



 N-Drip

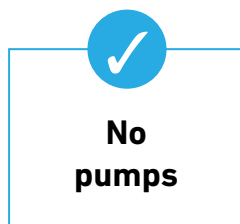




## An affordable alternative to flood irrigation - the N-Drip gravity-powered micro-irrigation solution



**Simple  
installation**



**No  
pumps**



**No  
filters**

Convert your existing flood irrigation to a ground-breaking, gravity-powered micro-irrigation system that is:

### **Simple**

Uses your field's existing infrastructure & topography.

### **Affordable**

Requires no external energy or water filtration, so you incur minimal conversion and operational costs.

### **Risk free**

Seasonal and reversible, N-Drip gives you financial and operational flexibility.

### **Benefits:**

- Maximises yields
- Significantly reduces amount water used
- Reduces labor costs
- Low conversion costs
- Substantially reduces amount of energy used, compared to all alternative systems
- Enables precise fertilization
- Easy to install and operate
- 100% recyclable
- Eliminates runoff & top-soil erosion
- Reduces greenhouse gas emissions

# Keep up with our achievements around the world

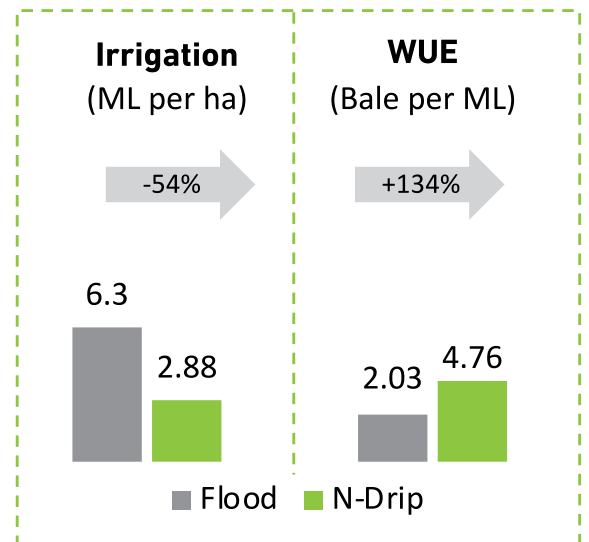
🌐 Australia, NSW

📍 Merah North

🌿 Cotton

🌱 Clay

💧 Bore



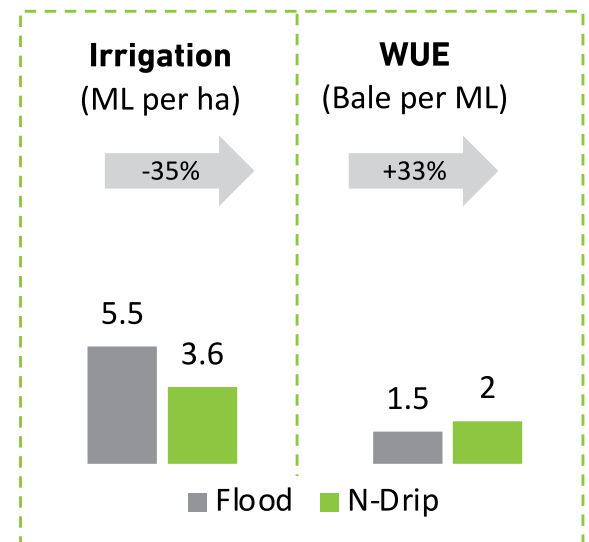
🌐 Australia, QLD

📍 Norwin

🌿 Cotton

🌱 Heavy clay

💧 Bore



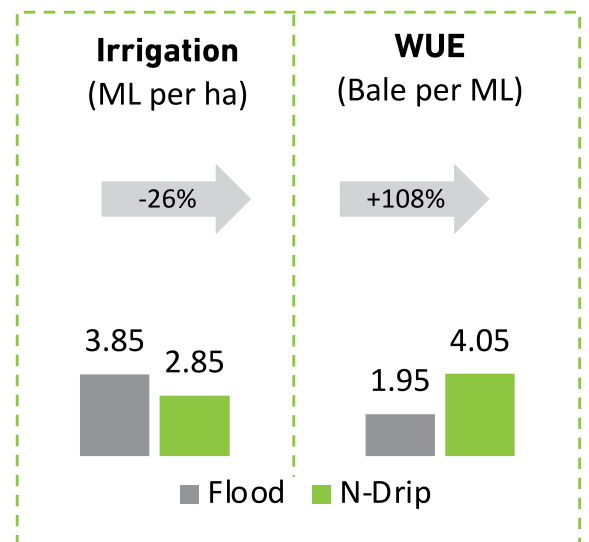
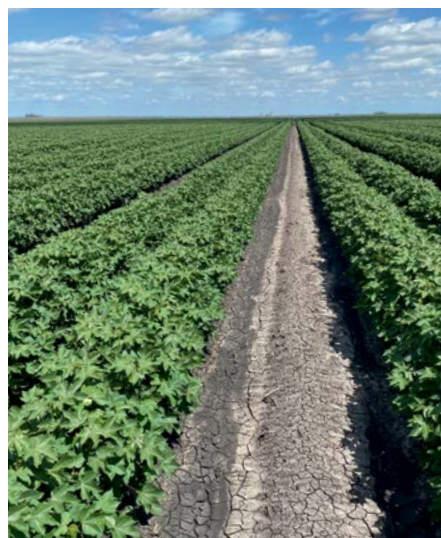
🌐 Australia, QLD

