Organics Recycling Infrastructure: Rendering Facilities

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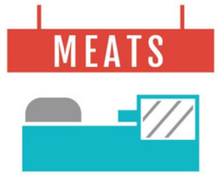
Introduction: What is Rendering?

It's a process that repurposes co-products (also called by-products) that would otherwise go to landfill from the "meat we don't eat." By rendering specific materials that many North American consumers would consider inedible, such as certain fats, bones and proteins, renderers provide clean and safe rendered material used to develop sustainable new products while reducing overall food production waste.

THE STORY OF RENDERING

1 ANIMAL LEFTOVERS & OILS COLLECTED FROM



MEAT LOCKERS, PACKING PLANTS & BUTCHER SHOPS

Ex: scraps, bones, fat, blood, feathers

GROCERY STORES

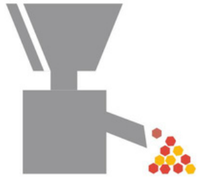
Ex: scraps, expired rotisserie chickens, meats

RESTAURANTS

Ex: used cooking oil

2 RENDERING PROCESS

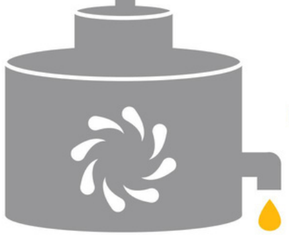
GROUND
to a uniform size



COOKED
to separate fat & protein
& to kill bacteria

FAT PURIFIED
by centrifuge

PROTEIN GROUND
to uniform size



Ingredients ready to be used in new products

FINISHED PRODUCTS
tallow, choice white grease,
fat for feeding, yellow grease, poultry fat

FINISHED PRODUCTS
meat meal, blood meal, meat & bone meal,
poultry meal, poultry by-product meal, feather meal

3 RENDERED INGREDIENTS ARE USED TO PRODUCE:

BIOFUEL/GREEN ENERGY

PET FOOD

LIVESTOCK FEED

AQUACULTURE FEED

FERTILIZER

PERSONAL CARE ITEMS
cosmetics, soap, perfumes,
shaving cream, deodorant

INDUSTRIAL USES
leather, lubricants, paint,
varnishes, cleaners, rubber

Manufactured Co-Products

According to a 2020 report, more than 62 billion pounds of renderable raw materials are produced in the U.S. and Canada each year from farms, feedlots, and slaughter facilities for cattle, hogs, sheep, chickens, and turkeys.

From that, approximately 16 million tons of rendered products are produced annually. That's nearly 16 million tons of reduced food waste that would have been sent to landfills if not upcycled into new ingredients for biofuels, pet food, animal feed, personal care products, industrial uses, and other products.

Pet Food and Animal Feed	Biofuel	Oleochemical	Fertilizer
Animal food ingredients might include grains, milling by-products, added vitamins, minerals, fats/oils, and other nutritional and energy sources. Animal foods provide a practical outlet for plant and animal by-products not suitable for human consumption.	Biofuel is fuel that is produced through contemporary processes from biomass, rather than by the geological processes in the formation of fossil fuels, such as oil. Since biomass technically can be used as a fuel directly, some people use the terms biomass and biofuel interchangeably	Oleochemicals are chemical compounds derived from natural fats and oils that can be used as raw materials or as supplemental materials in a variety of industries. Oleochemicals can be used as a substitute for petroleum-based products known as petrochemicals.	A fertilizer is any material of natural or synthetic origin that is applied to soil or to plant tissues to supply plant nutrients. Fertilizers may be distinct from liming materials or other non-nutrient soil amendments.

Partnership Opportunities with Solid Waste Programs

Renderers are working with local governments to implement residential kitchen grease collection and recycling programs. This could be additional volume for SB 1383 compliance. Rendering facilities can represent additional capacity for organics recycling.

Questions?