

Agricultural Plastics Recycling in New York State

September 1, 2013 – May 31, 2014

Report

NYS Department of Environmental Conservation (DEC) Contract # C009124

NYS Recycling Agricultural Plastics Program (RAPP)

Cornell Waste Management Institute (CWMI)

Cornell University • Ithaca, NY 14853

Move to CWMI: RAPP successfully moved from the Cornell Department of Communication to the Cornell Waste Management Institute in the Department of Crop and Soil Sciences in November 2013. The move occurred when the final contract with DEC was executed in November (retroactive to September 1). Jean Bonhotal assumed program leadership of New York State RAPP, and the NYS agricultural plastics recycling program gained the staff, experience and administrative support of CWMI.

The Department of Communications closed out administrative and financial accounts from the previous contract and worked with CWMI staff covering background, history and status as well as providing documentation of RAPP work since inception. Groundwork was laid with six Cornell Cooperative Extension (CCE) Associations and Otsego County Conservation Association (OCCA) for staff to carry out local RAPP programming during Year 1 of the contract, focusing on promotion, recruitment and BMP training. A final report was written and submitted for NYS DEC Contract #COO7109.

Overview of RAPP activities across the State

Although there was some confusion and gap in funding due to the move and delayed contract execution, RAPP continued to work with the network of outreach educators, generally CCE County Associations, reaching agreement as to their role in recruiting plastic recycling participants, maintaining contact with current participants and providing training in preparing plastic for efficient recycling. By January, seven county associations (CCEs in Cayuga, Franklin, Madison, Schuyler, St. Lawrence, Wyoming and Yates Counties) and OCCA had contracts. Five of the six previous Cooperation Agreements with Soil and Water Conservation Districts (SWCD in Jefferson, Otsego, Tompkins, Washington and Wyoming Counties) to collect/bale/transport plastic were renewed. In previous years, the SWCD model has been to bale ag plastics on the farm with SWCD bringing the baler and supplying a trained operator. Labor to load the baler is supplied by the farm. This model has turned out to be expensive and unsustainable in the long run. As a result, RAPP has been working on other models that may be more sustainable as funding diminishes as well as looking into other funding. The collection and shipping of ag plastics increased as compared to previous years despite severe winter weather having the potential to slow activities. The increase can likely be attributed to momentum and infrastructure already in place as well as moving past bales off the farms where they had been stored. Over this reporting period approximately 225,000 pounds of plastics have been shipped to markets. These have been delivered in the following quantities: 152,000 pounds to Brooklyn, NY for processing into garbage bags and 73,000 pounds to Delta Plastics in Little Rock, AR to be made into industrial-quality garbage bags. Both of these markets are new processors. Both facilities have recently installed processing equipment specifically to handle agricultural film.

State Coordination to build infrastructure:

In the past, moving bales to storage and/or market locations was carried out 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®, loose or in some other manner) to these designated locations.

Considerable time has been put into supporting collection efforts through SWCDs and Solid Waste and Recycling Authorities. Five mobile BigFoot balers were used in contract and often neighboring counties. The baler in the **North Country** is currently uninsured and not being used since it was retrieved from **St Lawrence County** SWCD. St Lawrence County SWCD dropped their cooperator's agreement and RAPP picked up their baler in March 2014. We have met and had discussion with others in the North Country about insuring the baler. Although there is interest in baling no one has stepped up to insure it. At a St. Lawrence County Department of Solid Waste meeting it was suggested that St. Lawrence County Solid Waste would have the ability to directly divert some agricultural plastics to a local market if/when it comes online (TAP Industries, Malone). There are an estimated 250 bales being held.

Work has been ongoing to identify methods to move 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 30-yard roll-off containers, with the ability to move up to 24,000 pounds 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.)