📍 Norwin

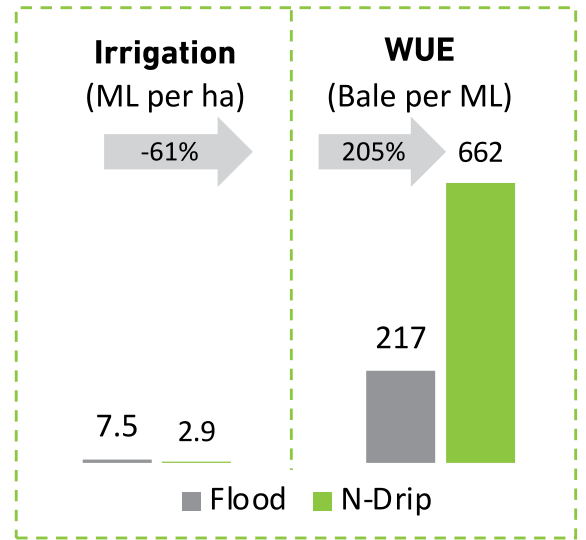
🌿 Cotton

🌱 Heavy clay

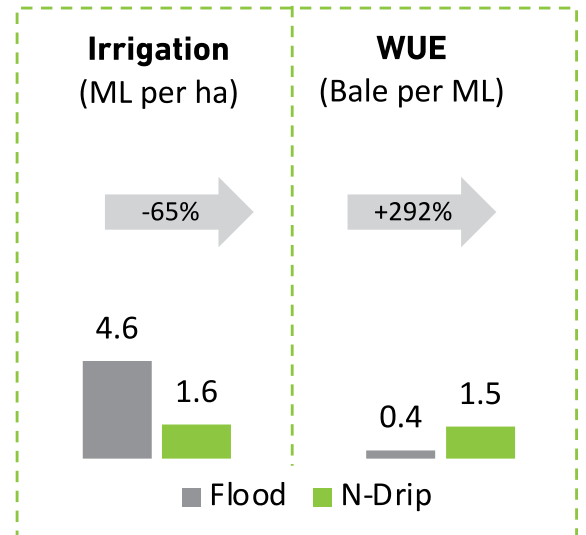
💧 Bore



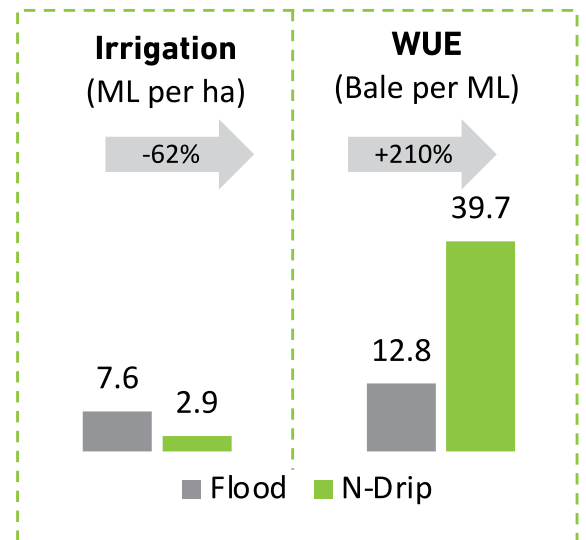
- USA
- Arizona
- Cantaloupe
- Sandy loam
- Bore



- USA
- Arizona
- Chickpea
- Sandy loam
- Bore



- USA
- Arizona
- P. Tomatoes
- Clay
- River



# Our Successes

## N-Drip "...could forever change agriculture" **Bloomberg**



A delighted Mr. Rother, with his 1st prize shield.

### **Australian Cotton Grower of the Year 2021 Nomination!**

Howard Rother from the Darling Downs (QLD, Australia) installed our N-Drip system on his cotton crop, side by side with his standard flooded cotton (syphon).

Our N-Drip block used 26% less water and the yield was 53% higher.

Howard won first prize for his "Champion Cotton Crop" from the Pittsworth Show Society and was **nominated** for the prestigious "**Australian Cotton Grower of the Year 2021**" Award (winners will be announced Aug 2022).



### **3 billion gallons of water to be saved every year, thanks to a US Department of Agriculture (USDA) grant awarded to N-Drip.**

Funds from the grant will be put towards expanding N-Drip's operations in the southwest region of the USA, as part of the solution to the Colorado River Basin water shortage.

N-Drip will work with approximately 20 producers of the Colorado River Indian Tribes to implement a drip irrigation system on flood irrigated fields. This system will provide the benefits of pressurized drip irrigation while offering the simplicity of flood irrigation. Participating producers will implement a unique sensor-based system which provides real-time data about water stress and nitrogen levels, enabling the producers to optimize water and fertilizer use to achieve maximum yield and crop health without wasting resources.



