

# McPherson's Waste Not Going to Waste

KRWA found the article that follows from the January 7, 2018 issue of *The Hutchinson News* of possible interest to readers. The article by Brooke Haas GateHouse Kansas describes how the problem of excess waste can be solved by the need to fertilize the farmland.

Each year, McPherson produces around 900 tons of waste, explained Michael Wagner, wastewater superintendent of the wastewater treatment facility. At the same time, the city of McPherson owns 200 acres of farmland.

"We have to get rid of the waste for one," said Nick Gregory, city administrator of McPherson.

The city is required by federal regulations to dispose of these solids in an environmentally safe and beneficial manner.

The cake-like material known as biosolids were applied to fields owned by the city of McPherson last week to benefit the McPherson Wastewater Treatment Facility and the agriculture industry.

"The biosolids act as a fertilizer and on the fields we don't apply biosolids to we will spend about \$7,000 to \$8,000 for commercial fertilizer on those fields," Wagner said. "It's also very high in nutrients like Nitrogen, Phosphorus and Potassium."

Before it can be applied as a natural fertilizer, the wastewater facility works closely to make sure all regulations are met.

"Materials come into the plant directly from the sewers and then the treatment process itself is a biological process. What we do is we raise bacteria microorganisms that consume the sewage and we supply them with food, oxygen

and a nice place to live. In turn, their by-product is clean water through the natural process," Wagner explained. "The idea is to try to get as much water in the treatment process back into the environment, and once the microorganisms die, they continue to decompose to some extent and we end up with two percent of solids."

After the biosolids are processed, the wastewater facility moves it to an offsite storage area where the material is stored for a year.

"The optimal time to fertilize brome grass is in late December or early January," Wagner noted. "By the time it goes to the offsite storage when it leaves the facility, it can be applied immediately, but we wait just because of the optimal time to fertilize."

Before the biosolids are applied, the facility works with the Kansas State University agronomy team and the Environmental Protection Agency to ensure the right amount of biosolids are applied to the field to stay conscious of the environment.

"They develop application rates to put just enough biosolids on the fields to satisfy the nutrient needs of whatever the crop it is that we're growing. We do a soil analysis before we put the biosolids on to see what kind of nutrients and what kind of nitrogen and phosphorus is in the ground and we calculate how much nitrogen

needs to be applied on that field and what the crop is going to need that year," Wagner said. "When we harvest in June we will do a soil sample again to make sure that we didn't apply too little and if we didn't apply enough, the yields won't be as high and we apply too much, there will be nitrogen residue left in the ground and that can be harmful to the drinking water with runoff."

Over the many years of applying biosolids to farmland, many regulations and terms have been changed in order to ensure the safety of the city.

"In 1993, the EPA developed what was known as the 503 regulations and at that time they decided to regulate what municipalities were doing with the fields and environmental concerns. They developed a criteria for what to look for what to analyze and in conjunction, McPherson has a good industrial pre-treatment programs and we try and make sure any of the industries don't put things down the drain that could make it into the biosolids and into the fields and back into the food chains," Wager added. "There's all these different components to treatments to make sure biosolids are safe to put on the ground and different classifications for what types of crops you can put it on and ultimately if its for human or animal consumption."

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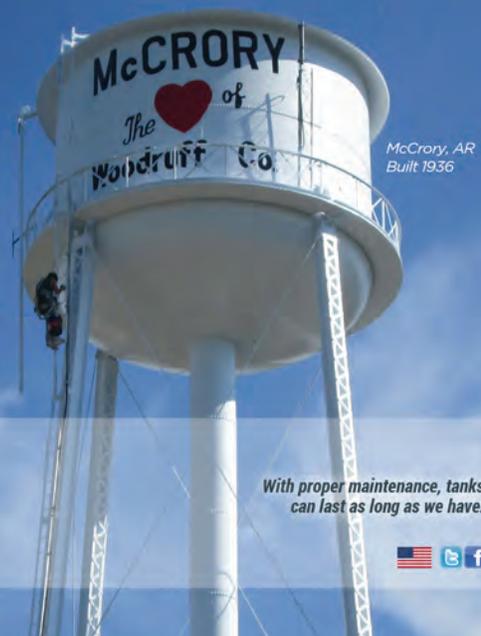
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