



Ag Container Recycling Council Program Update

**Vermont Pesticide Applicator Meeting
Virtual Meeting**

March 28, 2022



Agenda

- ACRC Overview
- ACRC Current Situation
- Recycling and Disposal
- Inspection and Rinsing
- Northeast contractor - Ag Plastic Solutions



Who is the ACRC?

- Ag Container Recycling Council (**ACRC**) – industry initiated
 - Not for profit corporation, formed in 1992
 - Oldest stewardship program in US
- Promotion and education of triple or pressure rinsing
 - Collaboration with EPA
 - Developed ANSI / ASABE S596 Standard
- Provides research and funding for Ag container collection and recycling into **acceptable end uses**.





Our Mission

The mission of the ACRC is to conduct research regarding potentially acceptable uses of rigid **HDPE plastic agricultural crop protection, animal health, specialty pest control, micronutrient, biologicals, fertilizer, and/or adjuvant product containers (up to 56 gal)** and to support the collection and recycling of containers through promotion of cost-effective programs that foster public health and safety, environmental protection, resource conservation, and end user convenience.



An industry funded free service to farmers and commercial applicators for 30 years!



Program Summary

- Started collection and recycling in 1992
- 34 regular members, 17 affiliate members
- 6 Contractors (5 private, 1 state - MT)
- 2 independent state sponsored programs (NJ, PA)
- 47 states covered (excl. AK, state sponsored programs)
- Scope: HDPE plastic 55 gal drums and smaller:
 - Agricultural crop protection, animal health, specialty pest control, micronutrient, biologicals, fertilizer, and/or adjuvant product containers.
- Collection site scenarios:
 - On farm, retail outlets, aerial and ground applicator locations, pest control applicators, state ag extension locations, solid waste landfills, golf courses, nurseries



Our Members

ADAMA Agricultural Solutions, Ltd.
Albaugh, Inc.
AMVAC Chemical Corporation
Avenger Products LLC
Barrier Plastics
BASF Corporation
Bayer CropScience
BERICAP
Brandt Consolidated, Inc.
CCL Label, Inc.
Certis USA, LLC
Corteva Agriscience
Elanco US Inc
Elkhart Plastics
Ensystex, Inc.
FarmChem
Fine Americas, Inc.
FMC Agricultural Products

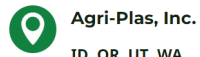
Gowan Company, LLC
Greif Packaging, LLC
Helena Agri-Enterprises, LLC
Inhance Technologies
Lee Container
Liphatech, Inc.
Marrone Bio Innovations, Inc.
Mauser North America
Miller Chemical & Fertilizer
Nichino America, Inc.
Nufarm Americas, Inc.
Nutrien Ag Solutions
PBI/Gordon Corporation
Plant Food Systems, Inc.
Pretium Packaging
PROKoZ, Inc.
Reliance Products, LP

Ring Container Technologies
Schuetz Container Systems, Inc.
SePRO Corporation
Silgan Plastics
Snyder Industries LLC/Bonar Plastics Brands
Syngenta Crop Protection
Taylor-Cain Corporation
Tenkoz, Inc.
TKI/NovaSource
Total Label USA, LLC
UPL
Valent Group Companies
Vive Crop Protection
Wilbur-Ellis Company
Winfield United, LLC
Zoetis, Inc.

34 Regular Members, 17 Affiliate Members



ACRC Contractors



Agri-Plas, Inc.

ID, OR, UT, WA
(503) 390-2381
Allen Jongsma
info@agriplasinc.com
www.agriplasinc.com



Montana Department of Agriculture

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MN, NE, ND, OH, SD, WI, WY
(248) 961-3360
Stacey Bruinsma or Trevor
Harding
pickup@gpsagrecycle.com
www.gpsagrecycle.com



Ag Plastic Solutions, LLC

CT, DE, MA, ME, MD, NH, NY,
RI, VA, VT, WV
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Not ACRC sponsored

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Pennsylvania:
PA Department of Agriculture
Jim Cunningham
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Interstate Ag Plastics

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(661) 764-9614
Brad Bittleston
bbittle@gmail.com
www.interstateagplastics.com



USAg Recycling Inc.