There have been ongoing interactions with **Madison County** Department of Solid Waste regarding county-wide collection of ag plastics. RAPP has provided markets for collected materials and supplied assistance and support for implementing a plastics-to-oil processing facility. RAPP is also collaborating with Madison County staff on a NYSERDA grant proposal to increase plastic recycling capacity in NY and surrounding states. RAPP worked with **Chenango County**, Department of Public Works, North Norwich Recycling Center on test baling of bale wrap as they have started to accept bale wrap direct from farms. They also have grant funding to build a storage structure for ag plastics.

RAPP met with **Jefferson County** Highway Department, Development Authority of the North Country (DANC), Jefferson County SWCD and CCE to discuss agricultural plastics. To increase capture rate and reduce costs per unit collected, Jefferson County Highway agreed to assist with collections of plastic at targeted transfer stations and assist SWCD with baling labor. The County Highway Department would aid with moving bales to the Watertown Recycling Center for shipment to market. This plan is to be implemented in the fall of 2014. DANC is interested in accepting bales for short-term storage in the three-county area (Jefferson, Lewis and St. Lawrence Counties).

At an **Otsego County** Solid Waste meeting, RAPP spoke with Otsego County SWCD, Otsego County Conservation Association, and Casella. We discussed plans to add central collection of ag plastics and possible labor for baling. In the follow-up meeting, Casella agreed to open two township transfer stations to receive ag plastics and Solid Waste made a building available in Oneonta. 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 generally been reasonably clean and sorted properly by the farms. To participate, farms must receive training in best management practices from

CCE. This has proven very effective locally. To date, Delaware County reports 18,600 pounds of ag plastics diverted for recycling.

RAPP met with Solid Waste Divisions of **Chautauqua and Cattaraugus Counties** as well as SWCD and CCE participating from both counties. 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. CCE is working to educate farmers and a bale of Super Sacks® was left with SWCD and CCE for distribution. If a baler becomes available it will most likely go to Chautauqua and Cattaraugus Counties.

In a meeting with **Franklin County** Department of Solid Waste, George Eades and Guy Smith (Legislator) suggested that Franklin County Solid Waste and the Malone Transfer Station could assist in receiving and loading existing baled agricultural plastics to ship to market.

There have been ongoing conversations with Rose Baglia, Orange County CCE Commercial Horticulture Educator, who is eager to implement a program even without significant presence of RAPP staff, and with educators who will become involved in the projects proposed to NYFVI and USDA if funded.

Program Development: Conceptualized and developed two proposals for external funding (1) NYFVI to increase participation in recycling and to develop and evaluate alternative methods of collecting plastic in Ontario-Yates Counties, Chautauqua County and Chenango County; (2) Invited to add a recycling component to a large, multi-year and multi-state proposal (USDA NIFA SCRI) to increase the season for berry crops in the Northeast by growing under plastic tunnels. RAPP component involves working with NBF Plastics (Auburn, NY) and Delta Plastics (Little Rock, Arkansas) to trial different methods of removing, compacting and transporting plastic from low tunnels and single-bay and multi-bay high tunnels.

Market Development: Work has continued between RAPP and JUM Global, Madison County Economic Development and Public Works to develop a P2O facility as well as between RAPP, Empire Development and NBF Plastics. Spoke with Agilyx P2O engineers about how to densify lightweight film plastic for use as feedstock. Worked with TAP Industries, Malone, NY to help them get washing system for ag plastics. A solid relationship with Delta Plastics has been established and 2 truckloads of dirty mulch film were sent there. Contact and conversations have been made with American Ciera Recycling, Adirondack Plastics, and Akron Ag Products. RAPP has been engaged in conversations with key recycling organizer at the Vermont Agency for Agriculture, regional division of Casella, and Cabot Cheese to discuss structure and promotion of their pilot project to collect certain ag plastics at designated transfer stations. RAPP participated in a workshop at Plastics Recycling Conference on China's green fence and post-green fence policies and the implications for overseas marketing of agricultural plastics.

Education

RAPP is working on updating short "fact sheets" for best management practices on preparing and storing plastic for collection/baling. Posters will be ready for distribution at Empire Farm Days in August 2014.

