

What's that white stuff? *New recycling possibilities on the horizon*

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If you've driven by any of the dairy farms or beef farms in the area you may have seen long white tubes or maybe even a big pile covered with white plastic and tires. Just what are those?

Intro to Silage

Those tubes, bags, or piles hold feed for the cows. Typically corn silage, haylage, or other chopped matter like straw or grass are stored in plastic. By wrapping the feed tightly, the feed will start to ferment so that it becomes more digestible for the cows. This process is known as ensiling. Think sauerkraut for cows. The less oxygen that is in the pile or bag, the better the feed becomes. That's why the feed is covered so tightly, even to the point of using tires or their sidewalls to hold plastic tightly around piles.

The other advantage to ensiling, especially for hay, is that the hay can be harvested when it is at a higher moisture content, reducing the possibility that the leaves will shatter and break off the stems. The leaves are where the nutrition is, so the more leaves that stay on, the higher quality the hay. It also allows for more opportunities to harvest the hay as ensiled hay doesn't need to be dried for as long after mowing; waiting for a window of three or more rain-free days in order to harvest hay is no longer necessary.

Why use agricultural plastics?

The upright silos that are iconic to American farms aren't constructed much anymore, and the ones that are on farms probably are not used like they were in the past. There are many reasons for this. The unloading equipment in silos usually wears out before the silo itself is no longer operational. Also, someone has to climb each silo that unloads from the top every two weeks to change parts of the unloading equipment around. Additionally, upright silos collect gases from the fermentation process that can make people unconscious, or even kill them. In short, managing feed in upright silos is expensive and consists of a lot of dangerous work, so most farms have gone to safer, less labor intensive options.

Types of plastic "silos"

The big piles with the plastic and tires on them are called feed bunks, flat silos, or silage pads. Some have walls, but most of the new ones are just flat cement pads. The chopped feed is dumped from a truck onto the pad and a loader tractor pushes the feed around. Other tractors with front plows, similar to snowplows, push and drive on the feed to pack the feed tightly and eliminate as much oxygen as possible.

Another common site on farms in our area are long, white, plastic tubes. These contain ensiled hay or corn and are known as "Ag Bags". A specialized piece of equipment known as a bagger

is needed. The bagger takes the feed and pushes it into the bag and packs it tightly, all at the same time.

Round bales can also be completely enclosed in the white plastic. A two-step operation is involved. First, the bale is wrapped in netting to keep the bale intact. Then the white wrap is applied. Bales that are ensiled in plastic are often called “wet” bales. These bales contain hay that is much moister than the usual round bale so that the fermenting process will happen.

In short, agriculture plastics make it possible for farmers to produce a higher quality feed in less time, for less money, and more safely.

How much plastic is used for silage?

Real time figures of how much plastic is used in just the dairy sector are a bit hard to come by, but according to a couple of sources there are approximately 380,000 dairy cows in Michigan and they generate about three million pounds of agriculture plastic in one year! That’s a lot of plastic! In Missaukee and Wexford counties there are about 15,500 dairy cows. Doing the math, it’s likely that 124,000 pounds of agriculture plastic are used in these counties every year.

Conservation issues with plastic

All that plastic being on used on farms isn’t necessarily bad. However, just like any plastic, it is the disposal that is potentially problematic. Mostly the plastic is landfilled, or in some instances burned, or even buried. None of these options are really very good for the farm or the environment.

A better option would be to recycle the plastic. As the former recycling educator for the Missaukee County Recycling Center, I found that it was nearly impossible to find any recycling operation in the state that knows anything about agricultural plastics, and that understood that these plastics are extremely dirty after the silage is pulled out of them. Every recycling firm wanted clean plastic. That’s really not going to happen on a farm that has to deal with mud and wet feed.

Other states like Wisconsin, California, and New York are able to recycle these plastics. They can do this because they have developed methods of collecting them that work well, they have found a way to deal with dirty plastic, and they have found an end use for the recycled agriculture plastics. One promising enterprise drops off garbage dumpsters at farms. These dumpsters are used for agriculture plastics only. When the dumpsters are full, the company comes around and collects the contents in a garbage truck. The plastic is then made into things like plastic bags, plastic garden pavers, outdoor building materials, and more plastic sheeting.

Exciting news:

Lots of groups like Farm Bureau, Conservation Districts, and the Michigan Department of Environmental Quality are interested in recycling plastics. The DEQ is starting a new task force this winter to take a closer look at this issue. One of Governor Snyder’s goals for the state is to increase recycling. Collecting plastic from the dairy sector would be a major step towards that goal. It would also create more jobs and reduce landfill waste. If you are interested in learning

more about upcoming stakeholder meetings related to agriculture plastics, please contact Jodi DeHate.

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Below are copies of the photos that should be printed with this article, along with the appropriate captions. These photos were sent as separate .jpeg files – they are included here so that you can see the photos together with their captions. All photos were taken by Wexford CD staff.



Individual bales of hay are first wrapped in netting to hold them together, and then in plastic film to enable them to ferment.



By storing haylage in an ag bag, a farmer never has to climb into a silo where dangerous gasses can accumulate.



Farming past and present – the silos in the background have been replaced with the more efficient ag bags in the foreground.