



Merlin Plastics

Agricultural Plastics Initiative

Who are we?



- Western Canada's leading plastic recycler
- Established in 1987 with four employees
- Continued growth to more than 100 million lbs annually
- Four facilities: BC, AB, CA
- >200,000 sq ft of production
- Over 100 employees



Plastic processing



- Grind, wash, dry, and extrude recyclable plastics
- Patented wash technologies used for post consumer and post industrial plastics
- Extrude recyclable plastics to produce a marketable commodity for the manufacturer



Customers & Suppliers



- Long term relationships with customers and suppliers across North America
- Alberta, British Columbia, Saskatchewan, Manitoba, California, Oregon, Washington, the Midwest & Southern US
- Ie: Dow Chemicals, Nova Chemicals, Celanese, AT Films, Encorp Pacific, ABCRC, SARCAN and many other organizations

Partners & Memberships



- Successful history of partnerships with Dow (Canada), Dupont (Canada), Esso Chemicals, and the BC Ministry of the Environment
- Member of APRA (Alberta Plastics Recycling Association)
- Member of RCA (Recycle Council of Alberta)
- Member of SWRC (Saskatchewan Waste Reduction Council)

Why Ag plastics in the field?



- Reduces handling time and transportation
- Low application costs
- High durability
- Equipment is designed for plastics use
- Markets in Alberta and N.A. are growing, significantly lag European markets in usage

Alberta's Ag Plastics Pilot Program



- What did Merlin learn?
 - Separation of Ag Plastics essential for recycling
 - PP twine and PE film must be segregated
 - Contamination must be minimized
 - Ag plastic must be compacted or densified, not loose
 - Conventional recycling methods do not work – not the same as container recycling
 - Poorly supervised locations have a difficult time managing collection and minimizing contamination

Ag Plastics Recycling



- What does not work?
 - Non plastic waste materials comingled with Ag Plastics
 - Examples: Tires, garden hose, vinyl mattresses, swimming pools, steel wire, leather harness, canvass tents, manure, etc.
 - Loose Ag plastics delivered to Merlin Plastics
 - Conventional methods and sorting lines designed for plastic containers

What we will accept



- **Clean Ag Plastics!**
 - Field inspected and examined
 - Contamination <10%
- **Compacted or Densified Ag Plastics**
 - PE Grain bag
 - PE Silage cover
 - PE Bale wrap/bale bags
 - PE Greenhouse film
 - PP Twine & cordage

How will we accept



- **Acceptable**
- Rolled Ag film
- Baled Ag film
- Bagged Ag twine
- Baled Ag twine



We will not accept



- **Unacceptable**
- Loose comingled plastic
- Loose Ag Film or
- Contaminated Ag film



Delivery to Merlin Plastics



- Merlin Plastics will accept recyclable Ag plastics that have been field inspected and approved
- Our Hussar facility will be used for receiving and consolidation
- Acceptable Ag plastics will be processed at our PE/PP facilities in Hussar, AB & Delta, BC



Benefits for Municipality



- Alternative to burning
- Savings on burial costs
- Diversion of recyclable plastic waste from landfill
- Increased life of landfill

Potential Costs to Municipalities or Participants



- Sorting
- Disposal of rejected plastic
- Bags or liners for PP twine
- Densification equipment for PE film - rolled or baled
- Shared transportation
- Education

Our goals for 2010?



- Our tonnage goal for 2010 is 1,000 mt
- Attempt to establish a limited number of partnerships with municipal authorities
- APRA provided assistance and guidance with identification and selection of partnerships

Continued development



- Education at all levels
- Further effort is needed to define sorting, collection and densification methods
- Transportation: determine methods and define costs
- Collection sites need storage and equipment
- Processing: refine technology
- Market development

2010 Ag Plastics Update



- **Collection of Ag Plastics to date**

- Approx 25 mt of Ag film and twine collected from the MJRWS in Saskatchewan
- Approx 10 mt of Ag film and twine collected from various Alberta producers and recyclers

- **Processing of Ag Films**

- Successfully processed 10 mt of Ag film in July 2010
- Internal lab testing and manufacturing trials completed in July 2010
- Material delivered to market for customers trials in August 2010
- Results anticipated from manufacturers in September 2010
- Conducting further processing trials week of September 13, 2010 – will process entire stockpile of collected ag film

Current constraints



- **Comprehensive collection program**
 - Designated collection sites at landfills or transfer stations
 - Allocated staging areas at participating collection sites
- **Densification**
 - Defining the best possible method or methods of densification – rolling, baling, both or other
 - Identifying the equipment needed and associated costs
 - Key: How can densification be made simple, convenient, and safe for producers while incorporating the needs of collectors, transporters and processors

Invite you to support



- **Merlin Plastics welcomes participation from stakeholders**
 - Producers
 - Provincial and Municipal authorities
 - Waste management professionals
 - Recyclers
 - Industry
 - Environmental organizations and members

Thank you



- Stay tuned!