AL, AR, DE, FL, GA, LA, MA,
MD, MS, NM, NC, NY*, OK, SC,
TN, TX, VA, VT, WV
(800) 654-3145
Beryl Gibson
Richard Marburger
rwm8345@cvctx.com
www.usagrecycling.com

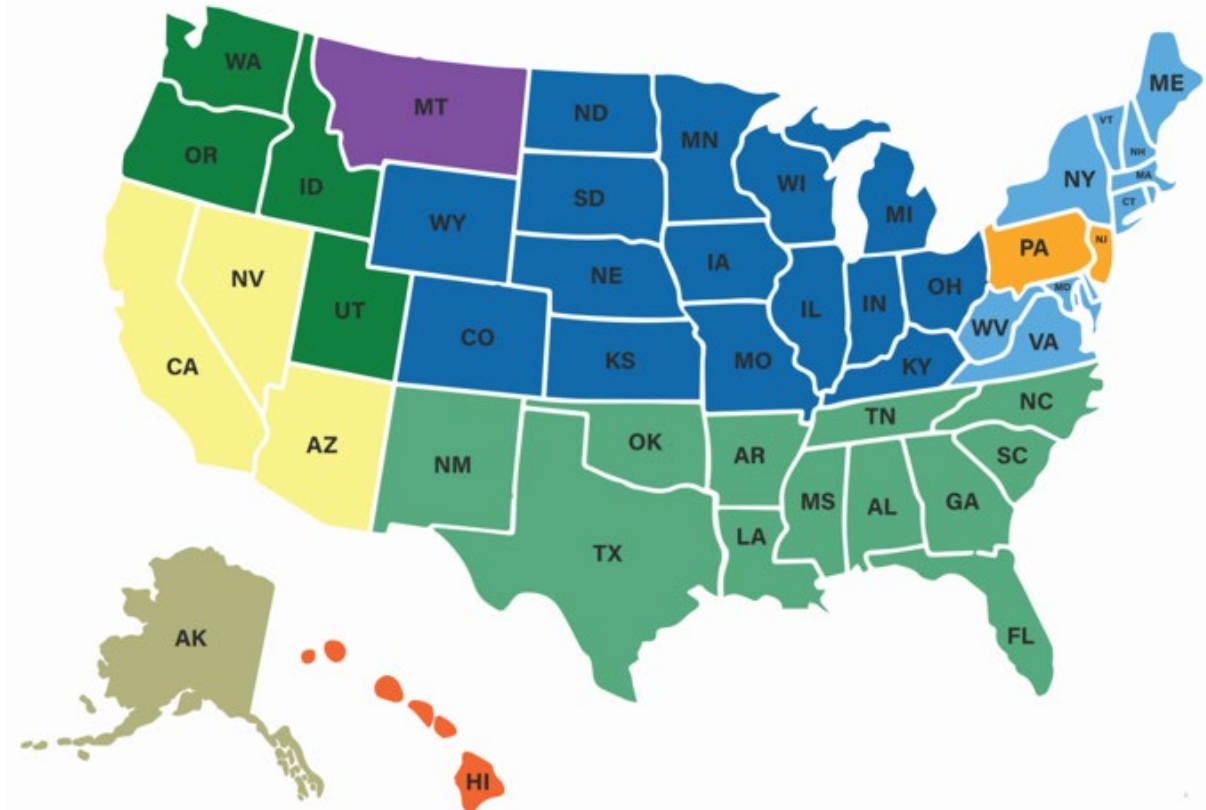


No ACRC or State-Sponsored Recycling program



Ag Container Recycling Council

[Contact ACRC.](#)





General Funding Model

Voluntary membership funded by producers & registrants of chemicals sold in HDPE containers.

