

RAPP Bridge Funding

FOC 16 001

Duration: April 1, 2016 - September 30, 2016

Jean Bonhotal

Impact Data

Number of Producers Participating: 180.

Number of Producers Advising: 10.

New Part-Time Jobs: 180.

New Seasonal Jobs: 11.

Retained Part-Time Jobs: 180.

Research/Extension Employed: 5.

New Gross Savings: \$58,055.85.

Potential Industry Impact: \$58,055.85.

Articles/Publications: 8.

Presentations (less than 3 hours): 25. Notes: 25-presentations. 522-producers..

In-Depth Presentations (>3 hours): 22. Notes: 22-presentations. 105-producers..

Total Producers Reached: 627.

Leveraged Funds: \$2,000.00. Notes: Started with FVI money attracting \$1,625,000 (NYSDEC) and then bridged with FVI money \$62,844. 2,000 in 2017 from Cornell PWT (Smith-Lever..

Change to Baseline Farm Data

If we take an average of \$70/ton for landfill tip fees and multiply it by 2,000,000 that equals \$140,000,000 in savings. So in Delaware County where 50% of the plastic is being recycled, 98,630 pounds of ag plastic equals \$6,904,100 in savings to farmers. Delaware County Solid Waste gets paid a little for loads.

Profitability, Competitiveness, Sustainability Improvements

RAPP was challenged to increase the agricultural plastics recycling rate in New York to 10% or greater. Over 2 million pounds of used ag plastics were recycled in the last 2 years. The increase has come with a number of challenges, including the low cost of virgin plastics resulting in the collapse of many plastics recycling markets.

RAPP's efforts in developing markets pays off periodically. There has been an increase in domestic processors handling agricultural plastics and an apparent increase in overseas markets. Overseas markets have been relatively unaware of many ag plastics. The market situation did result in the loss of markets for low quality materials like used horticultural mulch film, the cost of trucking was exceeding the market value. The drop in the market price caused one private business in Central NY to suspend collection of bale wrap. Yet market options for better quality material like boat wrap and greenhouse film improved. RAPP continues to work with the network of outreach educators, generally Cornell Cooperative Extension (CCE) County Associations, in their role of recruiting plastic recycling participants,

maintaining contact with current participants and providing training and education in preparing plastic for efficient recycling. Outreach educators have been incredibly important in teaching producers best management practices for recycling.

Delaware and Madison Counties Departments of Solid Waste, continue to manage their own agricultural plastics collection and recycling programs with support from RAPP for education and marketing, as needed. The participation of local Solid Waste is proving essential for the sustainability of agricultural plastics recycling. This can be part of a team such as the partnership in Otsego County involving Solid Waste, the Soil and Water Conservation District, Otsego County Conservation Association and Casella Resource Solutions. Delaware County has exceeded a 50% recycling rate for used agricultural plastics in the county. This is an outstanding accomplishment in a short time.

Ontario County CCE and Planning Department formally joined the RAPP effort. CCE hired a summer intern to survey area farms for quantities of plastic used and assess interest in recycling agricultural and marina plastics - interest is high. This is a public/private effort with Casella Resource Solutions proposing to collect and market the materials. The private partnerships take time, changes in collection must also make sound business sense. In Otsego County, Casella has supported collections of ag plastics, significantly motivated by the difficulties of handling agricultural films in their compaction trucks.

Knowledge Gain

Lewis County Soil and Water Conservation District - Collection from 11 Lewis County farms, SWCD collected/diverted 30 bales (30 tons) of ag plastics. At \$72 per ton tipping fee, if landfilled, saved farmers \$2,160 in tip fees.

Wyoming County Cooperative Extension shipped 41.5 tons of ag plastic to market. The county exceeded a 50% recycling rate from the county's dairy industry, an outstanding recycling rate and well above the national recycling rate of 9% for all plastics.

Delaware County Cooperative Extension - Activities in the spring were light with 1 farm asking for a retraining and another new farm added. However, outreach continued at farmer meetings and will continue until further notice.

RAPP outreach at various CCE events reached specific audiences that use ag plastic to preserve forages, such as the beef producers meeting in May. Outreach at the County Office Building helps justify work being done at the solid waste facility in terms of time to manage the wrap and storage until sufficient quantity is available to ship out. A continuous advertisement in our Ag News lets farmers know that RAPP is on-going and all they have to do is call and make an appointment. We have planned our Delaware County Fair exhibit with the fair running 8/15-20 with the poster, handouts and a pad of paper to sign up.

We are grateful to receive funding for this important outreach as farms now look cleaner, our landfill is relieved of so much waste, and it makes everyone who uses ag plastics feel better knowing that the plastic will be used again.

Summary of shipments during this contract:

Pounds of plastic diverted, current RAPP contract

9/1/13-5/31/14 -225,000

6/1/14-11/30/14 -656,100

12/1/14-8/31/15 - 600,131 (includes 336,000 lbs of baled material ready for market)

Total - 2,025,131 (includes 336,000 lbs of baled material ready for market)

Outreach

Considerable time has been put into supporting collection efforts through SWCDs, Solid Waste and Recycling Authorities and private companies. Five mobile BigFoot balers were used in contract and neighboring counties. During the winter of 2015, Lewis County SWCD assumed the cooperator agreement for the Jefferson County baler and Cornell Cooperative Extension of Wyoming County assumed the cooperator agreement for the Wyoming County baler.