We provided outreach and education at the NYS Maple Producers Association Winter Conference where producers were educated in collecting tubing for recycling. RAPP partnered with NBF Plastics

and collected several hundred pounds of tubing at the event. This awareness triggered additional collection at local maple schools.

Presented and tabled at Federation of New York, Strive for Sustainability Solid Waste and Recycling Conference and Trade Show. Twenty-five people attended the presentation titled “NY State’s Recycling Agricultural Plastics Program: Many Ag Plastics are now Considered Recyclable.”

BigFoot Baler Instructional video (English and Spanish versions) and Baler Maintenance Manual completed and posted to YouTube and eCommons. Began baseline work on development of a RAPP blog/website and maintained RAPP Facebook page (<https://www.facebook.com/Recycling.Agricultural.Plastics>). Additional outreach was conveyed through facts sheets and a display at NYSAR3 conference in Cooperstown, November 2013. Advertised for upcoming Empire Farm Days where RAPP will display products made from ag plastics, supplies and equipment along with information on BMPs, baling demonstrations and one-hour training course for baler operators. Lois Levitan presented an invited presentation at Plastic Recycling Conference, Orlando, FL, March 2014, titled: Agricultural Plastic: What are they? Why are they “hard stuff”? Can the challenges be surmounted?

RAPP staff organized and promoted TPSA Conference, a two-day international discussion forum held February 2014 in San Diego, CA which focused primarily on an exchange of information about emerging markets, processing, logistics and the potential benefits and risks from use of biodegradable plastics in agriculture. These conferences have been the major North American gathering of stakeholders in agricultural plastics recycling. Also engaged in transferring this ‘energy’ to the Agricultural Plastics Recycling Conference (APRC) that was held at Marco Island, Florida, in July 2014.

Activities of Educators CCE, OCCA and Reports from SWCD (by county or area)

Cayuga County

- Outreach: RAPP has just begun to meet with SWCD and CCE. The baler in Tompkins County will be moved to Cayuga County because it will get more complete use and can still be used when needed in Tompkins.
- Educational Events: Hay and Forage Clinic – 40 farmers attended – Nate Leonard spoke on recycling ag plastics.
- RAPP staff met with Judy Wright, Keith Severson and Deann (CCE), Doug Kierst and Jason Cuddeback (SWCD), Bruce Natale (Cayuga County Planning Department) and Ian Kyle (NBF Plastics) to discuss the situation in Cayuga County. It was a great meeting in which we discussed our next steps to move forward: (1) CCE and SWCD will continue to recruit farms for recycling ag plastics; (2) SWCD will work with Nate on logistics, procedure for transferring the Tompkins County SWCD baler to Cayuga County; (3) NBF Plastics will talk with both CCE and SWCD to set up a pick-up schedule to get plastics bales off of Cayuga County farms; (4) The group will talk with the city of Auburn about storage, collection, etc.; (5) The group will talk with several towns within Cayuga County about being transfer stations for collecting the plastic; (6) CCE/SWCD will look for grants to get storage or roll-offs for farms; (7) RAPP staff will talk with WeCare and other private haulers about roll-offs/dumpsters.

Chemung and Clinton Counties

- Both counties are using local SWCD provided balers. These mobile balers are supplied to area farms. These two programs operate independently of RAPP support except for marketing. Bales are spread over a large geographic area: Chemung County has made the commitment to get the bales collected, while Clinton County has left transporting of bales to solid waste and recycling up to the farms which has proven unsuccessful thus far. Bales in Clinton, Essex and Franklin Counties are earmarked by the counties for use by TAP industries, when it comes online.

Chenango County

- Chenango is using independent collection. They collect ag plastics through local Solid Waste and Recycling with RAPP and CCE assistance for farm level education on BMPs and assistance with marketing. Farm participation is allowed with a farm visit from either an extension educator or recycling coordinator to educate regarding BMPs. Collection has so far focused largely on film plastics from dairy and livestock farms. The county is using Super Sacks® supplied by RAPP and provided to the farmers to store and transport the plastics. They are primarily collecting bale wrap and baling at the North Norwich Recycling Center.