- Annual survey of members provides pounds HDPE sold.
- Annual budget / annual pounds = annual dues (\$ / Lb.)
- Each member pays “fair share” of budget based on their HDPE pounds sold.
- Over \$107M funded by ag industry since inception.

Cost to grower / applicator is zero!



Logo - What do you see?

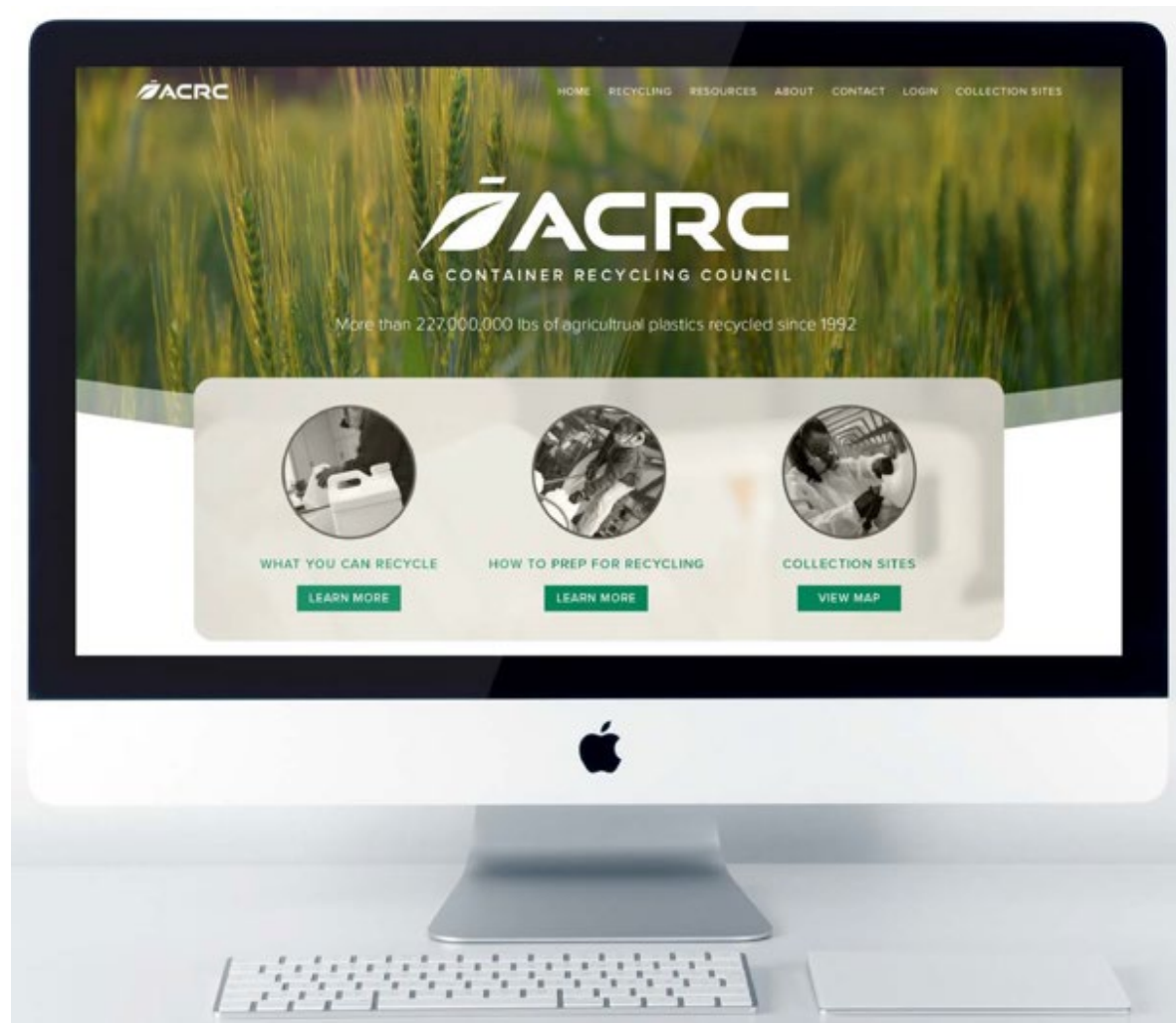
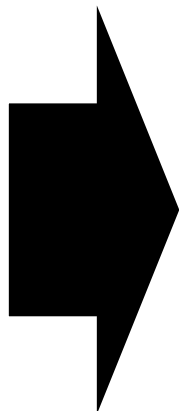