N-Drip Alfalfa field, Arizona



Professor Uri Shani, Founder and CTO, and Mr. Eran Pollak, CEO, receive the award.

### **FT/IFC Transformational Business Award**

#### **N-Drip wins the 2019 'Excellence in Disruptive Technologies' overall award**

The prestigious Transformational Business Awards, is an impact-driven award set up by the International Finance Corporation (IFC), an arm of the World Bank Group, and The Financial Times (FT) newspaper.

Out of 270 global candidates, N-Drip wins the 'Excellence in Disruptive Technologies' overall award!

In the words of the judges: "The winner has developed a solution that significantly increases the efficient use of water and energy in agriculture".

# Customer Feedback

”

**Haward Rother**  
**Rother Farming,**  
**QLD Australia**

For years we've been looking for ways to grow more with less water because that's our constraint and we found it.

The N-Drip field went 11 bales to the hectare compared to the flood which was 7.5; it was a remarkable result. The difference between 7.5 bales and 11 meant the system more than paid for itself in a year.

”

**Andy Jobman**  
**Corn grower for**  
**PepsiCo and N-Drip**  
**user, Nebraska USA**

At the end of the season, we saw a big saving in not only time but also labour. With the N-Drip system compared to our flood system, we were able to see improved yield, because we were watering the field more efficiently.

