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WILL FERTIGATION WORK FOR YOU?

The application of plant nutrients through drip and sprinkler irrigation systems has increased dramatically during the past 15 years. As careful water management becomes more important and the need for high yields of superior-quality crops increases, more growers are exploring the advantages of combining water and fertilizer application. Fertigation offers a boost in water and nutrient efficiency by simultaneously placing moisture and nutrients directly in the root zone where they are most needed, frequently resulting in the need for less fertilizer and water. Other potential advantages from fertigation include savings in labor and energy costs, flexibility in nutrient timing to meet the actual crop nutrient requirement throughout the growing season, and the ability to add nutrients that may be otherwise difficult to apply. Here are a few key factors to remember when considering a fertigation program.

Irrigation water quality. Making a decision to fertigate begins with having a suitable irrigation system and an adequate supply of water. Fertigating with flood or basin-type irrigation does not require high quality water. However, when using drip irrigation, care must be taken to never plug the small emitters. While many fertigation techniques can be effective, they have very different requirements and levels of management.

- **Addition of fertilizers to irrigation water needs to be carefully done to avoid precipitation with the water or other added chemicals when mixed together.** For example, high levels of calcium in the water can react with some fertilizers to coat pipes, sprinklers, and emitters with mineral deposits.

Fertilizer selection. Various fertilizers are available to supply all of the essential plant nutrients with the water. Your fertilizer dealer can assist with choosing any combination of primary nutrients or micronutrients to meet the crop requirements. There are numerous sources of nitrogen, phosphorus, and potassium that can be matched for a specific irrigation system and purpose. Regular plant tissue testing will let you know the crop need at that particular growth stage as a guide for fertigation.

- **It is essential that nutrients used for fertigation completely dissolve and flow cleanly through the irrigation system.** Consultation with your fertilizer dealer will make sure the plant nutrients needed are compatible with your irrigation water, your irrigation system design, and your crop production goals. When mixing chemicals for the first time, conduct a compatibility test in a jar before injecting materials in the irrigation system.

Yield boost. In almost all of the studies conducted, there have been significant yield and quality benefits resulting from fertigation. When done properly, environmental benefits associated with precision fertilization have been documented as well. Maintaining a stress-free rootzone allows the crop to develop to its full yield potential. Researchers conclude that when water and nutrients are simultaneously supplied to the plant in the right quantity and form, superior crops result.

Make a switch? If you are currently irrigating, you should carefully consider using your present system to add fertilizer too. However, fertigation will only be profitable if it is managed properly. For example, if the irrigation water is not distributed uniformly in the field, then the nutrients will not be spread evenly either. Fertigation can boost yields, crop quality, and profitability when done properly. Consult with a Certified Crop Adviser when making your fertilizer plans for the upcoming growing season.

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