

range from 0.3 gph to 2.0 gph with 1 gph being most common. Operating pressures typically range from 10 to 20 psi.

Microsprinklers

Since Florida's typically sandy soils limit the lateral movement of water from the emitter, reduced wetted volume of the soil results. To overcome this limitation with drip systems, microsprinklers are often used. With microsprinklers the flow rate and wetted volume of soil is significantly greater than the traditional drip irrigation systems. Flow rates range from 10 to 30 gph per sprayer with wetted diameters from 5 to 30 feet. This system is most common in citrus production. Distributing water over a larger area has resulted in increased yields. In addition, larger flow rates have reduced filtration requirements and plugging problems.

ENERGY COSTS IN IRRIGATION

Pumping costs are a major factor to consider when choosing an irrigation system and its power source. The power and energy requirements of a pumping unit depend upon the pumping rate, irrigation system pressure requirements, friction losses within the distribution system and pump efficiency. The cost and convenience of the fuel sources needs to be evaluated in the decision on which type of power unit to purchase. For more information on irrigation pumping costs see IFAS Extension Publication AE-62.

SUMMARY

Irrigation is required for much of the crop production in Florida. The type of irrigation system that should be used is specific to the crop and location. Such factors as the availability and the cost of irrigation water, and the requirements for freeze protection, fertigation or heat stress reduction are all important in determining which irrigation system is most appropriate for a particular application. In the final analysis, economic factors such as cost of labor or fuel, initial system cost, and interest rates are of primary importance for determining which system to purchase.

This circular provides a brief description of the various irrigation systems used in Florida, their applications, limitations, and some relative cost information. Publications providing more detailed information on the various irrigation systems were referenced. They are available by contacting your county Extension agent.

REFERENCES

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