”

**Jatinder Singh**  
**Leading potatoes**  
**grower, Punjab**  
**state, India**

Based on last year's experiment on my land, this year I have increased my use of N-Drip's technology. We saved water and achieved a crop yield averaging 13-14 tons per acre – a huge improvement compared to flood.

# Collaborations



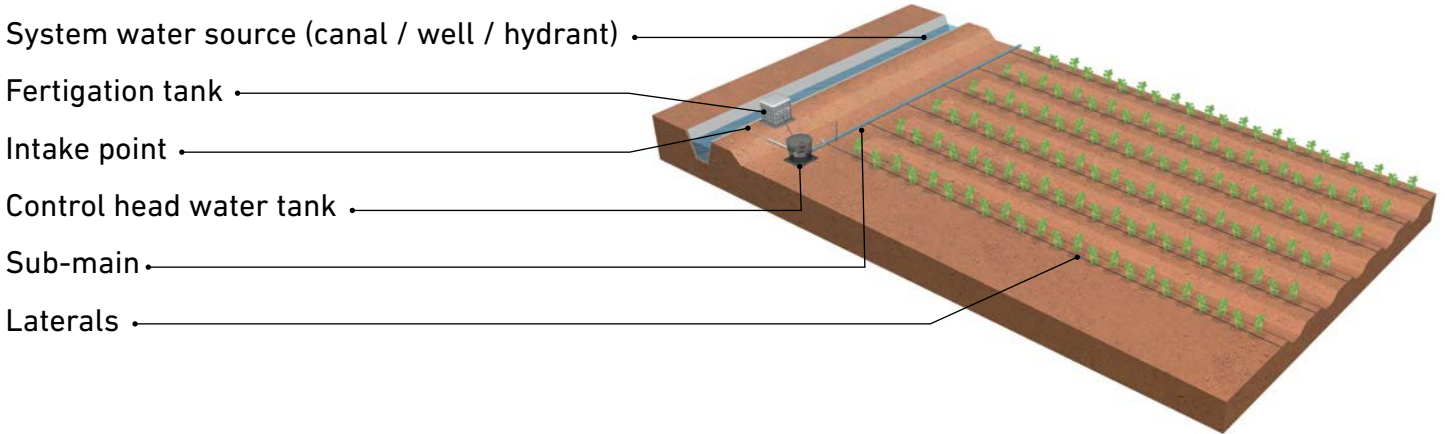
# N-Drip system overview

N-Drip is the first and only micro-irrigation solution to be powered by gravity force alone. With no external energy source and no pressure-based water filtration required, this disruptive technology enables farmers to produce higher yields, while optimizing water management and use of fertilizers, all at a lower conversion cost, making it the ultimate alternative to flood irrigation.