Increased interaction with private industry is proving beneficial. Ontario County Planning Department has written agricultural plastics recycling into their county waste management plan and has engaged Casella Resource Solutions to develop a plan for collecting, baling and marketing ag plastics. Hopefully this will become a regional effort.

Ongoing efforts in the North Country have resulted in 156,000 lbs. of plastic being moved to TAP Industries for processing. TAP Industries received a Regional Economic Development Council (REDC) grant in December 2014 to help complete their processing line. In the past, moving bales to storage and/or market locations were carried out largely with RAPP funding. As this is not financially sustainable, RAPP has been meeting with Solid Waste and Recycling Authorities regarding the acceptance, storage and recycling of agricultural plastics. As we establish storage locations in each part of the state, farmers, marina operators and other generators can self-convey plastics (baled, in Super Sacks®;, lose or in some other manner) to these designated locations. Delaware and Madison Counties have fully adopted this approach. In Otsego County, SWCD notifies Casella where baled material is located and Casella trucks pick up bales as it fits their schedule.

Work has been ongoing to identify alternative methods to move baled plastics to markets. Discussions with solid waste authorities and private haulers have identified several alternative methods of collection and transport of ag plastics for recycling. St. Lawrence County Solid Waste indicated that they have transportable compaction containers that could be used for transporting material straight to market without baling. Wheelock Disposal, Winfield, NY, supplied 40-yard roll-off containers, with the ability to move up to 24,000 lbs. of plastic at one time for ag plastics delivery to NBF Plastics. A walking floor tractor-trailer was also successfully used to load bales on a farm that had no loading dock. Casella Resource Solutions is also investigating methods of collection.

RAPP has assisted Madison County Department of Solid Waste with their interest to build a plastics-to-fuel facility to process agricultural and other plastics. RAPP has introduced most of the potential businesses to Madison County. A Regional Economic Development Council grant proposal to attract a company was unsuccessful, however 5 companies submitted proposals to a recent RFP.

Meetings with Otsego County Solid Waste, SWCD, Otsego County Conservation Association, and Casella Resource Solutions resulted in four collections, two in the spring and two in the fall of 2015. Approximately 14,000 lbs. of agricultural plastic were brought in, largely from commercial producers but also homeowners with wood pellet bags. Additional collections were held in May of 2016. For smaller producers, Otsego County would like to shift from baling on farm to receiving at collection locations.

At a review of Delaware County Solid Waste's agricultural plastics collections program using Super Sacks® and baling, it was found that the ag plastics collected to date have been reasonably clean and sorted properly by the farms. At the PWT meeting in April 2015, a tour of the new MRF showed that the use of Super Sacks® has proven useful for other recyclables. To date, Delaware County has recycled 98,630 lbs. of agricultural plastics. Some of these funds are coming back into the RAPP Program. Their recycling rate for used ag plastics has exceeded 50%.

RAPP met with Solid Waste Divisions of Chautauqua and Cattaraugus Counties as well as SWCD and CCE staff from both counties that are interested in participating. Both counties are assessing their resources and potential for Solid Waste to divert ag plastics to recycling. Cattaraugus County Solid Waste offered two sites for collection and baling of ag plastics. Extension is working to educate farmers and a bale of Super Sacks® was left with SWCD and Extension for distribution. Agreement was subsequently reached with Chautauqua County SWCD to receive the Washington County baler and increase collection of ag plastics in the county. The cooperator agreement was signed in the winter 2015. To date, limited plastic collection and baling has occurred, a significant number of farms have committed to participating.

RAPP Educational Activities

A dedicated RAPP website is located at <http://www.recycleagplastics.css.cals.cornell.edu/>. Some of the postings are listed here:

--Educational materials can be found at <http://www.recycleagplastics.css.cals.cornell.edu/agplastics-2.htm>, including short "fact sheets" for best management practices on preparing and storing plastic for collection/baling. A small number of these have been printed and laminated as double-sided posters and have been distributed at events.

--A map showing baling activity and locations, Super Sack® locations and locations where RAPP education is occurring is located at <http://compost.css.cornell.edu/RAPPmaps.html>.

--The BigFoot Baler Instructional video (English and Spanish versions), also available online, and the Baler Maintenance Manual.

--In both August 2014 and 2015, RAPP had displays at Empire Farm Days, a three-day event held annually in Seneca Falls, NY. The booth attracted several hundred visitors, approximately 50 people had specific follow up requests related to recycling their plastics. A significant number of farmers expressed interest in the proposal to collect and divert ag plastics from the Ontario County landfill.

--In September 2014, Broome County CCE invited RAPP to speak at the Broome County Local Government Training. A 45-minute presentation titled "Agricultural Waste: Role of Farm and Municipality" was presented to 62 attendees, who were very interested in agricultural plastics recycling.