Delaware County:

- Outreach: news release to area media including radio, our Extension Newsletter, our Extension “Agricultural News” which goes to all dairy farmers in the county, our “Small Scale Farm Enterprises” which goes to non-dairy producers and growers, as well as maple producers. These captured immediate and excellent response. We spoke at various agricultural programs we were putting on and to producer groups such as the Delaware County Maple Producers, using the samples of recycled products RAPP provided. These impressed farmers greatly. As word of mouth began to happen Extension’s phone began ringing with either requests for more information or farms ready to participate and asking for on-farm training.
- Education: We traveled both as a team and separately to reach the farms and provided hands-on demonstration and description of proper procedures, stressing the need for no stones or pebbles, as little dirt or silage/haylage/mulch as possible, keeping different plastics separate and as dry as possible. We helped farmers locate protected areas to hang the large bags and advised that they needed to put their name and location somewhere on the bag or in its plastic pocket if available. The only hardship expressed for some farms was the need to drive so far to the landfill but all so far have been willing to do this in order to keep these products out of the waste-stream and into a recycled use. Their commitment and enthusiasm has made our jobs easy and even pleasurable.
- Direct Recruiting: To date we have over fifty farms on-board and more calls coming in due to the colorful signs farms are putting up as well as farmer word of mouth. We continue to advertise the program via our Facebook and website pages. The cooperation and help given through our Delaware County Solid Waste Coordinator Sue McIntyre and her staff has made this program easy for our farms to do. It seems to be working smoothly with only a couple glitches like farms going direct to them without our training. We advised the coordinator of this situation and hopefully it is resolved.
- Delaware County is collecting mostly bale wrap, silage bags and bunker cover and also collects other polyethylene bags such as wood pellet bags. Baling occurs at the solid waste recycling facility.

During this time period, Delaware County Solid Waste baled 18,600 pounds of ag plastics for recycling.

Franklin County

- Outreach: Richard Gast reports that they continue to educate and reach out to farmers, with Harry Fefee continuing to supply printed information, including BMPs, to a large percentage of the farms in the county. An article titled “Maple Syrup Producers Can Now Recycle Maple Tubing Locally” appeared in Richard Gast’s feature column on April 16th in the Adirondack Enterprise (circulation 4,000+/-), on April 19th in the Malone Telegram (circulation 6,000 +/-), and on April 20th in the Plattsburgh Press Republican (circulation 18,000 +/-). It details work with TAP Industries in Plattsburgh and Malone to process deliveries of used maple tubing for recycling and gives information on how to prepare tubing for recycling and where and when to drop it off. It also includes information on where to pick up tote bags for collection.
- Direct Recruiting/New Recruits: Richard has spoken with a handful of maple producers (since the article above) who say they will be bringing their tubing to TAP Industries for recycling. He has also recruited one additional farm (beef producer) for baling.
- Franklin County has had assistance from Clinton County to use their baler. Richard indicated that there are a total of 32 complete and a couple of partial/misshapen bales awaiting collection. The bales consist of 20 bunker cover, 10.5 bale wrap and 2 mixed bales (baling twine, clear film pellet bags). He also indicates that there are approximately 12+ plastic barrels. The county garage is no longer accepting plastic, so there is some concern about collection.

Madison County

- Outreach: Karen Baase has worked the subject of ag plastics into 6 different meetings and discussions involving 70 participants (49 farmers, 4 consultants, 4 local and county officials, 10 regional and county SWD staff, a banker and JUM Global representative). She has also continued discussion of Ag Plastics at Dairy Acceleration Program Individual Farm Meetings. She conducted an informal survey of farmers during this outreach asking 243 people what their preference was in terms of getting rid of ag plastics on their farms. Ninety-five percent said they’d like Madison County to dedicate a truck on a regular basis (monthly was most preferable) to pick up ag plastics. An article in Field and Fork Newsletter (830 subscribers) talked about BMPs for handling ag plastics.
- Education: Karen set up a display and handed out materials at four events (1) Oneida Rotary Rural/Urban Day at the Kallet Center (40 participants: 14 dairy farmers, 15 FFA students, 4 local dignitaries, 7 local elected officials); (2) Oneida and OSHA Dairy Program (17 participants: 11 dairy farmers, 6 dairy farm employees); (3) Pro-Dairy Winter Dairy Management Seminar (30 participants: 18 dairy farmers, 3 veterinarians, 5 dairy consultants, 4 CCE specialists); (4) Madison County Field Crops Meeting at Empire Tractor (72 participants: 45 dairy farmers, 15 crop farmers, 6 SWCD staff, 6 CCE and CU and presenters and staff). She continues to educate active participants.
- Direct Recruiting/New Recruits: Karen estimates a total of 7 new recruits from the listed activities above.