The ACRC logo is an image that represents both our industry and our purpose. The green leaf is the most common representation of the agricultural community that we serve. The leaf also depicts an ag chemical container, with the single line above it being the cap of the container. Stewardship of the ag chemical container has been our purpose since day one of the ACRC!



Check Out Our Website...

www.agrecycling.org





Program Achievements

1993 – 2021 Year End

- 226 million pounds collected & recycled!
 - Enough 6" ag drain pipe to circle the earth 2.5 times!
- > 1.1 million cubic yards of landfill space saved
- 99,120 MT of CO2 emissions saved

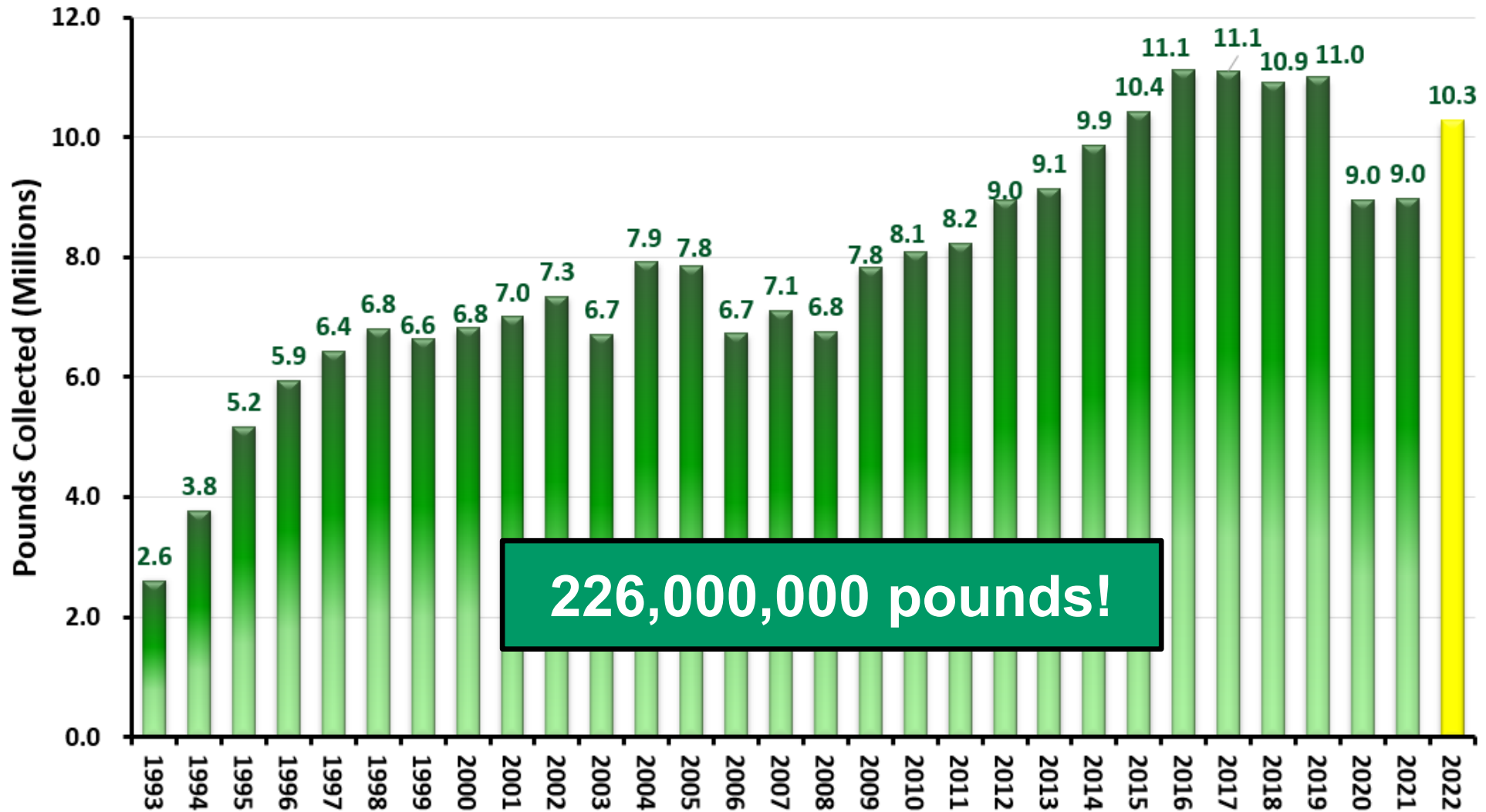
Equivalent to:

- 29,510,000 gal of gasoline
- 63,700 US households energy consumption for 1 year



1993-2021 History

(2022 Budget)



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Current Situation

- Strategic Plan – Approved 2019
- New Issues & Challenges
- New England Specific



Current Situation

Vision & Targets – 2020 – 2024 Strategic Plan

- ✓ **Volume & Service** - Achieve measurably more credible collection performance (%) nationwide with satisfied end users.
- ✓ **Promotion** - Clearer nationwide recognition and understanding of who the ACRC is and the service it provides.
- ✓ **Regional growth** - Develop better regional penetration via contractor network.
- ✓ **New end use market growth** - Develop measurable sales growth in a more diverse set of HDPE end use markets.



Current Situation

Recent Operating Environment & Challenges

- 2017 China “National Sword” policy drove huge changes to US recycling programs
 - More recycled plastic available, supply / demand imbalance
- 2021 Basel Convention further reduced waste plastic exports
- Volatility of plastic markets
 - Excess polyethylene (PE) capacity in North America, more on the way
 - “Wide spec” virgin PE competing with HDPE regrind
 - Emerging trend of recycled content mandates (legislation)
- Additional contractor stress due to increased wage rates, driver shortages and regulations.



Current Situation

New England Specific Situation

- Long ACRC history of “pilot” collection sites in limited New England states
 - ME, NY, VT
- New contract awarded for northeast territory in 2021 – Ag Plastic Solutions
- Geography has made northeast plastic outlets more challenging
- Objective to grow collection sites in northeast
 - Growers
 - Applicators
 - Retail



Recycling & Disposal

- Acceptable disposal options
- ACRC collection process
- Recycling End Uses
- Storage of empties
 - Securement
 - Best practices
- ACRC collection site scenarios

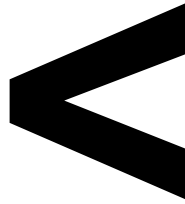


What happens to all those containers?





Acceptable Disposal



**Continuing to put pressure
on our landfills is NOT
sustainable !**

**Recycling container resin
is a much more sustainable
option !**



Unacceptable Disposal



**Burning, burying or stockpiling is NOT
healthy or good for the environment !**



ACRC Collection Process



Containers Rinsed by User



Must be pressure or triple rinsed to be accepted!