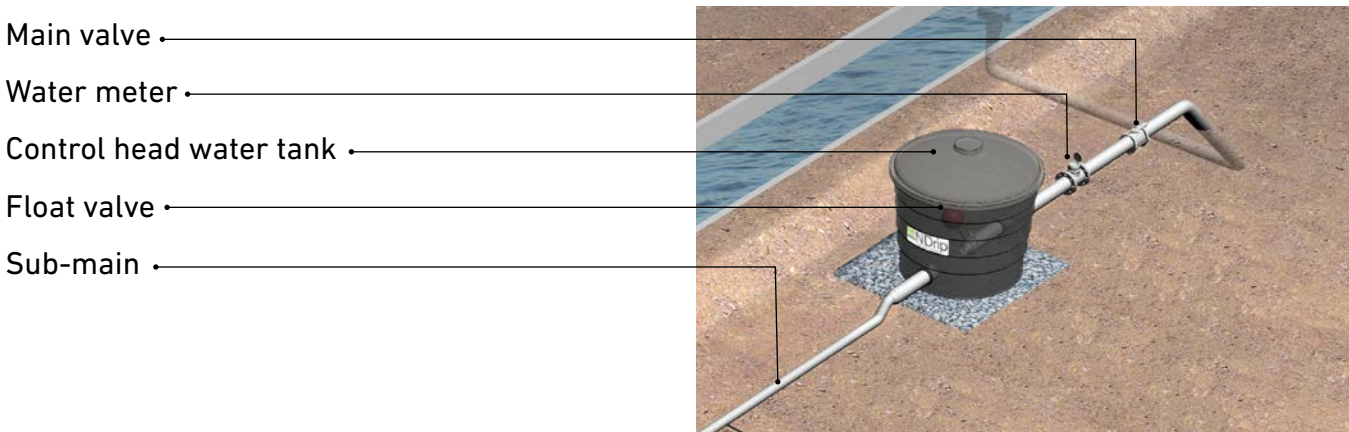
## Applications

- Any size and shape of levelled field
- All annual crops (field crops and vegetables)
- Crop germination on most soil types

## System components



## Irrigation control head components



The diagrams above are for illustrative purposes only. Specific data for each project will be determined by the relevant hydraulic design and field conditions.

## Technical data

	Operational Pressure at System Head	Lateral Diameter	Max. Lateral Length*	Recommended Field Slope*
N-Dripper 22	20" / 50 cm	0.87" / 22 mm	800 ft / 250 m	0.02%-4%
N-Dripper 44	20" / 50 cm	1.73" / 44 mm	1,950 ft / 600 m	0%-2%

- \* According to installation as per specific design and subject to water pressure of minimum 0.73 psi / 0.05 bar.
- \* Specific design may include a change in laterals direction.
- \* Emitters spacing on laterals varies according to crop, soil and design specifics.

# N-Dripper

Innovative and IP protected, the N-Dripper has been designed to provide efficient drip irrigation, without the need for costly external energy and without the use of pressurized water filtration. All components (emitters & laterals) are PE made, enabling 100% recycling after use.



## Technical data

Deployed in shallow depth (2-4" / 5-10 cm deep)

Product	External Diameter	Internal Diameter	Emitter Flow Rate *	Operational Pressure at System Head	Nominal Wall Thickness
N-Dripper 22	0.87" / 22 mm (7/8)	0.85" / 21.6 mm	0.39 GPH / 1.5 L/H	20" / 50 cm	9 mil / 0.23 mm
N-Dripper 44	1.73" / 44 mm	1.71" / 43.6 mm	0.39 GPH / 1.5 L/H	20" / 50 cm	9 mil / 0.23 mm
Blank Pipe 22	0.87" / 22 mm (7/8)	0.85" / 21.6 mm	NA	NA	9 mil / 0.23 mm
Blank Pipe 44	1.73" / 44 mm	1.71" / 43.6 mm	NA	NA	9 mil / 0.23 mm

\* According to installation as per specific design and subject to water pressure of minimum 0.73 psi / 0.05 bar. Approved performance for one season.

## Packaging data

Product	Roll Weight	Roll Length	Roll Diameter	Roll Height	Roll Core Width
N-Dripper 22	42 lb / 19 kg	3,280 ft / 1000 m	21.7" / 550 mm	9.8" / 250 mm	1.57" / 40 mm
N-Dripper 44	62 lb / 28 kg	2,620 ft / 800 m	21.7" / 550 mm	9.8" / 250 mm	1.57" / 40 mm
Blank Pipe 22	38 lb / 17 kg	3,280 ft / 1000 m	21.7" / 550 mm	9.8" / 250 mm	1.57" / 40 mm
Blank Pipe 44	58 lb / 26 kg	2,620 ft / 800 m	21.7" / 550 mm	9.8" / 250 mm	1.57" / 40 mm

### Note:

20 ft container - 12 pallets  
40 ft container - 24 pallets  
Each pallet - 32 rolls max.



