the job of the hose dispenser. Through a group of sensors, the dispenser measures ground speed, reel speed and turn radius to dispense or retrieve hose without allowing the hose to be pushed or pulled.

The dispenser also adjusts the hose position so it wraps evenly on the reel.



HOSE DISPENSER



HOSE WRAPS EVENLY ON REEL

## GUIDANCE AND COMMUNICATIONS

A dedicated GPS and cellular communication system is included and allows the 360 RAIN unit to autonomously navigate through fields. The GPS receiver on the 360 RAIN machine communicates with a base station near the edge of the field.

The same GPS receiver is mounted on the planter and is used to record planter paths. These paths are then transferred to the RAIN machine and used as the watering paths. Cellular communication is used to provide a connection back to the 360 RAIN mobile app. This app allows you to command and control the system from any location.



BASE STATION



GPS RECEIVER SYSTEM RECORDS PATHS

# MORE EFFICIENT WATER

*with less GPM.*

## 360 RAIN CAN GO WHERE OTHER IRRIGATION SYSTEM CAN'T

Small fields. Fields with obstacles. Irregular shaped fields. Just submit a map of your field and our team will design a layout that maximizes coverage. With a maximum of 3,000 feet of hose, a single 360 RAIN unit can cover 200 acres. Hose length for your machine will be determined by your field layout — each machine is customized for your application.



Application rates are also determined by your field size.

Here are typical coverages for various size fields.

TYPICAL DAYS TO COVER FIELD			
Inches Applied	40 Acres	80 Acres	160 Acres
	250 GPM	250 GPM	215 GPM
0.35	1.1	2.1	4.9
0.45	1.4	2.7	6.3
0.55	1.7	3.3	7.7

# ELIMINATE FALL

## *application costs.*

With 360 RAIN, hog and dairy operations can empty pits and lagoons during the growing season and put that liquid gold to work to add tons and bushels.



**MANURE SKID**

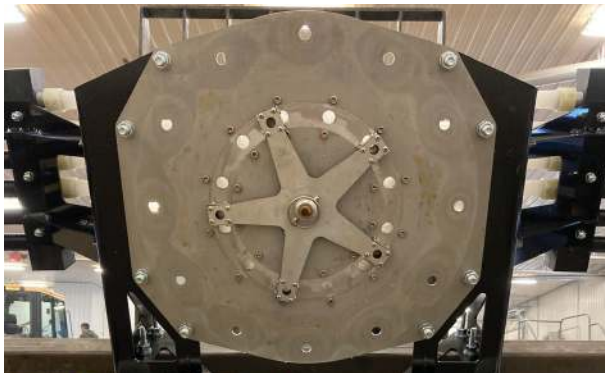
Your 360 RAIN Dealer will work with your team to coordinate the design of a manure application system that fits your manure types and distribution system.

*Each farm has specific needs for pumps, plumbing and screening.*

## **MANURE BUCKET AND IMPELLER**

The optional manure application system on 360 RAIN lets you inject manure into the water stream and apply it in a 15" band over the root zone. It includes 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 to eliminate plugging. In most cases, such as hog manure, additional screening is required near the pump to remove syringes, bones, AI straws and other solid objects.



**MANURE IMPELLER**



**ADDITIONAL SCREENING FOR HOG PIT**

# MANURE APPLICATION SYSTEMS DESIGNED *to match your operation.*

## DAIRY MANURE

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.

The 360 RAIN unit can handle up to 10% solids as long as particle size is less than 3/4".



DAIRY LAGOON



FLOATING PUMP

## HOG MANURE

Emptying pits in season can be a huge money saver, compared to custom application. Plus, the manure is available to feed the growing crop.

Another benefit, injecting manure into the water stream reduces odor as the water/manure blend soaks into the soil.



HOG PIT



MANURE WITH WATER



# GET MORE EFFICIENCY & EFFECTIVENESS

*from your inputs.*

360 RAIN delivers water and nutrients with lower volume and energy costs when compared to traditional irrigation systems. It operates with wells supplying, on average, just 250 gallons per minutes — easily half to one third of the volume required for center pivot systems.

## WATER RECOMMENDATIONS

Well Volume - 200 to 250 GPM

Pressure - 115 psi at the well or hydrant.



## POWER REQUIREMENTS

The base station, located near the edge of the field, requires 110V AC. The 360 RAIN package includes an electrical panel that is pre-wired to power the GPS and cellular network as well as inputs for up to four pressure or flow sensors and up to eight relays for well, booster pumps, and injector pumps.