Otsego County

- Outreach: Reached out to Delaware County on behalf of McDowell and Walker that was looking for a place for wood pellet bags. Compiled a list of farms with baling requests and farms that still had bales needing collection to go to SWCD (suggested collection wait until 2014 baling). They conducted two farm visits. Both had good collection but plastics were stored outside without cover so bales were getting wet. One farmer indicated that he's very satisfied and has cut his dumpster costs in half since he started saving his plastic. He also expressed his willingness to load the bags on a truck and take them somewhere if there was a place to take them.
- Education: Otsego County Conservation Association (OCCA) had a table at the Earth Festival. There were approximately 800 people in attendance and Jeff O'Handley talked to approximately 100 people who were interested in the program, but the event was not well attended by farmers. They collected two totes full of wood pellet bags at the event (temporarily at Otsego SWCD, then moved to Mohican Farm pending baling). Also one full tote from Haggerty ACE Hardware, Cooperstown – only took one week to fill the tote.
- Direct Recruiting/New Recruits: McDowell and Walker in Sidney is taking pellet bags to Delaware County SW in Walton. Seven new recruits added to their master list (4 dairy, 1 beef, 1 horticulture and 1 hauler). A Casella employee has indicated it might be possible to centralize collections with an employee at the transfer stations to police the plastic. – Meeting on June 5th with Casella and the County: Looks good for using Town of Springfield's transfer station as a collection point, with the gathered plastic being moved to Oneonta for baling. This is pending cooperation from the folks at Springfield.
- They use a program supplied mobile baler and operator. There is currently a cooperation agreement with SWCD for field operations. Ag plastics are baled on-farm with SWCD supplying a trained operator. The labor to load baler is supplied by the farm. One farm generating >50,000 lbs. of plastic per year for recycling keeps and operates the baler during the winter months. Outreach and education are coordinated by OCCA.
- Bales recycled: The county currently has 31 bales (mostly bale wrap) from 11 locations awaiting pickup and 5 farms with plastic that needs baling. Their trucker was delayed during the winter and they have now opted to wait until the plastic that needs baling is done before picking up what is waiting.

Schuyler County

- Outreach: Put up RAPP signs and flyers at Rolling Hills Produce, Burdette, Watkins Glen Farm Market, Hector Town Hall (in Schuyler County, recycling is collected at town halls), gas stations, Watkins Glen Supply, a few coffee shops, diners and community bulletin boards where Erin Nyquist know farmers and other locals, as well as those in the grape industry frequent. There have been several inquiries from these postings. Spoke with Michelle Craven at Arrowhead Disposal in Beaver Dams. They offered to host baling events, and would be storage and baling facility with some funding for storage. Quality control for ag plastics could be done on site and unacceptable plastics disposed of at regular fee rate. However, they would want to be added to a certificate of insurance, but don't want to pay for it unless they owned their own baler and would like to get a year's worth of data from Schuyler and Chemung County to help weigh costs. Spoke with SWCD here. They are not interested at this time. They will refer people to RAPP.