### Accessories:



Start connector



Allen driver



Puncture



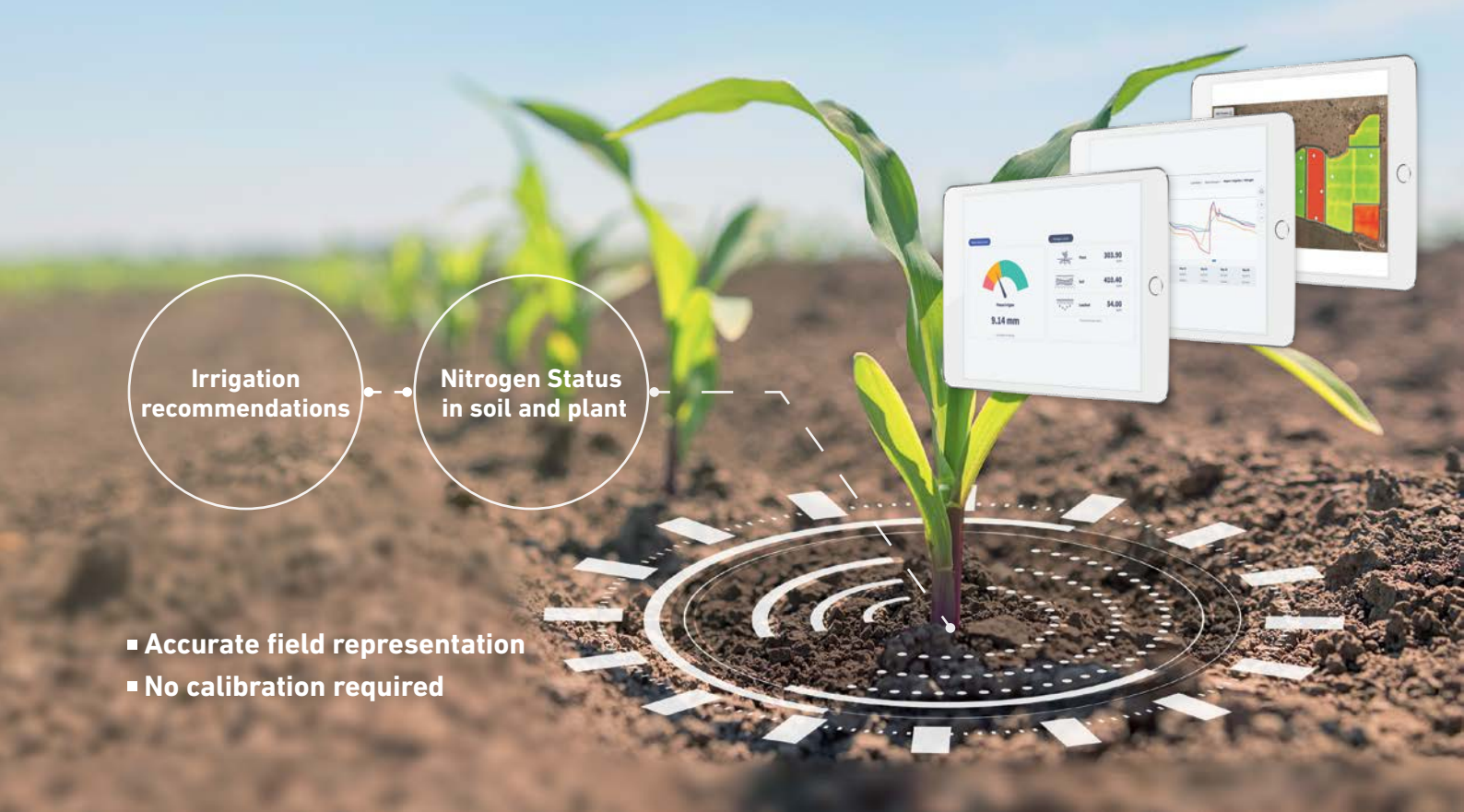
Coupling



T connector



Piezometer



## N-Drip Connect™

The **N-Drip Connect™** is an irrigation and fertilization decision-making support tool that enables optimal plant growth. It can be used for field crops, vegetables, orchards and greenhouses.