# RAPID RETURN ON INVESTMENT

*2022 season customer experience.*



**DOUBLE S DAIRY**  
MARKESAN, WI

## THE DETAILS

- A** 175 acre field split between alfalfa and silage corn.
- B** Applied 0.5" of water every 3.5 days.
- C** Applied supplemental nitrogen twice through 360 RAIN.
- D** Applied 0.5" of water to alfalfa after each cutting.
- E** Applied 10,000 gallons of separated dairy manure from 18,000,000-gallon pit blended with fresh water.

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## ANNUAL REVENUE BOOST

- ✔ Reduced purchased nitrogen from 200# per acre to 120# per acre  
= **\$80 / ACRE SAVINGS**
- ✔ Eliminated custom application costs of \$0.015/gallon on 10,000 gallons of applied manure  
= **\$150 / ACRE**
- ✔ Equivalent of 30 bushel yield gain at \$6.00/bushel  
= **\$180 / ACRE**

**TOTAL REVENUE BOOST PER ACRE: \$410 x 175 ACRES**

**\$71,750**

**YEARS TO BREAKEVEN ON 360 RAIN PURCHASE COSTS**

**3.35**

# 360 RAIN CHANGES THE WAY FIELDS ARE MANAGED

*Customer stories.*

## DOUBLE S DAIRY - MARKESAN, WI



DOUBLE S DAIRY SITE



LAYING DOWN WATER IN ALFALFA



Learn more about the first year experience with 360 RAIN from Mike Perry, Field Operations Manager at Double S Dairy.

Scan the QR code to watch his video.

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## NEW WESTON, OHIO



BILL'S 360 RAIN MACHINE



CORN WATERED BY 360 RAIN



Watch Bill Gelhaus' story to hear why he thinks 360 RAIN is a no-brainer.

Scan the QR code to watch his video.

