

AGRICULTURE



plastics disposal.

Introduction

There are a multitude of plastic derived products used for agriculture including: mulch film, drip irrigation tape, row covers, tunnel film, box liners, greenhouse film, peat moss bags, haylage bale stretch-wraps, “Super Sacks”, plastic twine, silage bags, bunker covers, buckets, barrels, drums, nursery pots and trays, and irrigation pipe. Though these products have helped farmers around the world, they also are adding to the ever-increasing problem of

Two common practices for AG plastics disposal are burning or sending to landfills. Both create problems. Burning plastic (especially at smoldering temperatures) releases highly toxic vinyl chloride and other potentially cancer-causing chemicals (i.e., dioxins and furans) into the air; this pollution also aggravates asthma and emphysema and can increase the risk of heart disease in susceptible people. Residue from burning contaminates the soil and groundwater and can enter the human and livestock food chain by settling on crops and in waterways.

Sending AG plastics to landfills is costly and adds further to the escalating problem of solid waste management. It is estimated that plastics take 100 to 400 years to break down in landfills. The “[Great Pacific Garbage Patch](#)” in the Pacific Ocean between northern California and Hawaii, is an oceanic gyre twice the size of Texas filled with plastic trash; it is a constant reminder that we need to reduce our use and disposal of plastic!

A decade ago it was estimated that nationwide 66% of agricultural plastics by weight were nursery containers; 5%, pesticide containers; and 30%, various types of films (mulch, fumigation, bale wrap) and irrigation tubing. Current anecdotal evidence indicates that plastic use in dairy farming has increased considerably since the early 1990s. Milk is the leading agricultural product nationwide we estimate that 3%—or 1,678 million lbs of plastics of the resin types used in agriculture are used in agricultural production.

Resources

Northeast Waste Management Officials Association (NEWMOA)

[NEWMOA](#), through a grant from the U.S. Department of Agriculture, Rural Utilities Service, is conducting training and providing technical assistance to promote recycling of agricultural plastics in rural areas of Maine, New Hampshire, New York, and Vermont during 2008 and 2009

Anaerobic Digestion of Manure in New York State

There are currently nine dairy farms and one duck farm conducting [anaerobic digestion of manure in New York State](#); one dairy farm is about to begin. Anaerobic digestion produces methane gas that may be used for heating purposes and/or to generate electricity. It produces essentially pathogen-free solids that may be used as fertilizer and animal bedding.

Cornell Agricultural Plastics Recycling

EPA Region 2's Pollution Prevention Program has issued two grants to SUNY College of Agriculture and Life Sciences at Cornell University for an agricultural plastics recycling project. The projects promote life-cycle stewardship and extended producer responsibility (EPR) for agricultural plastic films to prevent the pollution generated when these products are disposed in open fires on-farm. For more information on these projects, visit the [Recycling Ag Plastics Project \(RAPP\)](#).

State Websites

New Jersey Department of Agriculture (NJDA) Plastic Pesticide Container Recycling

This site contains information on [New Jersey's mandatory Agricultural Recycling Program](#).

Recycling Dairy Plastics

This website from [Franklin County NY](#) gives some best management practices for agricultural plastics.

This website on [recycling silo bags and other agricultural plastic films](#) gives a step-by-step approach for recycling silo bags.

A detailed approach to [recycling agricultural films](#).

Washington State University

Washington State University has a whole webpage dedicated to "[plasticulture](#)" or the broad and general use of plastics in agriculture

California Integrated Waste Management Board

[Sustainable agriculture](#) involves practices that sustain natural resources and biodiversity, while still being economically viable. This page contains information on sustainable agriculture demonstration projects, including erosion control projects, and links to agricultural organizations that support and promote sustainable practices.

Associations

Northwest Ag Plastics, Inc

[Northwest Ag Plastics, Inc.](#) is contracted to collect and granulate plastic pesticide containers for the agricultural industry in Washington, Idaho, and Oregon. Sub-contractors in Oregon and Idaho help carry out this program. In Oregon, Agri-Plas, Inc. based in Brooks Oregon services Western and Central Oregon. In Idaho, the Idaho Department of Agriculture carries out the program.

US Ag Recycling

[US Ag Recycling](#) collects plastic containers in many states throughout the south and eastern coast line. It offers three collection options; public collection, collection centers, or private collection.

Case Studies

EPA Region 4

[Region 4 case studies](#) in which EPA Region 4 works closely with many partners to achieve shared environmental goals via agriculture projects.

This case study looks at reducing Dioxin emissions by [recycling agriculture plastic](#).

Recycling Process for Poultry Litter

[Recycling reactors](#) based on this technology are easily adapted for permanent ... Related technologies are being commercialized for recycling scrap plastics and electronic, aircraft, and automotive parts.

This model describes sustainable long-term [recycling of saline agricultural](#) drainage water. (type in agriculture recycling under advanced search)

Plas2Fuel

This website describes [turning plastics into fuel](#). A privately-held alternative energy company, converts mixed waste plastics into synthetic crude oil and other valuable petrochemical products. [Modeling Agricultural Recycling Systems for System Size and Economic Potential](#) The purpose of this research is to examine an *agricultural recycling* system

Mentors

The Ag Container Recycling Council, [ACRC recycling](#) program is one of the most successful and innovative in the country, bringing both the public and private sectors together to promote environmental stewardship.



GenesisPolyUpdate-2
009Nov30MankatoFr