

Our Vision

Product Functions

- ❑ Retains moisture and temperature
- ❑ Improves plant and soil health during biodegradation
- ❑ 100% biodegradable
- ❑ 99.5% soybean by weight
- ❑ Reduce manual labor for removal of film
- ❑ Reduce the cost of fertilization

Costs

- ❑ Manufacturing Cost: \$174/roll
- ❑ Selling Price: \$289/roll

Market

- ❑ Market share of \$57.0M (1%)
- ❑ 76,734 tons soybean sales/year
- ❑ Targeted for Indiana farmers
- ❑ Can be customized to meet different crop requirements



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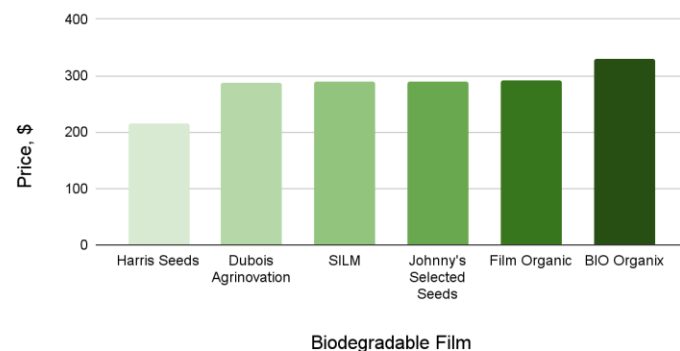

SILM

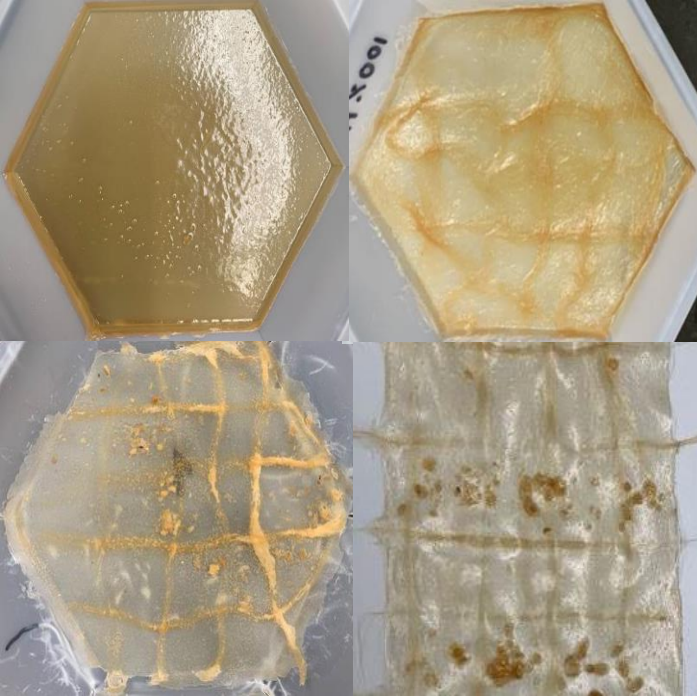
BIODEGRADABLE
AGRICULTURAL FILM

“SILM provides farmers a long term solution for environmental and economic sustainability”



Price Comparison





Technical Specifications

Structural Integrity

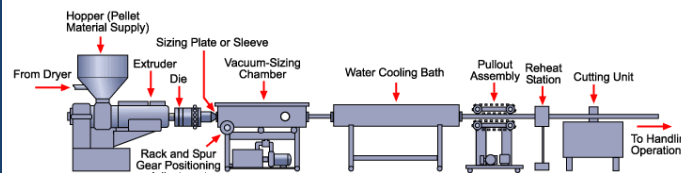
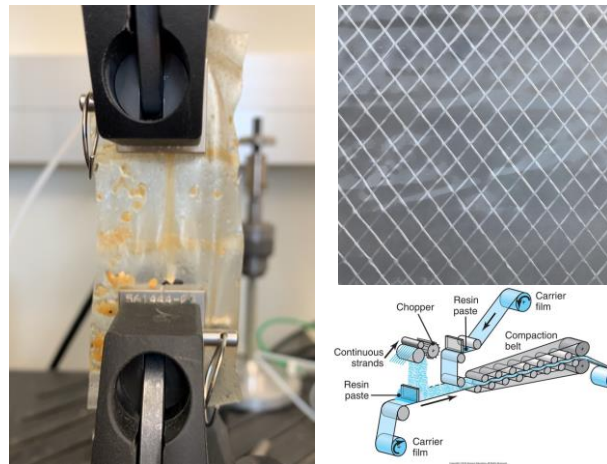
- 38.015 N, 0.01 Gpa
- Determined by fiber and protein composition

Environmental Impact

- Protein: provides organic nitrogen
- Fiber: provides structural stability
- Glycerin: aids metabolism of nitrogen-fixing bacteria
- Soybean meal: NPK 7-1-5 fertilizer
- NaOH: increases soil structural stability
- Succinic Acid: promotes Krebs cycle and is used in food and pharmaceuticals

Manufacturing Process

- Reinforced plastic extrusion line
- Requires less heat, pressure, and power



Product Summary

- 99.5 % soy materials by weight
- Beneficial for plant growth
- Innovative design with wide application
- Operational Temperature: 0°C ~ 30°C
- Market share of 57.0M (1.00%)
- 76,734 tons soybean sales/year

Potential Improvements

- Refinement of NPK ratio
- Reduce cost of manufacturing
- Alternative colors for different crops and usage requirements
 - Red for vegetation
 - Black for weed suppression

Conventional Film Functions

- Made with polyethylene (PE) plastics
- Require removal after each use
- External fertilizer application
- Contaminates soil while degrading

SILM Functions

- Optimal combination of soy-based fiber, protein, and glycerin
- NaOH, succinic acid used for pH control for crosslinking pH 7 - pH 11 - pH 4.5
- Minimal impact on soil health
- Promote plant growth
- Maintain temperature and moisture of soil
- Biodegrade within 6 months

Potential Problems

- Long term exposure
 - Placement
 - Storage
- A reason for farmers to switch from conventional films