Contractor Equipment on Site





Contractor Inspects Containers



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Contractor Grinds or Compacts Containers



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Ground Plastic





Plastic Flakes are Washed



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ACRC Approved End Use

Example - Drain Pipe



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ACRC Approved End Uses

Underground Electrical Conduit



Bender Board





Existing Approved End Uses

- ✓ Corrugated HDPE drain pipe
- ✓ Highway sign posts
- ✓ Highway and agricultural fence posts
- ✓ Spool flanges for wire cable
- ✓ Underground utility conduit
- ✓ Agro chemical composite IBC base plates
- ✓ Industrial pallets for ag chemical and seed
- ✓ Rebar chairs
- ✓ Landscaping Edging
- ✓ Nursery Pots
- ✓ Construction / ground protection mats
- ✓ Plastic cinder blocks



Collection Site Scenarios

- Grower – on farm
- Ag retail location
- Ag extension facilities
- Commercial applicator location (ground, aerial)
- Public landfill (municipal / county)
- County recycling centers (MRF, convenience centers)
- Golf courses
- Nursery / green house
- Pest control operators
- “Clean sweep” events (pesticide collection days)



Container Storage

- Cages, bags, trailers, twine, shelters, shipping containers, fencing, etc.



Container Storage

- Cages, bags, trailers, twine, shelters, shipping containers, fencing, etc.



Storage Best Practices

- Keep jugs secured:
 - Closed container, pen, trailer, or fencing
 - Locked access if a public collection site
 - Large poly bags
 - Simplest - Twine through the handles and tie down!
- Rinse before storing
- After rinsing - remove drum bungs and flip upside down
- After rinsing – keep IBC valves open



Inspection & Rinsing

- Inspection Checklist
- Inspection Criteria
- Rinsing Best Practices
- Rinsing Tools
- Rinsing Procedures:
 - Jugs
 - Drums
 - IBCs



ACRC Inspection Checklist



Examples of containers for recycling by ACRC



The ACRC program accepts containers when all of the conditions and actions listed below have been met:

- ☑ **Containers:** Only rigid high density polyethylene (HDPE) containers are accepted. Some HDPE containers have a thin barrier of other co-manufactured material that is acceptable. Containers will be embossed with resin code #2, and sometimes #7.
- ☑ **Use:** The container originally held an EPA registered pesticide labeled for micronutrient, fertilizer, animal health, agriculture, forestry, vegetative management, specialty pest control OR a non-EPA registered crop protection adjuvant, crop oil, or surfactant.
- ☑ **Professional Use:** The contents of each container were used by a farmer, commercial applicator or a person under the direct supervision of a farmer or commercial applicator.
- ☑ **Sizes:** Containers are accepted from the smallest sizes up to 55 gallons in capacity. For sizes greater than 55 gallons in capacity, contact the collection site or the ACRC contractor.
- ☑ **Empty:** Containers must be empty to be recycled in the ACRC program.
- ☑ **Non-Acceptable Parts:** Caps and other non-HDPE parts, such as metal handles and rubber linings, cannot be recycled. Clean and discard these parts as normal solid waste. **Never put a cap back on a rinsed container.**
- ☑ **Clean:** Properly rinsed containers will be accepted into the recycling program. Pressure-rinse or triple-rinse the container immediately after it is emptied. Add the rinse water to the spray mix.
- ☑ **Inspected:** Immediately after rinsing the container, look inside and make sure that all the formulation has been rinsed out. Also, inspect the outside of the container; particularly check that the pour spout, the spout threads and the container wall surrounding the spout are free of formulation residues that flake, smear or come off on a glove when touched. The recycler cannot process containers that have removable formulation in or on them.
- ☑ **Stains:** Certain products discolor plastic with a penetrating stain. The stained containers are acceptable provided that no material can be smeared or removed when touched by a rubber glove.

Inspection Checklist

- See our website
- <https://www.agrecycling.org/recycling/recycling-eligibility/>
- KEY POINTS:
 - Empty of all product
 - Clean!
 - Triple rinsed
 - Pressure rinsed
 - Throw away caps, bungs, metal parts or fittings
 - Remove label booklet
 - Drained of all rinsate



Inspection Criteria

Acceptable



Container, thread, and lip are clean.



