

Silage Tube Recycling Case Study

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Film Product: Silage Tube

Used in the farming industry for seasonal and annual storage of silage and feed on dairy farms.



Problem



Legal changes during the 1990's prohibited disposal of used/scrap silage plastic in landfills and outlawed burning of the plastic.

Recycling Technology Solution:

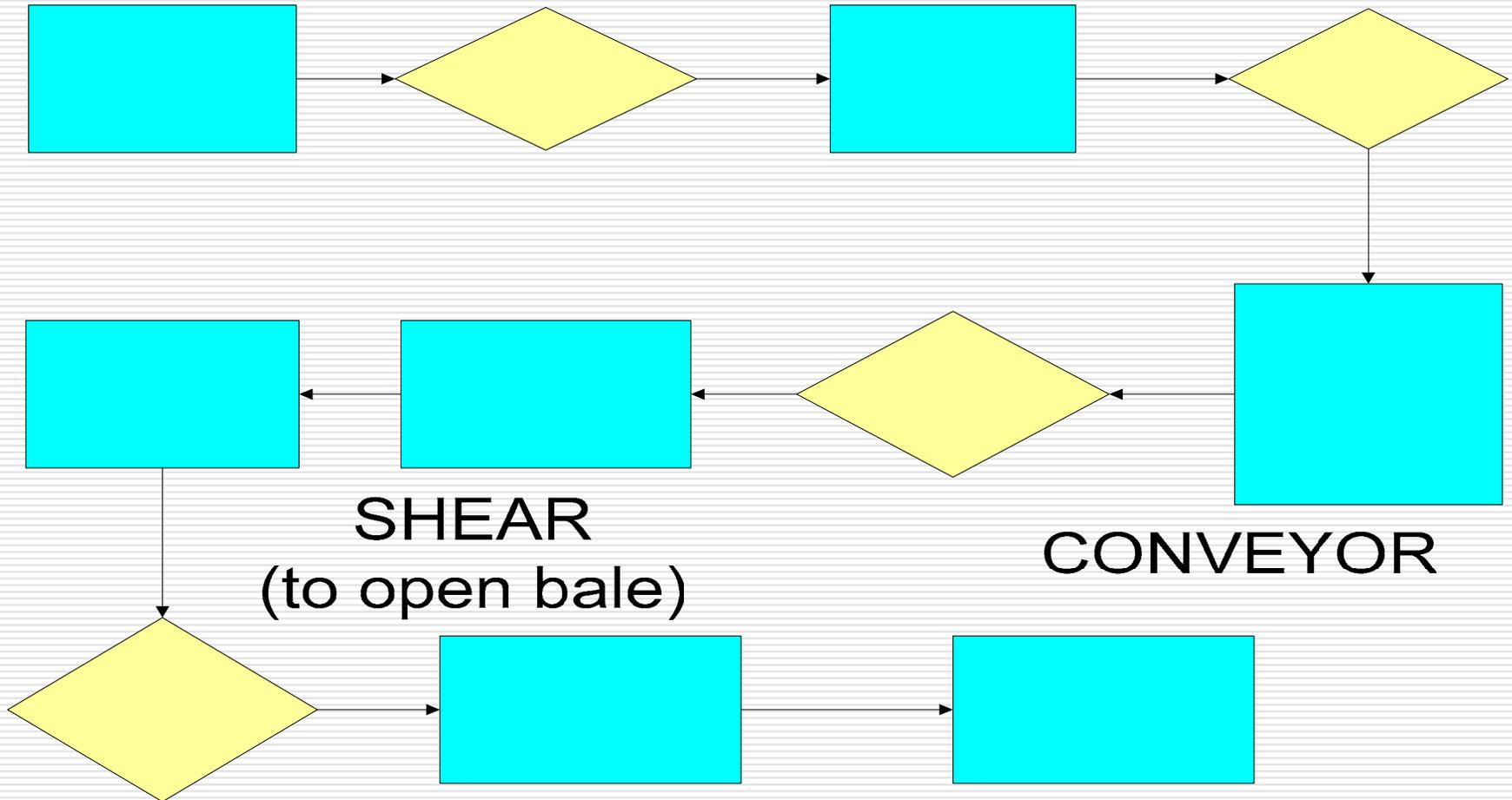
Poly-America and the largest U.S. distributor of silage bags initiated a joint effort to develop a collection/recycling program.

Primary focus = state of California.

Recycling Technology Solution:

- 1) The silage tube distributor developed a baling truck.
 - A. Scrap film was collected and baled at large farming operations.
 - B. Bales are picked up by a flat-bed truck.
 - 2) Poly-America developed and procured a film washing/grinding system to clean the scrap film contaminated with high content of dirt and agricultural waste.
 - 3) System purchased, installed, and operable in early 2000.
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Post-Consumer Silage Washing/Grinding System



A large industrial shear machine is the central focus, featuring a prominent metal cage made of heavy-duty chains. The machine is painted a dark green color. In the background, a red and white forklift is parked on a concrete floor. To the right, a metal staircase with a dark, textured surface is visible. The overall environment is a busy industrial facility with various pieces of equipment and materials scattered around.