The system is connected to the root zone of the plant and regularly monitors available water and nitrogen. The unique imaging model carries out real-time analysis of data obtained from the root zone and a variety of additional information sources, calculates the water and nitrogen balance in the soil, and provides accurate, reliable irrigation and fertilization recommendations.

### ADVANTAGES THAT MAKE ALL THE DIFFERENCE



#### Maximum reliability

The system directly measures the water potential of the soil and roots, using samples spaced out at intervals to provide reliable data and accurate representation of the field's condition.



#### Backed by experts

The simulation and prediction model has been developed and is managed by our experts, a team with decades of academic and agricultural experience.



#### Complete accuracy

Without any need for calibration, the system provides irrigation and fertilization recommendations, adapted to a wide range of crops and soil types - a significant advantage for open fields and field crops.

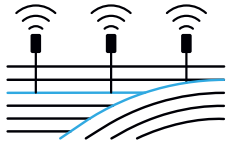


#### Easy to use

The field management software has a user-friendly digital interface.

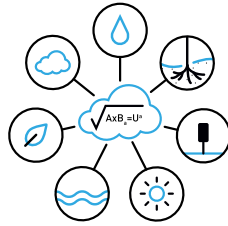
## HOW IT WORKS

1



The proprietary sensors are installed throughout the field, to allow optimal sampling of the root zone. The sensors are designed to adjust themselves to any type of soil, climate, and growing method, without requiring calibration.

2



The information continuously collected from the root zone, along with field and climate data, is then processed and analyzed via the imaging model.

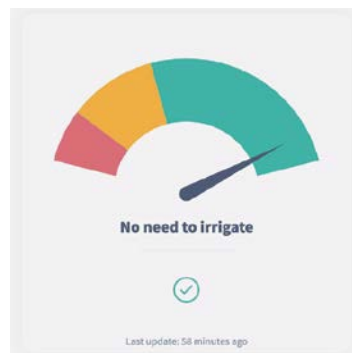
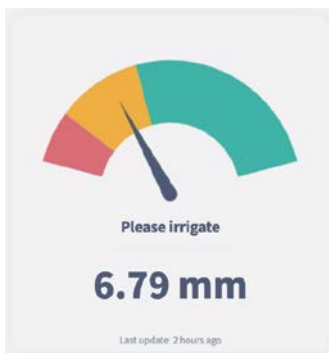
3



The simulation model provides the user with a comprehensive and reliable status of the field, including a precise recommendation for the ultimate question: **when and how much to irrigate and nitrogen status in soil and plant.**

## HOW IT LOOKS

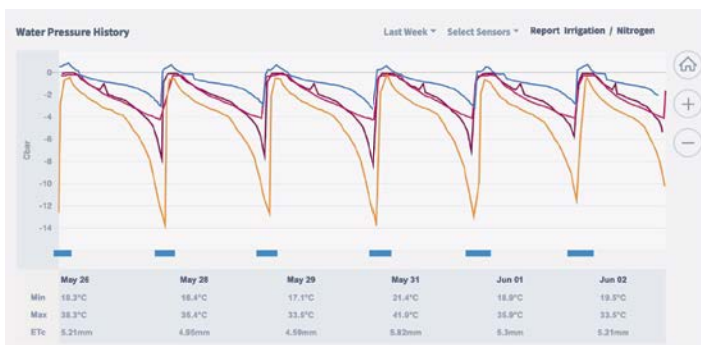
### Irrigation Recommendations



### Nitrogen Status



### Sensor Measurements



### NDVI maps



# Why flood, when you can N-Drip!



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 [www.ndrip.com](http://www.ndrip.com)