Inside stained but rinsed clean.



Handle and neck stained but clean.



Inside is clean and dry.

Not Acceptable



Dried formulation on container.



Bottom is caked with dried residue.



Dried formulation on thread.



Liquid residue in container.



Rinsing Best Practices

Why is rinsing important?

- Required by law
 - ACRC contractors are not allowed to collect dirty containers!
 - Improves your return on your chemical investment
 - Properly rinsed containers are classified as clean, solid waste (non-haz)
-
- USE ALL OF THE PRODUCT – good financial sense!
 - Add rinsate to the mix tank and field apply all rinsate!
 - Rinse container immediately...don't allow drying and caking!
 - Use proper rinsing tools and procedures
 - After rinsing jugs – pierce bottom of the jug to drip dry
 - After rinsing drums - remove drum bungs and flip upside down
 - After rinsing IBCs – keep IBC valves open
 - Remove / rinse caps, bungs and label booklets – discard in trash
 - Base labels can remain



Rinsing Tools

Pressure Rinsing: Jugs

Axiom Products – Accu-Tech Jet Rinse Triple-Rinse Nozzle

<https://axiomproductsusa.com/accu-tech/jet-rinse/>



Connects to a conventional garden hose!



Rinsing Tools

Pressure Rinsing: Jugs

Chem-Blade Original

<https://chemblade.com/chem-blade-original>



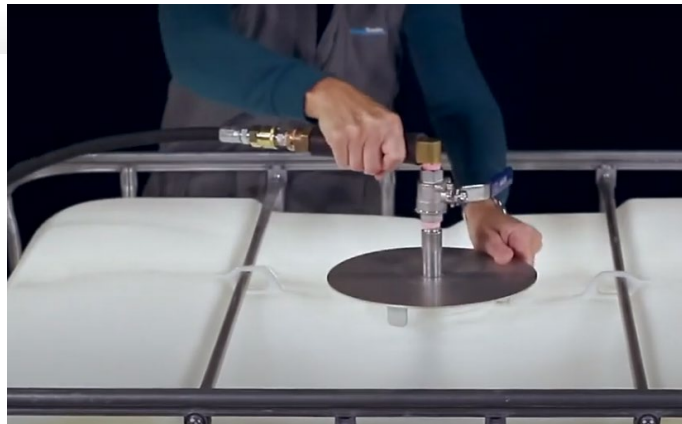


Rinsing Tools

Pressure Rinsing: Drums & IBCs

AaquaTools ToteBlaster LT

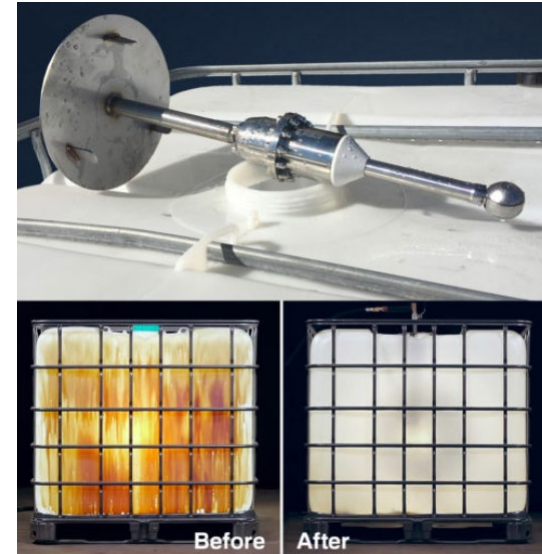
<https://aaquatools.com/products/rotary-spray-jet-heads/toteblaster-lt/>



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FarmChem

<https://shop.farmchem.com/>





Rinsing Procedures

Procedure Resources:

<https://www.agrecycling.org/recycling/container-rinsing/>

- Pressure Rinsing
 - Small containers
 - Drums
- Triple Rinsing
 - Small containers
 - Drums





30 ACRC

YEARS OF AG CONTAINER RECYCLING



30th Anniversary!



