INCREASING SUGAR CANE YIELDS THROUGH EFFICIENT IRRIGATION SOLUTIONS

HIGHER YIELDS... LOWER COSTS...
PRECISION APPLICATION
**Why irrigate?**

Getting the correct amount of water on your sugar cane crop is essential for producing high yields. Zimmatic® by Lindsay irrigation systems bring a cost-effective solution, alleviating risk when the weather isn’t cooperating. It also gives growers more flexibility when it comes to planting, because the timeline is not as affected by nature.

Proper irrigation management minimizes yield loss due to crop water stress and optimizes crop and sucrose yield per unit of water applied.

**IRRIGATION IMPACTS EVERY STAGE OF GROWTH**

From establishment to ripening, proper irrigation is important at each stage of sugar cane growth. At Lindsay, we take into account many factors, such as local microclimate, soil type and elevation when designing proper irrigation systems to meet your particular needs. One key relationship in determining sugar cane’s water requirement is its coefficient (Kc) in relation to its evapotranspiration (ET). The Kc is different at every stage of sugar cane’s development.

**Why pivots/laterals?**

**Pivot/lateral irrigation systems – right amount, right time, right place**

Applying the correct amount of water at the right time is crucial to getting a good yield, but it’s also important to apply it uniformly. Surface irrigation systems fall short in this area, but pivot/lateral systems apply water evenly throughout the cane field.

**THE RELATIONSHIP BETWEEN UNIFORMITY AND SUGAR CANE YIELD**

<table>
<thead>
<tr>
<th>Uniformity Coefficient (UC)</th>
<th>Relative Cane Yield</th>
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<tbody>
<tr>
<td>100%</td>
<td>1.00</td>
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<tr>
<td>95%</td>
<td>1.00</td>
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<tr>
<td>90%</td>
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<td>85%</td>
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<td>80%</td>
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<td>75%</td>
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<td>70%</td>
<td>0.93</td>
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<td>65%</td>
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<td>60%</td>
<td>0.86</td>
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<tr>
<td>55%</td>
<td>0.82</td>
</tr>
<tr>
<td>50%</td>
<td>0.77</td>
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</tbody>
</table>

**Pivots/laterals v. flood irrigation**

**Less waste**

The most obvious benefit to irrigating with a pivot or lateral system is that it produces less water. You get even, precise water application across the rows (Figure A), rather than having too much water at the upper end, and not enough water at the other end of the field (Figure B). You can control the timing and amount of water that is applied. Also eliminating runoff, helping prevent contamination of the water table and nearby streams.

**Lower labor costs**

The Zimmatic irrigation system by Lindsay is automated, so no one has to move pipes, or open and close floodgates. There are no ditches to maintain for pivots. One irrigator can operate as many as 25 pivots. Plus, remote control and monitoring options are available.

**Higher return on investment**

The long life of a pivot or lateral system is a significant benefit. Pivots/laterals v. drip

**Greater return on investment**

First of all, a pivot or lateral system costs less per hectare (acre) to install. For example, a Subsurface Drip Irrigation (SDI) system costs over 200% more than a pivot system to install on 50 hectares (125 acres). On larger fields, the cost difference is even greater. The irrigation efficiency is more detailed with use of drops and LEPA nozzles (95% v. 97%). And if you ever want to sell, there’s a higher resale value on a pivot/lateral system, too.

**Fewer maintenance hassles and labor costs**

Compared to an SDI system, maintenance is extremely simple for pivot and lateral systems. There is no emitter clogging, and no filter maintenance – it requires only a screened intake. Rodents, roots and cultivation equipment won’t damage your system. You won’t have to make trips out to the fields looking for leaks that need fixing. Even algae and chemicals aren’t issues.

**More benefits for you and your environment**

You can monitor and control the pivot/lateral irrigation system remotely. You can quickly apply water after seeding and as often as needed after that. And if you want to remove your equipment, it’s easy on your field. Pivot/lateral systems are 95% recyclable.
Watertronics – Customized pump stations for maximum efficiency

Watertronics, a Lindsay company, offers a complete, integrated pump station that helps maintain consistent water delivery from river stations, irrigation reservoirs, canals and lagoons.

Factory tested, each pump station is engineered based on your needs and field conditions to ensure peak performance.

- All components are integrated and housed in one complete unit
- Precision energy efficiency
- Variable Frequency Drive provides immediate energy savings
- Simple monitoring and control
- Continuous surge-free pressure regulation for enhanced efficiencies
- Horizontal and vertical pump stations available

Also available as an economical pump control upgrade for existing pumps.

Why Lindsay?

Tough, dependable Lindsay irrigation systems have been the choice of the world’s irrigators for more than 40 years. Lindsay irrigation systems pay for themselves many times over during their lifespan, and alleviate risk when weather conditions are not ideal for planting and growing conditions.

Yields: maximized
A Lindsay irrigation system can provide proper application to every part of a field throughout the growing season, even in those areas that are currently underutilized.

Energy, water, labor and time: saved
When compared to other irrigation methods, a Lindsay system will help maximize crop yields while using less energy, water, labor and time. Flexible, intuitive Lindsay irrigation control products make scheduling and operation simple, while Web-based remote control options offer comprehensive monitoring and management.

Application: precision
Zimmatic by Lindsay dealers analyze each grower’s operation to customize a sprinkler package based on crop and climate conditions.

Downtime: minimized
Lindsay irrigation systems are designed and engineered for life on the farm. They’re constructed using only the highest quality components for superior performance season after season.

Support: certified
Our network of certified dealers is trained to customize, install and service our entire range of irrigation systems.

Superior components built to last

Exclusive collector ring
Eliminates water flow restrictions, unlike internal design of other pivots.

Formed outlets
Ensures precisely matched threads for a watertight seal, unlike welded outlets that can leak on other pivot brands.

Uni-Knuckle span connector joint
Provides stress-free flexibility to handle the uneven terrain of cane fields and on slopes up to 30%.

Advanced drive line (center drive and PowerDrive gearbox)
Assures long life and durable operation in demanding sugar cane applications, characterized by thick and damp foliage.

Poly-lined pipe
Heavy-duty High Density Polyethylene (H.D.P.E.) handles corrosive elements, saline and acidic water.

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The Lindsay Advantage for Sugar Cane

**Higher Cane Yields for Bigger Profits**

Zimmatic Center Pivot Irrigation

Custom-fit your irrigation system to your fields for uniform application.

Zimmatic Lateral Irrigation

Irrigate 98% of square or rectangular fields, and tow your irrigation system between fields.

Height advantage using Ultra High Clearance

- a. Standard Height
- b. High Clearance
- c. Ultra High Clearance
An international irrigation leader

Lindsay continues to be a leader in technological innovations – developing systems that increase irrigation efficiency, boost productivity and reduce energy and labor costs. With hundreds of dealers across the world as well as strategically located parts distribution centers, we offer growers immediate certified service, customer training and helpful advice.

For more information, visit www.zimmatic.com or talk to your Zimmatic® by Lindsay dealer.