SEEDMATCHGROUP

Commercial Agriculture Glossary

Irrigation & fertigation

Drip irrigation

A method that delivers water directly to the root zone through a network of tubing and emitters, reducing water loss and supporting uniform crop development. Buyers evaluate it on system design, component quality and fit with crop spacing rather than on the water savings alone.

Drip tape vs. pressure-compensating dripline

Drip tape is a thin-walled product typically suited to shorter, single-season row crop runs, while pressure-compensating dripline maintains even flow across varied elevation and longer run lengths for perennial or high-value crops. The choice affects system longevity and maintenance planning more than upfront cost alone.

Emitter

The device fitted to a dripline or tape that regulates the flow of water to an individual plant or row section, with designs suited to different crops, water quality and terrain. Procurement teams should assess emitter compatibility with filtration and water quality rather than price per unit alone.

Filtration

The treatment stage that removes particulates, organic matter or precipitates from irrigation water before it reaches emitters, protecting the system from clogging. Filtration method should be matched to the water source and crop system during project planning, not added as an afterthought.

Fertigation

The practice of applying dissolved fertilizers through the irrigation system so that nutrients reach the root zone together with water, enabling tighter crop nutrition management across a growing cycle. Projects should be specified around the dosing and monitoring equipment required, not around the fertilizer products themselves.

Dosing unit

The equipment that injects fertilizer stock solution into the irrigation line at a controlled ratio, often linked to EC and pH sensors for automated adjustment. Buyers should specify dosing capacity and control integration based on the number of nutrient tanks and zones, not on brand alone.

EC (electrical conductivity)

A measurement used to monitor the total dissolved salt and nutrient concentration of irrigation or fertigation water, guiding dosing adjustments to keep nutrient solution within a safe operating range for the crop. It should be referenced as a monitoring parameter, not as a fixed target figure.

pH management

The monitoring and adjustment of irrigation or nutrient solution acidity so that nutrients remain available to the crop and clogging of emitters from precipitates is minimised. It is typically managed through acid injection integrated with the dosing unit and should be presented as an ongoing control process.

Irrigation controller

The automation hardware and software that schedules valve operation, dosing and sensor feedback across irrigation zones, ranging from simple timers to networked systems integrated with climate and fertigation equipment. Specification should start from the number of zones and integration needs, not from a feature list alone.

Crop water requirement

The estimated volume of water a crop needs over its growth cycle given local climate and soil conditions, used as a baseline for sizing irrigation, pumping and storage infrastructure. It should be treated as a planning estimate that is refined with site-specific data, not a fixed universal figure.

Evapotranspiration

The combined loss of water from soil evaporation and crop transpiration, commonly used together with crop coefficients to estimate irrigation scheduling needs. It is referenced in project planning as an input to water-balance calculations rather than a standalone performance claim.

Water treatment

Processes applied to irrigation water source — such as disinfection, sediment removal or chemical balancing — to protect system components and crop health before the water reaches filtration and dosing equipment. Treatment approach should be selected based on a water quality analysis of the specific source.

Pumping station

The infrastructure that draws water from a source and delivers it at the flow and pressure the irrigation or fertigation network requires, including pumps, controls and, where relevant, backup power. Sizing should be derived from system demand and site layout rather than a single pump model choice.

Distribution uniformity

A measure of how evenly an irrigation system applies water across a field or growing area, influenced by system design, emitter selection, pressure management and maintenance. It is a key design and acceptance-testing consideration for procurement, assessed through system layout review rather than a single headline number.

Sprinkler and pivot systems

Overhead irrigation methods that apply water through rotating or moving sprinkler heads, suited to field-scale crops and certain soil and wind conditions where drip is less practical. Selection against drip irrigation should be based on crop type, field geometry and water source rather than cost comparison alone.

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