ACRC CONFIDENTIAL BUSINESS INFORMATION



THANK YOU!

**Mark Hudson
Executive Director
Ag Container Recycling Council**

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MORE THAN 227,000,000 LBS OF AGRICULTURAL PLASTICS RECYCLED SINCE 1992



Justin Geisinger
Orrstown PA





History

- Started 2014 on farm
- LDPE film, PP & PS pots & trays, PP twine, drip tape
- 2019 Tip fee implementation
- 90% LDPE to landfill/ burn pile





History (cont.)

- 2019 started shredding and grinding small equipment
- 2020 installed larger shredder and grinder
- 2021 total production 1.35million pounds
- Staff growth Jan 1 , April 2, Dec 6
- 2022 first quarter 600,000





Collection Model



- Mack compactor truck
- 2-person crew
- Well received collection model



Collection Timing



- Timing based on regional applicator / grower needs
- Related factors:
 - Communicated needs
 - Consolidating multiple sites volumes
 - Past history
- Likely 1 – 2X / year
- June – December



Communication Process



Ag Plastic Solutions, LLC

Justin Geisinger

717-446-9917

info@agplasticsolutions.com

- Call or email the office to request collection
- Office will follow-up to schedule collection and gather more details
- Tentative schedule for specific week
- Will call ahead when en route

Access to Containers



- Driving access for truck
- Location of containers clearly communicated
- Access to containers
 - Storage unlocked or accessible

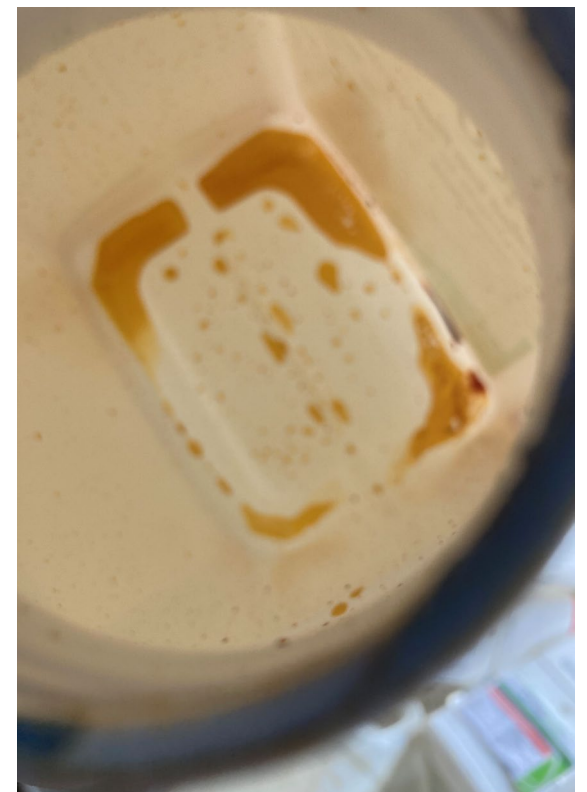
Safe Access by Crew



- Dock safety
 - Stability / solid & secure
- Floor safety
 - Not slippery
 - No holes
- Odor / fumes – no spilled chemicals



Top concern: dirty jugs



Unmonitored sites

Dirty containers



Opportunities...



**MAKING NEW CONTACTS
THROUGH THE
NORTHEAST**



**SEEKING OUT
PARTICIPATION FROM
DAIRY SUPPLY
COMPANIES**



**CONTINUALLY EVOLVING
OUR PROCEDURES FOR
COLLECTION SITE
SCHEDULING**



NEW LOCATION 2022?



Thank you!

Questions ???