



Protecting Water Quality

What We are Doing to Protect Water Quality

- **Salinity:** Depending on the type of crop grown and the farm soils, salinity can play a role in crop-yields. We monitor the salinity of the water in our canals, drains, and in the well-water that is pumped into EBID facilities. Real-time data from those monitoring sites is sent via radio telemetry units installed throughout the District.
- **Bacteria:** Many District farmers produce crops that are eaten raw. Everyone has heard the frightening stories of E. coli contamination of chile or lettuce and the recalls and embargo on interstate transport. The cost of contamination to farmers is un-imaginable. The State Environment Department has placed limits on new E. coli sources in the District. While bacterial analysis is costly and time-consuming, EBID performs routine stream, canal, and drain sampling, particularly during periods of stormwater/flood runoff.
- **Sediment:** The District works to provide the best quality water possible. EBID has written grant proposals and been awarded grant funds, some of which will be utilized to engineer prototype retention facilities to capture and store high-quality stormwater runoff in selected EBID drains. These in-line storage facilities will contain stormwater, allowing sediment to settle, then either release it for District uses or allow it to permeate down into the aquifer. These facilities will thus provide a new, clean, "green" water source for the District to put to beneficial use.

Should Farmers Use Manure?

- The answer is certainly – YES!
- **Benefits:** The right animal wastes can be a valuable source of organic matter that improves soil quality and reduces soil erosion and runoff. The use of manure is a means of recycling essential nutrients for crop production, reducing the use of energy-intensive fertilizers and providing a means of recycling and sequestering carbon in the soil.
- **Proper Use and Storage:** Farmers should order, store, and use manure carefully as it is a source of bacterial pathogens that can place limits on the use of surface water. Bacteria, in a soil-water mixture, can survive and move dozens of feet downward to pollute groundwater. Manure is also a source of nutrients comprised of excess nitrogen and phosphorus compounds that can pollute surface and ground water. Don't forget your neighbors – manure that is "ripe," particularly from some animal sources, can have objectionable odors.
- **Prevent Contamination:** In our climate, spring winds can carry manure thousands of feet resulting in pollution of water in District canals and drains. Flies are also a problem with some "ripe" newly deposited manure. Both can pose a health threat to area homes.
- **Precautions:** Farmers who grow vegetables should be particularly careful. Most bacteria in water die away in three to four days, but once incorporated in farm-soils they have the ability to re-grow for weeks and sometimes months. We recommend that vegetable farmers not accept animal wastes unless composted and heat-treated. Pecan farmers should also use care in selecting and applying manure because some careless people crack open pecan shells with their teeth.

We Need YOUR Help!

If you use manure or other animal wastes, comply with the Good Management Practices described on the next page.

What Farmers Can Do to Protect Water Quality

The District needs your help in protecting the bacterial quality of the water supply we all share. Listed below are some things you can do.

DO NOT:	<ol style="list-style-type: none"> 1. Do not order or accept very wet manure that will flow across your property and onto roadways and drains. 2. Do not accept wastes that have noticeable amounts of animal parts, bones, or feathers. 3. Do not order or accept raw or ripe manure as it will attract flies. 4. Do not allow truckers to discharge manure onto District right-of-ways, particularly on the ditch banks along canals and drains owned by EBID. Ensure that animal wastes are off-loaded onto the property you own, not that of the County, the District, or a neighbor.
DO:	<ol style="list-style-type: none"> 1. Do apply any animal wastes to your farm soils as soon as possible after delivery so the material will not be spread by winds. 2. Do wind-row, mix, or otherwise stack manure when you can't use it soon after receiving it. 3. Do notify EBID if you know of any potentially harmful uses of animal waste products.

7 Good Management Practices

USING ANIMAL WASTES ON FARMS:

The purpose of the following management practices is to protect water quality, enhance soil fertility, improve soil structure, and conserve a useful material.

<ol style="list-style-type: none"> 1. Do not use more waste than the water budget allows, particularly where a shallow groundwater table is present or in areas prone to runoff.
<ol style="list-style-type: none"> 2. Limit manure-water application to the volume of liquid that can be stored in the root zone.
<ol style="list-style-type: none"> 3. Minimize the impact of odors from land-applied wastes by making application at times when temperatures are cool and wind direction is away from neighbors.
<ol style="list-style-type: none"> 4. Animal wastes contain pathogens and other disease-causing organisms. Utilize wastes in a manner that minimizes their disease potential.
<ol style="list-style-type: none"> 5. Priority areas for land application of wastes should be on flat-lands or gentle slopes located as far as possible from waterways.
<ol style="list-style-type: none"> 6. Apply wastes on pastures and alfalfa lands soon after cutting or grazing, before re-growth has occurred.
<ol style="list-style-type: none"> 7. Minimize environmental impact of land-applied wastes by limiting the quantity of high nitrogen animal wastes.