



## **Plastic bales away**

### ***Hay baler used to roll up plastic after harvest***

**By Karen Gentry - Associate Editor**

A standard hay baler can compress plastic used for growing vegetables into a 4-foot by 5-foot ball, saving growers money in labor and disposal costs.

Ron Goldy, Michigan State University Southwest district vegetable agent, piqued the interest of growers after he showed them baling techniques at six different farms in Southwest Michigan including a demonstration on Sept. 20.

When it comes time to discard the plastic, vegetable growers who use plastic face disposal costs of \$300-\$350 per large construction bin. Goldy said 270 pounds of plastic are used per acre. With 3,000 acres of plastic used in Michigan that's 810,000 pounds of plastic. Typically a grower piles up the plastic and loads it onto a construction bin before it is taken to a landfill. With the baler growers can compress four to five acres of plastic into a bale that they can lift with a forklift.

"This allows growers to haul the plastic themselves at about one-half the hauling costs," Goldy said. Growers would only have to pay the approximately \$25 per bale landfill charges. The savings doesn't take into account labor savings.

Goldy hit upon the idea for using a baler after attending a meeting of the American Plasticulture Society in Hershey, Pa. last year. He said the drawback in hauling agricultural films is that they need to be compressed.

"You need a full 40,000 pounds per truck to make it economical," said Goldy. He originally thought about using a baler that is used for corrugated boxes and then brainstormed about using a standard hay baler. He investigated whether a baler had ever been used for plastic and found that Vriesland Growers Co-op in Hudsonville, Michigan had been using a baler for greenhouse plastic.

"They found a certain type of baler works best," said Goldy. Vriesland rented their baler to Goldy so he could determine if it could be used to pick up and compress mulch film.

"When I tried it a couple days after I got it, it worked," said Goldy. He noted that starting the bale is the most difficult step. "It has to have enough volume of material inside the baling chamber," he said. This material is needed to start the tumbling action to pull the plastic in. The baler will roll up plastic sheeting and drip irrigation tape at the same time, he said.

"Growers can see the advantage of it," Goldy said. One grower purchased a baler and another made arrangements to rent the baler from Vriesland.



He said the cost of a new baler is approximately \$15,000, although a good used one can be found for half that amount. The 20 growers who have seen the baler demonstration represent about 2,000 of the 3,000 acres grown on plastic in Michigan.

“It takes a little bit of training to get crews to lay plastic the best way for picking it up,” Goldy said. This year 400 acres of plastic were baled, compared to last year when no acres were baled, according to Goldy.

Goldy stressed that not all hay balers are appropriate for plastic. “It takes a certain kind of baler, where the baler chamber starts out large and stays large. These start out large and compress to produce a soft bale,” he said. Goldy said in the pickup mechanism there has to be all tines. Balers with augers or other obstructions can’t be used since they can cause the plastic to snag.

He has tested a couple different companies that sell balers appropriate for plastic, including Vicon and M@W. He said he favors the M@W balers that use a different technology without belts. It uses a chain with crossbars rather than belts on rollers.

Goldy said efforts are underway to find a place to recycle the plastic as one recycling company used in the past has enough plastic for now. One obstacle to recycling plastic is that it’s dirty, often with vegetable material left in and it’s black, not usually favored by recycling companies.

A video on the baler will be shown by Goldy during the plasticulture session at the Great Lakes Expo that takes place Dec. 4-6, 2001 in Grand Rapids, Michigan.

For more information contact Goldy at (269) 944-1477, [goldy@pilot.msu.edu](mailto:goldy@pilot.msu.edu)

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## MEMORANDUM

**TO:** Users and Suppliers of Agricultural Plastic  
**FROM:** Ron Goldy   
**DATE:** February 21, 2005  
**SUBJECT:** Plastic Recycling

Many of you have been aware of our efforts to recycle agricultural plastics. The first step was to find an efficient method of removing mulch and tape and putting it into a form that could be efficiently transported. This led to testing various round hay balers for their suitability. Some of you have adopted and modified this technology to suit your operations.

The next step was to find a recycler. This proved more difficult than baling. However, two recyclers have come forward seeking what used to be a waste product. Their numbers and contact names are listed below and a letter of introduction for Manner Resins is included with this FAX. So far both are just offering to take your plastic at no charge. All they ask is that it is in bales and you are in a position to load it on a truck they provide. This is a savings in itself, but with two companies wanting your plastic and the price of oil as high as it is, it may not be too long before they start paying a nominal fee to you. I would not expect that this year. I'm just hoping they stand by their verbal agreement to take it.

Michael McNaughton 313-587-4877  
He will take plastic mulch, tape and greenhouse pots and trays  
(Some of you have already talked to him or one of his colleagues. I suggest you contact him again. He says they will be in a position to start taking plastic in March.)

Tim Fazio 410-571-0570  
Manner Resins (see included letter)

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Dr. Ron Goldy  
Michigan State University  
1791 Hillandale Rd.  
Benton Harbor, MI 49022

Dear Ron –

It was a pleasure speaking with you Monday about recycling agricultural film in your area. You should be commended for your efforts to keep this stuff out of the landfill.

As I mentioned, our company successfully collected and recycled about a million pounds of dirty plastic mulch last year. We have an end user that can clean up and recycle this low-end material on an ongoing basis. We have helped growers throughout Virginia, Georgia and Florida remove the material from their farms. My hope is that we can help you recycle those 3,000+ acres of plastic in Michigan.

I'm finding many growers that I've made contact with are frustrated with recyclers. We take pride in our reputation of servicing our clients and I promise not to bale out on you... pun intended. Manner Resins has been in business for nearly twelve years. We collect post industrial scrap material and agricultural mulch for recycling throughout the US and in Canada. We predominantly deal with truckload quantities (40,000 lbs.) but will consider 10-20,000 lbs lots as well. The material would need to be baled at this time. We arrange the freight pick up.

Our goals in this are to develop a program that will save your farms money and keep the material out of the landfills. Unfortunately we can not afford to pay anything for this material and have to make sure that the farms are willing to collect and centralize the bales so that they can easily be loaded onto a truck or container. The farms we are currently working with had to go to some effort to arrange this but ultimately preferred this to paying up to \$50/MT to landfill the material.

Thanks again- I hope we can help you in the future!

You can reach me at 410-571-0570 or e-mail [tfazio@mannerresins.com](mailto:tfazio@mannerresins.com).

Best Regards-  
Tim Fazio

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