SHEAR



CONVEYOR & SHREDDER



ROTARY SCALPER

WASH LINE

CP
PA

PA

PA

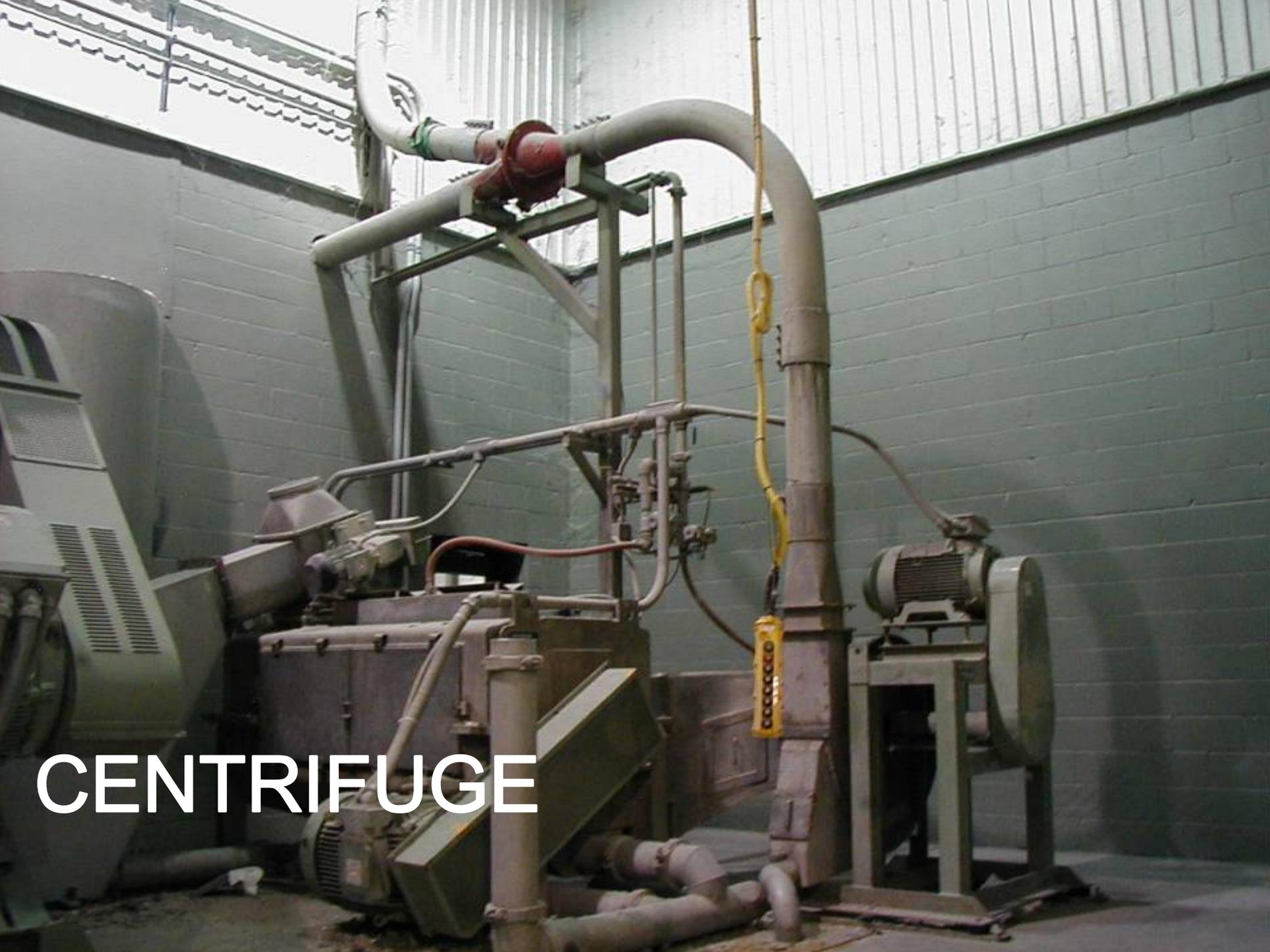
PA 645



WASH LINE



UNDERWATER GRINDER



CENTRIFUGE

DRYING



Product Solution:

- The characteristics of LLDPE PCR pellets produced from the scrap silage tube were acceptable in a product Poly-America sold to the oil drilling industry:
40 ft X 100 ft X 6 mil oil field sheeting.
 - Material characteristics, gel content, and contaminant level are acceptable when used for this oil field sheeting at levels of 35%.
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Key Components to Success:

- Isolated scrap stream, not co-mingled film scrap.
 - Non-degraded material whose only problem is dirt and debris contamination.
 - A targeted finished product, designed for use with the PCR at a high percentage.
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