# 360 RAIN

## Yield results from Nebraska



COLFAX COUNTY  
NEBRASKA

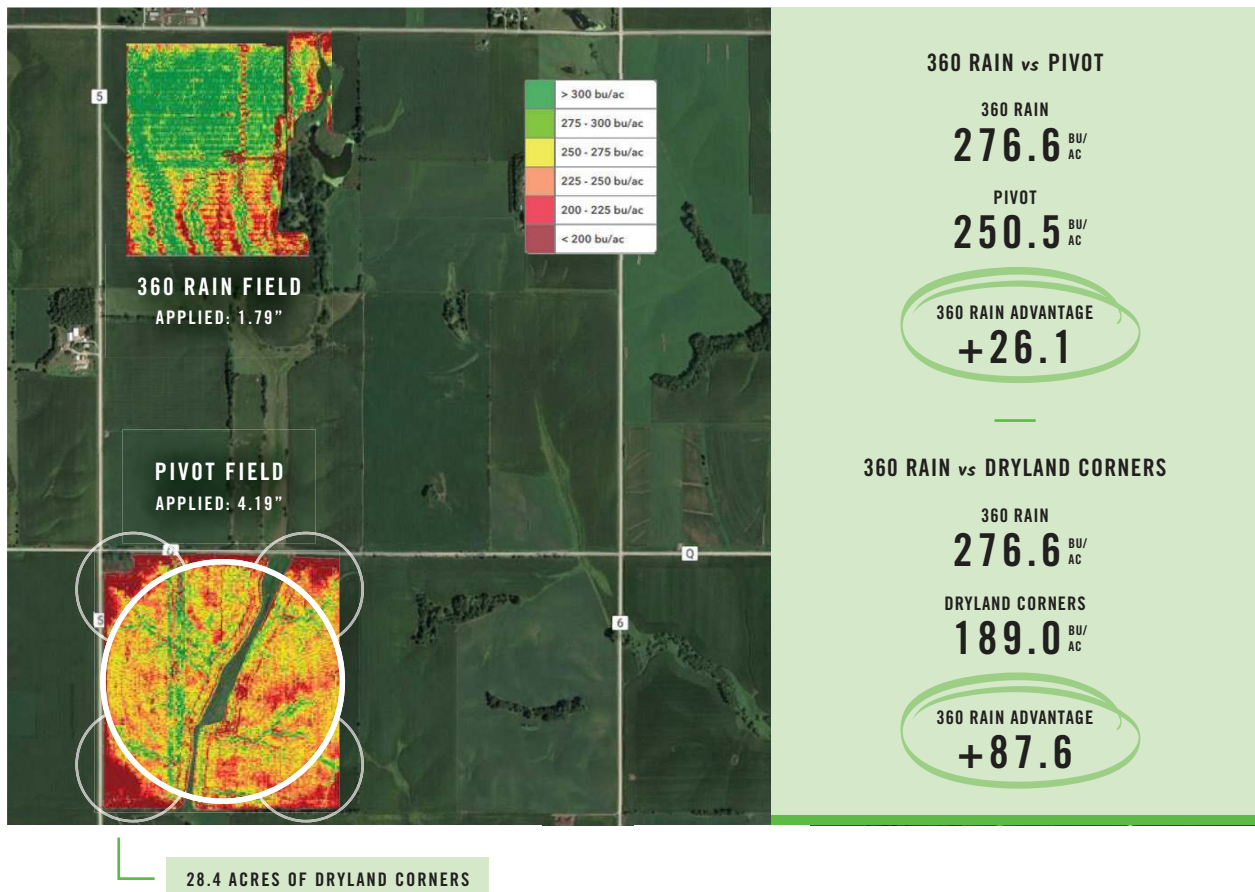
### 360 RAIN VS PIVOT

#### THE DETAILS

360 RAIN field is at the top of the map. Pivot field is at the bottom of the map.

- A 360 RAIN field had 1.79" of water applied throughout the growing season.
- B Pivot field had 4.19" of water applied throughout the growing season.
- C Pivot field has 28.4 acres of dryland corners.
- D 360 RAIN field has 0 acres of dryland corners.

The data compares 360 RAIN vs the area covered by the pivot and 360 RAIN vs the dryland corners.



