

Small Farms, Big Business



UF/IFAS EXTENSION MARION COUNTY

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Consider using Drip Irrigation



Adjustable emitter on poly drip hose.

Drip irrigation (also known as trickle irrigation or micro-irrigation) is an irrigation method that allows precisely controlled application of water and fertilizer by allowing water to drip slowly near the plant roots through a network of valves, pipes, tubing and emitters.

Drip irrigation may not be applicable to all farms. Yet, when properly managed, it is a valuable production technique that may reduce labor and production costs while improving productivity.

What are the main advantages of drip irrigation?

Reduced water use: Because drip irrigation brings the water to the plant root zone and does not wet the entire field, drip irrigation typically requires half to a quarter of the volume of water required by comparable overhead-irrigation systems.

Joint management of irrigation and fertilization: Drip irrigation can improve the

efficiency of both water and fertilizer. Precise application of nutrients is possible using drip irrigation.

Reduced pest problems: Weed and disease problems may be reduced because drip irrigation does not wet the row middles or the foliage of the crops as does overhead irrigation.

Adaptation: Drip systems are adaptable to oddly shaped fields or those with uneven topography or soil texture, thereby eliminating the underutilized or non-cropped corners and maximizing the use of available land.

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61st Annual Florida Beef Cattle Short Course

The 61st Annual Florida Beef Cattle Short Course is considered one of the premier educational events for the cattle industry in the Southeast and Gulf Coast regions. The course addresses issues for beef cattle enterprises at an elevated level of management skill with practical applications for every beef cattle producer regardless of herd size. This event focuses on the current challenges faced by all

cattle producers such as urban growth, global competition changing customer demands, and environmental and economic sustainability.

To access the course agenda, registration and additional information click the following link:

<http://www.conference.ifas.ufl.edu/beef/index.htm>



Upcoming Events

- 61st Annual Florida Beef Cattle Short Course**
 May 2nd-4th
<http://www.conference.ifas.ufl.edu/beef/index.htm>
- Master Goat and Sheep Program**
 May 4th-5th;
 18th-19th
- Vegetable Integrated Pest Management**
 May 23rd
http://smallfarms.ifas.ufl.edu/documents/2012_0523_Vegetable_PMFlyer.pdf
- Planning for the Future of your Family Lands**
 May 24th
<http://www.eventbrite.com/event/3000930865>

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Consider using Drip Irrigation

Production advantages:

Combined with raised beds, polyethylene mulch, and transplants, drip irrigation enhances earliness and crop uniformity.

Components of a drip-irrigation System

The type and sequence of components in a drip-irrigation system are typically the same for all field sizes. Yet, based on field size (and water need), component sizes (diameter) may vary. The backflow-prevention devices - two check valves and the low-pressure drain, also known as "anti-siphon device" -- are the only components required by Florida law (FS 487.021 and 487.055 and Florida Department of Agriculture and Consumer Services Rule 5E-2.030) when fertilizer or chemicals are injected into the system.

Pumping system - its role is to move water from the water source to the field through the distribution system.

Distribution system - its role is to convey the water from the source to the field. Distribution systems may be above ground (easily movable) or underground (less likely to be damaged). Pipes are most commonly made of PVC or polyethylene plastics.

Drip tape (or drip tube) - delivers water to each plant through a thin polyethylene tape (or tube) with regularly spaced small holes (called emitters). Selection of drip tape should be based on emitter spacing and flow rate. The typical emitter spacing for vegetables is 12 inches, but 8 inches or 4 inches may be acceptable.

Injectors - allow the introduction of fertilizer, chemicals and maintenance products into the irrigation system. Florida law requires the use of an anti-siphoning device (also called backflow-prevention device) when fertilizer, chemicals or any other products are injected into a drip-irrigation system.

Filtration system - Because drip-irrigation water must pass through the emitters, the size of the particles in the water must be smaller than the size of the emitter to prevent clogging. The filtration system removes "large" solid particles in suspension in the water. Rapid clogging may occur when no filter or the incorrect type of filter is used. A filter needs to be cleaned when the difference in pressure across the filter (measured before and after the filter) is greater than 5 - 8 psi.

System controls - are devices that allow the user to monitor how the drip-irrigation system performs. These controls help ensure the desired amount of water is applied to the crop throughout the growing season.

Pressure regulators - installed in-line with the system, regulate water pressure at a given water flow, thereby helping to protect system components against damaging surges in water pressure.

Horticultural considerations

The goal of drip irrigation is to bring water to the crop. The main parameters that determine crop water use are the type of crop planted and row spacing. A drip irrigation system should be able to supply 110% - 120% of crop water needs. In other words, the system should be slightly oversized. In designing a drip-irrigation system, it is common to consider that vegetable crops ordinarily need approximately 1.5 acre-inches of water for each week of growth or approximately 20 acre-inches of water per crop.

For more information regarding drip irrigation go to the [IFAS Small Farms Drip Irrigation Virtual Field Day](#).



THE DRIP-IRRIGATION SYSTEM DELIVERS WATER TO EACH PLANT THROUGH A THIN POLYETHYLENE TAPE (OR TUBE) WITH REGULARLY SPACED SMALL HOLES (CALLED EMITTERS).