--Additional outreach was conveyed through displays at the annual NYSAR3 conference and trade show in Cooperstown, Novembers of 2013-2015. This is a good opportunity to interact with solid waste personnel, recycling coordinators and private industry.

Industry Changes

Industry changes vary around NYS. This phase of the program started in 2013 with startup funding from

NYFVI and the commitment from NYS DEC to provide plastic balers around the state. NYFVI provided bridge funding during the phase that we just completed. Timing and market pressure has caused the Cornell portion of the program to shut down.

Where is RAPP now? Without funds it has been impossible to continue with the program. Although there is no funding to continue, we feel obligated to launch the county programs as best as we can without the funding that counties were used to getting from the DEC grant. There are a lot of loose ends; communication/meeting among the SWCD/Cooperative Extension/Farmers, distribution of balers and supplies, etc. to serve the counties that have gotten the programs up and running. Counties that we are working with include Wyoming, Lewis, Clinton, Franklin, Jefferson, St Lawrence, Delaware, Tompkins, Cattaraugus, Chautauqua, Otsego, Madison, Westchester, and Long Island. We are hoping to place an orphaned baler in Orange or Rockland upon the request of the Hudson Valley so that they can start collecting plastic through solid waste entities.

The balers are owned by NYSDEC and will stay under contract in locations where they are unless the county/entity does not want to use the baler any longer. Otsego, Wyoming, DANC and Lewis plan to continue collecting. Cattaraugus and Chautauqua are currently unsure. Madison and Delaware counties will continue to collect but use stationary solid waste balers. Clinton County continues to bale with county owned balers. There is also a Mennonite community that bales in Yates county and will continue.

Meetings with recyclers have had very mixed results. Great Lakes Recycling, North Tonawanda, is handling film plastics and would assist with marketing and possibly facilitating pickup of baled plastics from farms in Western NY. Ultra-Poly, a plastics recycling company in Pennsylvania, ran test runs to process greenhouse films with coordination from RAPP. They liked it and subsequently have started accepting and processing this material. Lois Levitan has some funding from the greenhouse industry to collect and process. The lack of real markets for dirty plastic is really the downfall of the success of this program. Many entities have tried and failed to really turn this material into products that could be beneficial and useful. For 20 years, I have seen the heavy hitters like Mobile, Exxon and Delta, try to recycle and fail. The current market in PA is taking fracking pond liners because it is 60-80mils thick and washable. We were down to one good market in Brooklyn that was producing trash bags, however they received a few bad loads and stopped accepting the ag films. Clean plastics are being recycled all around us but it does not take much contamination to make the linear plastics dirty. Plastics-to-oil has not succeeded to this point either. A plant was built in NH in the NE Kingdom. They took several loads from NYS for testing and never commissioned the plant. This situation has likely occurred because of the low price of oil; time and prices will tell if that changes.

Farm Success Stories

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Photos, Presentations, Charts, Publications

Wyoming CCE Recycled Ag Plastics (Wyoming CCE RECYCLED AG PLASTICS.pdf)

6/15/16

Program to Help Farmers Recycle Bulk Plastic Waste (Program to help farmers recycle bulk plastic waste _ Local News _ thedailystar.pdf)

2/24/15 thedailystar.com

Farm Plastic Collection Success (FarmPlasticCollection.pdf)

3/1/15 Farm Show, 39(3)42. 2015

Ag Plastics Recycling Making Progress in a Down Market (Wasteline-January2016.pdf)

1/1/16 Wasteline, 21:1. 2016

Best Management Practices for Preparing Agricultural Bale Wrap for Recycling (BMP poster 11 x 17-bale wrap.pdf)

12/10/14

Best Management Practices Preparing Bunker Covers and Silage Bags for Recycling (BMP poster 11 x 17-covers-bags.pdf)

12/10/14

Program Work Team Annual Report (RAPP PWT Annual Report 2016.pdf)

1/9/17 RAPP PWT annual report covers accomplishments over the past year (2016).

Final Report Summary Statement

September 2013 - October 2016: just over 2,000,000 pounds of agricultural plastics from NY farms diverted to markets.

--815,631 pounds to Brooklyn, NY, for processing into garbage bags and an additional 82,600 pounds forwarded by NBF Plastics in Auburn, NY.

--157,000 pounds of mulch film shipped to Delta Plastics in Little Rock, AR, to be made into industrial-quality garbage bags.

--279,500 pounds delivered to NBF for processing into plastic lumber. 11,000 lbs. of Super Sacks® were taken by NBF for reuse.

--156,000 pounds were taken by TAP Industries, Malone, NY, with intent of being processed into plastic pellets. --40,000 pounds to JUM Global, from Madison County for plastics-to-fuel and 120,000 lbs. to Prima-America in Groveton, NH, for plastics-to-fuel processing. Plant was tested but then shut down.

--110,600 pounds shipped to other markets.

--336,000+ pounds have been diverted and baled in preparation for market.