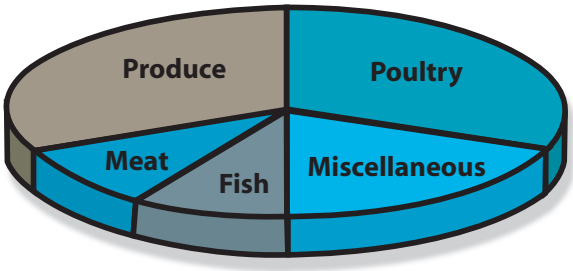
Soy Wax for Corrugated Board

Waxed Corrugated Packaging

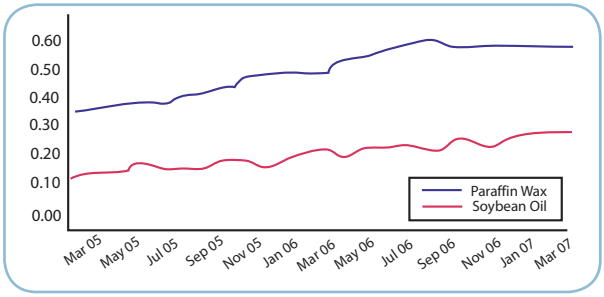
Packaging is the single largest sector use of wax in Canada, using approximately 1/3 of all wax. Within this market, corrugated board uses the majority of wax volume. When treated with wax, corrugated board has improved dry strength and appearance, is resistant to water and vapour transmission, and reduces abrasiveness of corrugated board contacting the packaged product. Wax coatings prevent ply separation, the loss of strength and rigidity when the corrugated container is wet by acting as a barrier between the paperboard and the moist environment. Laboratory studies show wax corrugated boxes are three times stronger than nonwaxed.

Wax Corrugated Use



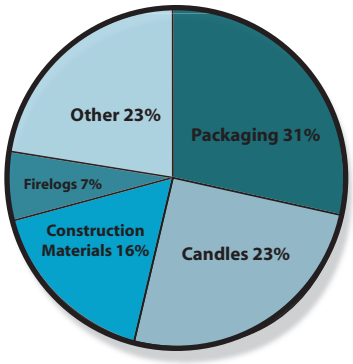
The Case for Soy Wax

About 5% of the corrugated board produced in Canada ends up with some type of wax coating. The most widely used wax in corrugated plants is paraffin wax. However, soy wax is beginning to increase in use. Invented in 1991, soy wax is produced by hydrogenating soybean oil. Soy wax has proven effective in alleviating supply and price concerns associated with the petroleum based paraffin wax.



The graph above demonstrates the widening price difference between paraffin wax and soybean oil, the primary feedstock and cost of producing soy wax.

Packaging is the largest sector use of wax in Canada. Aside from packaging, candles, construction materials and firelogs, no other sector comprises more than 5% of total wax use.



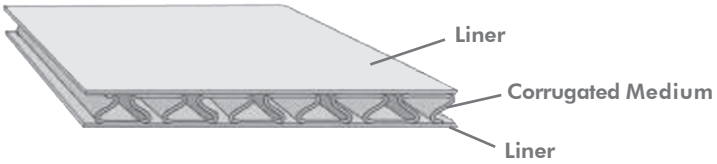
What Needs to be Done

Wax properties for packaging considerations include:

1. Melting Point
2. Hardness
3. Odour
4. Oil Content
5. Viscosity
6. Colour

Current soy wax technology for packaging coatings requires further research to improve thermal stability, viscosity and discoloration concerns for both saturating and curtain coating applications, but has been successfully back blended with paraffin for enhanced stability. Representing 5% of total corrugated production, more than 100 million pounds of wax can be used annually by the wax corrugated packaging industry in Canada.

Corrugated board is a stiff, strong and light-weight material formed by gluing one or more arched layers of corrugated medium to one or more flat-facing linerboards.



What This Means for Canadian Soybean Farmers

If soy wax was to capture a 10% market share of the wax used in wax corrugated applications, initially through soy/paraffin blends, it could use the oil derived from over 32,000 acres of soybeans.

Canada

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Ontario