# 360 RAIN

## Yield results from Illinois



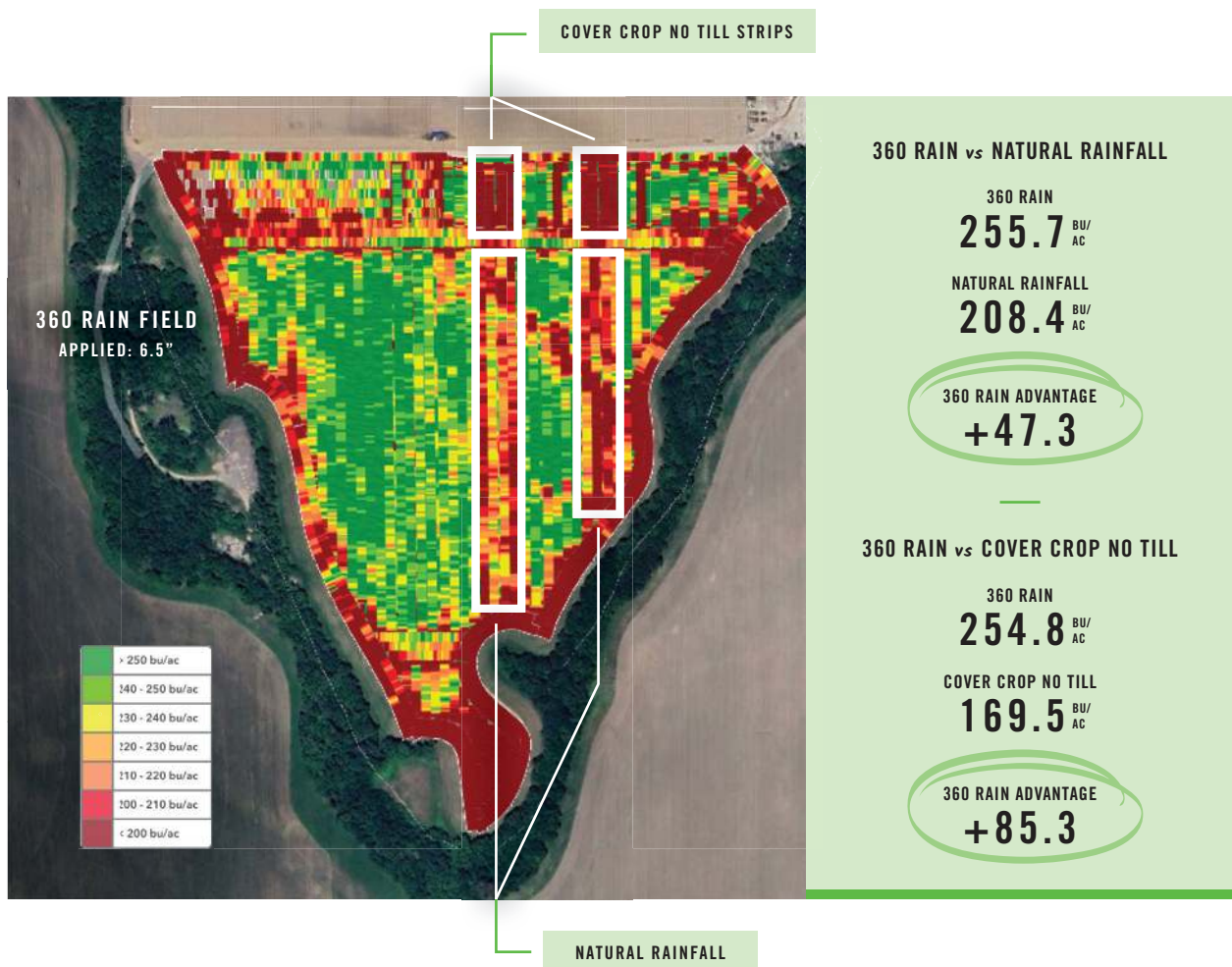
**TAZEWELL COUNTY  
ILLINOIS**

### 360 RAIN VS NATURAL RAINFALL AND COVER CROP NO TILL

#### THE DETAILS

- A** 360 RAIN field had 6.5" of water applied throughout the growing season.
- B** The two areas outlined in white towards the top of the map indicate the cover crop no till strips.
- C** The two areas outlined in white towards the bottom of the map indicate the natural rainfall strips.

The data compares 360 RAIN vs natural rainfall and 360 RAIN vs cover crop no till.



# 360 RAIN

## Yield results from Minnesota



MARTIN COUNTY  
MINNESOTA

### 360 RAIN VS NATURAL RAINFALL

#### THE DETAILS

- A The area outlined in white on the left side of the field indicates where 360 RAIN ran.
- B The area outlined in white on the right side of the field indicates the natural rainfall strips.

The data compares 360 RAIN vs natural rainfall.











# 360 RAIN

## Product Spec Sheet



### DIMENSIONS

Distance Between Rear Tires (Centers)	120"
Tire Size	320 / 85R38
Transport Width	142"
Transport Length (Frame)	285"
Transport Length (Frame and 60' Boom)	340"
Height with Reel	16' 1"
Under Frame Clearance	7' 6"
Under Boom Clearance	10'
Weight without Water and without Fuel <i>Shipping Weight</i>	12,400 LBS
Weight with Water and Fuel <i>3000' of Hose</i>	26,300 LBS
Hose Type	Polyethylene
Hose Size	3"
Hose Length (Max)	3000'

### BOOM SYSTEM

60' Boom with 12 Drops for 30" Rows <i>For Use with 24 Row Planters</i>	Available
80' Boom with 16 Drops for 30" Rows <i>For Use with 16 Row Planters</i>	Available

### MANURE SYSTEM

Manure Manifold with Impeller System	Optional
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### POWER SYSTEM

Diesel Engine Horsepower	24
Diesel Fuel Tank Capacity	300
Average Fuel Consumption	0.5 GAL/HR <i>(estimated)</i>
System Voltage	
<b>A</b> Control System	12V
<b>B</b> Propulsion System	48V
Electric Motors	
<b>A</b> Drive Motors	3
<b>B</b> Reel Motor	1
<b>C</b> Dispenser Motor	1
<b>D</b> Manure Motor with Manure Option	1

## COMMUNICATION SYSTEM

Planter GPS Package	Planter Path Recording Kit <b>A</b> Receiver <b>B</b> GPS Tower or Mount System <b>C</b> Lift Switch <b>D</b> 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, valves <i>(purchased separately)</i> .
Cellular Service Needs	Requires annual subscription to data plan managed by 360 Yield Center.
Range	Controls require line of sight or minor obstacles within reason for proper communication. If controlling pumps, motors or valves from remote sites (ie. manure pipeline), user may be required to add a 360 remote site control box and additional cellular plan.

## PERFORMANCE

Acres Covered Per Day	Up to 37 acres with 60' boom. Up to 50 acres with 80' boom.
Liquid Supply Recommendations	2000' of Hose = 250 GPM at 115 PSI 3000' of Hose = 200 GPM at 115 PSI <i>Hose length varies with field size and shape.</i>
Distribution Plumbing Size	3" main delivery line with equal distribution to individual row drops.
Approved Liquids	Water, Nutrients and Manure <i>(Sized less than 0.75" output orifice.)</i>
Speed Range	0.05 to 0.45 MPH / 1-8" Second
Non-Towable, Must be Hauled on Semi	--
Watering Band	15" - 7.5" on each side of the plant.

## TYPICAL DAYS TO COVER FIELD

Inches Applied	40 Acres	80 Acres	160 Acres
	250 GPM	250 GPM	215 GPM
0.35	1.1	2.1	4.9
0.45	1.4	2.7	6.3
0.55	1.7	3.3	7.7





**LEARN MORE**

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