- Direct Recruiting/New Recruits: Direct contact with 4 dairy farms (1 participating, 1 not interested, 1 possibly interested, 1 already recycling through other means – see below), 4 horticulture operations (all four indicated interest in the program), 2 livestock (both interested) and 1 horse farm (participating). As of June 20, 2014, none of those interested has made any commitment to participate. One of the livestock farmers is also a County legislator and indicated that he would try to promote the program through that avenue. The dairy that is already recycling is an organic dairy in Odessa that is storing bale wrap in their barn. It is very clean and dry. This farm recycles bale wrap directly back to the supplier (Finger Lakes Hay Supply in Gorham, NY). The farm supply is a Mennonite business in Ontario County that collects back the bale wrap they sell. Erin is following up with another independent company in the food distribution sector who purchased a baler.

Tompkins County

- Tompkins has seen some management changes and thus the baler has not been active with SWCD. RAPP staff has been using the baler contracted to Tompkins County in the central NY region for on-farm baling and demonstrations.
- Bales recycled: During this reporting period, 25,000 pounds of plastic were baled. Most of these bales have been moved to NBF Plastics in Auburn, NY.

St. Lawrence and Jefferson

- Direct Recruiting/New Recruits: The county will resume recruiting participants when a collection plan is in place and the baler is in place to function. Their focus has been on cleaning up the Kennedy Farm ag plastics collection site and baling the plastics that are suitable for recycling. Working with St. Lawrence SWCD to locate plastics, CCE is confident that the majority of plastics already baled have been brought into the Kennedy Farm. A truckload will be shipped to market in the near future.
- A cooperation agreement with SWCD for field operations and outreach is in place. Ag plastics are baled on farm with Jefferson County SWCD supplied operator and farm supplied operator. Larger users of plastic are trained to bale on their own. There is a large group of marina managers trained to operate the baler and collect and bale their own boat wrap. Watertown Recycling Center serves as a central receiving point and loads shipments for market. The baler also operates in Lewis County.
Bales recycled: 48.5 (25 in Jefferson and 23.5 in Lewis Counties); 44,000 pounds shipped to market from Jefferson County in autumn 2013.

Washington County

- Uses a program supplied mobile baler. There is currently a cooperation agreement with SWCD for field operations and outreach. SWCD trains local farmers to operate the baler and the baler travels around Washington County and some in Saratoga County. Farms are responsible for bringing bales to central location for shipment.
- Bales recycled: 38+

Wyoming County

- Outreach: Debra Welch has been conducting outreach for maple tubing recycling by handing out bags and information, as well as scheduling tubing pickup and promoting RAPP at Maple Weekends. She is also working on a county map with ag plastics recycling locations to show participating farms, maple producers and storage locations. Ed James has been in contact with Chris Collins (Wyoming County State Representative) about RAPP and he is coming out to watch the baling operation. He has also been in contact with Town Supervisors about spearheading the program to make it more sustainable.
- Education: Debra set up information on RAPP at farm markets, Maple House, WNY Maple School which resulted in 4-totes full of maple tubing being shipped out. She has taken photos and video of baling at Dueppengiesser's farm in the hopes of developing footage of proven methods of on-farm storage of plastics until enough can be accumulated to bale. RAPP information and a baling demonstration was done by Ed James at Agri-Palooza on June 8, 2014.
- Direct Recruiting/New Recruits: Ed James spoke directly with about 20 people at Agri-Palooza. He did not get any firm commitments, but he thinks that about half of them are very interested. Debra indicates that continual visits help make growers/farmers aware of recycling options. Since September 2013, they have recruited 3 new farms and 1 company that receives product in Super Sacks®.
- Wyoming County uses program supplied mobile baler and operator. There is currently a cooperation agreement with SWCD for baler management. Ag plastics are baled on-farm with a RAPP directly employed ½ time staff person operating. Labor to load the baler is supplied by the farm. Outreach and education is in cooperation with local CCE. Wyoming County Highway receives bales and transports them to a central shipping point (out of the county). This program operates strategically beyond county borders, primarily Genesee and Livingston Counties.
- Bales recycled: It was estimated by Ed James that there are 55 (39%) out of approximately 142 dairy farms in Wyoming County on board with this program. He also estimates that they have shipped about 80,000 lbs. of ag plastics since September with an additional unshipped inventory of about 80,000 pounds. Comments from participating farmers include: "it's not as bad as I thought it would be" and "it works easier than pushing it into a dumpster", and "it's become routine to prepare it for baling and there's no plastic blowing around the fields anymore."

