

# **MARKET OPPORTUNITIES ANALYSIS FOR CANADIAN SOYBEANS**

## **Section 2**

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## Wax Candles

Through a process of partial hydrogenation it is possible to raise the melting point of soybean oil, such that it is solid at room temperature (this is referred to as a wax). The majority of candles are made from paraffin wax. Paraffin is derived from petroleum. Soy wax candles will burn up to 30% longer than paraffin candles, can accommodate more fragrance (up to 10% on a by weight basis as compared to 6% for paraffin) and do not emit noxious petroleum based pollutants. Soy wax can be formulated and marketed at a similar price to paraffin for container candle wax, but is currently marketed at a significant premium for free standing candle wax (votives and pillars).

*Table 17: Market price comparison between soy wax and paraffin*

	Paraffin	Soy wax
Container blend	\$0.83/lb	\$.83/lb
Free standing blend	\$0.90/lb	\$1.66/lb

The scale of the Canadian candle market is significant in terms of wax volume consumed annually. We estimated volume by multiplying available U.S. data by 10% and using the average price of votives as a basis for converting price to volume.

*Table 18: Size of candle market opportunity in Canada*

### Inputs

Total U.S. retail candle sales	\$2,800	M U.S. \$
Canadian market size relative to U.S.	10%	
Soy wax candle market penetration	10%	
Soybean oil yield	11.35	lbs/bu
Specific weight of soy oil	0.91	L/Kg
Soybean yield	40	bu/acre
Canadian/U.S. \$ conversion	1.3851	
Votive candle price	\$1.22	each
Weight	0.125	lbs
Market penetration of votives in Canada	41%	

Votives are small free standing (non-container based) candles that are generally sold in packs of four or more. They represent the most dominant portion of the candle market.

Table 19: Size of soy wax candle market opportunity in Canada

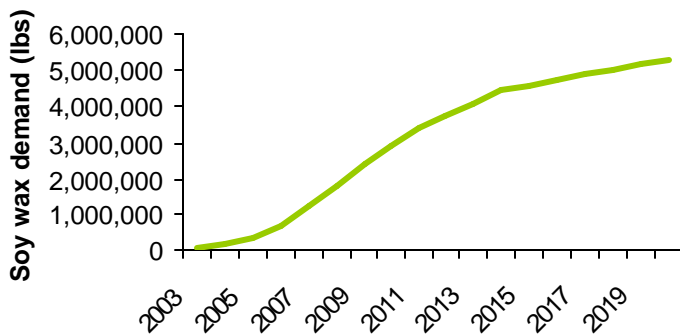
**Calculations**

Value of candles (per lb)	\$9.76	\$/lb
Size of U.S. market	287	M lbs
Size of Canadian market	29	M lbs
Size of Canadian soy wax candle market	2,868,852	Lbs
Value of Canadian soy wax candle market	\$38,782,800	cdn \$
Amount of soybean oil required	2,868,852	lbs
Amount of soybeans required	252,762	bu
Acres required	6,319	acres

Soy wax candles is an attractive market as an alternative value added use of soybean oil. Candles represent the largest potential market opportunity for soy wax, but there are significant additional opportunities for use in cosmetics and air fresheners. To make soy wax requires hydrogenation equipment, which requires a capital investment of approximately \$300,000. The margin available for soy wax coupled with the potential size of this market justifies this expenditure.

Based on the assumptions discussed above we have estimated soy wax candle market penetration in Canada as peaking at 10% of the total candle market.

Chart 28: Estimated soy wax candle market penetration in Canadian candle market



The total net present value of this opportunity for soybean producers is estimated at \$4 M from now until 2020. We have not estimated the value for the candle manufacturers as this will largely represent a cannibalization of the existing paraffin candle and thus not represent incremental value to the Canadian economy.