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CC275 Farm Energy Tips - Use Energy Wisely - Water Testing

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Farm Energy Tips

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— USE ENERGY WISELY —

Water Testing

CC275

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Fertilizers are costing more and may be in short supply, due to transportation problems and the complicated energy situation. Therefore, methods that will reduce or eliminate unnecessary fertilizer application and expense should be used.

Testing irrigation water for nutrient content will help you plan good fertilizer management. Plant nutrients such as potassium, boron, magnesium, and sulfur are present in irrigation water. If these elements are present in amounts adequate to meet crop needs, then purchase and application of these minerals as fertilizer is unnecessary. In some parts of the state, there may be enough soluble nitrate nitrogen in irrigation water to be of fertilizer value.

The concentration of these minerals in the water varies from well to well. Therefore, a chemical analysis is necessary to determine what minerals are available. Remember, too, that nutrients in irrigation water are just as available to the growing crop as nutrients applied in commercial fertilizers. The knowledge of water quality (especially hardness) will also allow the irrigator to decide if he can apply various liquid fertilizers with the water and avoid incrustation of irrigation pipe.

Collecting Water Samples

When collecting water samples, remember two things:

Avoid contamination of the sample with any foreign material. Also, the sample should represent the total water supply.

Follow these steps when collecting water samples:

1. Obtain a request for analysis form from your county agent—this form *must* be filled out completely and mailed or brought with any sample to be tested.

2. Use a clean plastic container—any pint size (0.5 liter) household plastic bottle with cap will do the job. Make certain that both the bottle and the cap are soaked and thoroughly cleaned before using.

3. Wells should be pumped several hours before sampling—to get the most accurate indication of nutrients in the water, sample irrigation wells during the peak of the pumping season.

—for the same reason, samples from lakes, streams or ponds should be taken below the water surface.

—dependable sampling of test holes can be done only after a pipe and screen have been installed, and after pumping out all water added during the drilling operation (at least 10 hours).

4. Collect at least a pint (0.5 liter) of irrigation water from each supply tested.

5. The samples should be sent, with the fees, to the laboratory immediately after collection—if it is not possible to send the sample to the laboratory

within two or three days after collection, freeze the sample until it is sent to the laboratory.

Water samples to be tested may be sent to:

Soil Testing Laboratory
University of Nebraska
Department of Agronomy
125 Keim Hall
Lincoln, NE 68583
(Telephone: (402) 472-1571)

There are also commercial laboratories that will perform a water analysis for you. Check with your county extension agent for addresses, or refer to University of Nebraska NebGuide G74-77 "Where to Get Water Analyzed."

Accounting for the fertilizer value of irrigation water is a good step toward "Using Energy Wisely" and getting the most from your fertilizer dollars.

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