Yates County

- Direct Recruiting/New Recruits: Yates County CCE is assessing local priorities. High priority materials are likely to be bale wrap and greenhouse film if logistics for collection can be established in advance. Ideas were discussed for involving local stores for distribution of Super Sacks®. Cassella at High Acres will likely accept, store and market linear plastics.

Baler Issues - History and Status

The BigFoot 300 balers continue to operate in cooperating counties (Jefferson, Otsego, Tompkins, Washington and Wyoming) and often the adjoining counties. The baler in St. Lawrence County was active in the autumn months but is now inactive as the cooperation agreement with St. Lawrence County SWCD was severed. Discussions to keep agricultural plastics collections active in the area are

being held with the Cornell Cooperative Extension Associations (CCE) of St. Lawrence and Franklin Counties as well as with the St. Lawrence County Department of Solid Waste.

Managing existing Baling Equipment: The BigFoot 300 balers remain a maintenance challenge as they age, but have provided an excellent prototype and will occasionally breakdown with use. The balers come in for service as they fail "Otsego baler had the same ejection failure that three other balers have had (Tompkins, Washington, and Wyoming)". These repairs cost \$700-\$1200/baler but are necessary to keep the balers going. The Tompkins baler has a hydraulic leak, but can be fixed. The municipally owned balers are a real help to the RAPP program and would be great to have more out there functioning. BigFoot 300 balers are back in production with production turned over to Kennco Manufacturing. RAPP has generated extensive notes and recommendations about these balers and has supplied these to Kennco as information for construction of new balers.

Status of OFAB Baler

The OFAB balers delivered in the spring of 2012 are still not functional after being returned to OFAB twice for repair. They are now considered unsafe to use. RAPP is currently negotiating for a return and refund (please see OFAB Baler Timeline below). Cornell Purchasing and Legal are working on it. Unfit balers currently sit on Cornell property waiting for OFAB to give RAPP return instructions.

OFAB Baler Timeline

March 29, 2012: OFAB invoice received and accepted for payment.

April 20, 2012: Balers delivered, not everything complete.

April 26, 2012: Deficiencies with balers documented by RAPP and emailed to OFAB management.

May 4, 2012: Conference call between RAPP and OFAB agreed on what fixes required and what remained to be completed. OFAB agreed to correct noted deficiencies. Missing parts to be installed by Cornell fabricator. Some parts were to be shipped within a week.

May 10, 2012: RAPP supplied OFAB management by email the agreed upon "Punchlist" of items to be addressed.

June 4, 2012: RAPP talked to Harry Wheeler in regards to only receiving paperwork for the balers and not the missing pieces and parts. He confirmed that all materials should be completed this week.

June 7, 2012: Photos of the passenger side compaction chamber door supplied to OFAB at their request so they can purchase or manufacture door latches (latches never received).

June 8, 2012: Email to OFAB management sent by RAPP expressing concern about not receiving missing parts and paperwork.

June 13, 2012: RAPP called Harry Wheeler. He reported progress and parts and thought some had gone out. Promised to have everything taken care of by June 30.

June 20, 2012: RAPP called Harry Wheeler and he reported that OFAB is now making progress with parts and paperwork.

June 20, 2012: Heather Rodriguez from OFAB emailed first set of Manufacturer's Certificates of Origin for the two balers (later proved to be unacceptable to NY DMV).

July 17, 2012: RAPP called Harry Wheeler. He said "we've dragged this out long enough, we will get the parts done within a week." He will get new copies of the Certificate of Origin done (by Heather) immediately (received same day).

September 4, 2012: Email from RAPP to OFAB management expressing concern about still not

receiving parts for the balers and our being unable to contact staff and failure to return calls. Harry Wheeler immediately called and said some parts were done and others would be sent shortly.

September 2012: T handles for balers received (~18th) but no parts for the balers.

Remainder of 2012 Waited for deficiencies to be corrected, as repeatedly promised. OFAB failed to return phone calls or emails.

February 1, 2013: Tested balers while trying to bale mulch film and experienced immediate major failure with twisted platen and bent piston rod.

March 13, 2013: RAPP requested review and advice from Cornell University Counsel and they referred RAPP to Cornell Purchasing.

June 25, 2013: RAPP emailed OFAB management in regards to the baler failures, informed them that University Counsel and Purchasing had been notified, and asked for a proposed solution from OFAB.

June 26, 2013: Email from OFAB (Harry Wheeler) offering to fix issues.

July 2, 2013: Phone conference with OFAB management and engineers agreeing to fix balers.

July 2013: Returned balers to OFAB, OFAB agrees to return balers

July 31, 2013: RAPP emails a letter with punchlist of baler deficiencies and a letter reflecting OFAB's agreement to fix the balers to RAPP's satisfaction by August 31, 2013 (not received until March 28, 2014).

August 6, 2013: Harry Wheeler returned the letter with his signature.

August 14, 2013: Phone conference between RAPP and OFAB management and engineers agreeing to baler fixes and date of return by September 15, 2013.

August 28, 2013: Email from RAPP to OFAB management expressing concern that RAPP hasn't heard from OFAB and requesting the letter of commitment for fixing the balers.

August 29, 2013: Letter of commitment returned by Harry Wheeler.

September – November 2013: Ongoing interaction between RAPP and OFAB consulting engineer, David Anderson.

November 14, 2013: RAPP test baled mulch film with OFAB at JUM Global site in Jacksonville, FL. Mulch film did not bale well. High density in bottom of the bale and very low density at top of bale. Risk of bending platen. Can hand pull the wire off. Won't be able to bale mulch film with these balers.

November 22, 2013: Sent two bales of plastic to OFAB for test baling - bunker cover and bale wrap.

December 2013 – January 2014: OFAB continues work on balers and test bales.

January 10, 2014: Conversation between RAPP and Dave Anderson – OFAB agrees to extend warranties for one year.

March 14, 2014: Extended warranties for balers received by RAPP.

March 28, 2014: Balers arrive back at Cornell (shipped March 26, 2014).

April 2 and 4, 2014: Tested baler #2 at Shermans, Dryden, NY. Some trouble with safety switches and/or tether control.

April 11, 2014: Tested baler #1 at Howlands, Candor, NY. First bale of bale wrap seemed acceptable. Second bale was bagged net wrap and the platen bent back on top and the weld on the fitting at end of the piston rod failed.

April 11 and 14, 2014: Informed first David Anderson and then Larry Amyotte via email and included a photo regarding the baler failure.

April 16, 2014: Phone conference including RAPP and Larry Amyotte and David Anderson. RAPP expressed that we lack confidence that these balers have the ability to handle the stress of

continuing operation. However OFAB offered to fix the baler(s) again. Immediate return requested by OFAB and they will ship balers back the week of May 12, 2014.

April 17, 2014: Shipped balers back to OFAB.

May 14, 2014: Balers returned to Cornell with wire rack off baler #2 and a damaged jack. The wire rack breaking loose could have been very dangerous.

May 22, 2014: Training with Steve Jones from OFAB. Two balers taken to George and Jeff Mills Farm in Port Byron, NY. One baler not operating due to faulty power switch – hard wired it for the day.

Made 3 bales of bale wrap. Average weight 903 lbs (~10% light). Plastic comes loose from bales.

May 22, 2014: Wheel came off the baler while driving back from training.

June 3, 2014: Email request from Jean Bonhotal to OFAB management requesting to return the balers.

June 6, 2014: Email request from Jean Bonhotal to OFAB management asking for a response.

June 12, 2014: Text message from Dave Anderson to inform us to expect to receive a response from OFAB.

June 13, 2014: Received a letter (dated June 12, 2014) from Larry Amyotte that returning the balers was not an option.