

# GE contamination devastates Canadian linseed industry



Linseed, called flax in North America, is a crop adapted to northern latitudes that is primarily grown for its oil-rich seeds, which have food, animal feed, and industrial uses. In 2009, contamination from a GE (genetically-engineered) linseed variety was detected in Canadian exports to Europe and Japan, triggering a market collapse that has caused huge economic losses for Canadian farmers. European processors and retailers have also suffered the economic repercussions, with products being recalled in several countries.

In September 2009, GE contamination was first confirmed in a shipment of Canadian linseed exported to Germany. The market reacted swiftly. Only days later, the President of the Saskatchewan Flax Development Commission grimly concluded that 'the flax market has basically collapsed'. (Kuhlmann, 2009).

At the end of the year the situation was no better, and much of Canada's 2009 harvest remained in storage for lack of a buyer. Asked in December if exports to Europe - the traditional destination of about 70% of Canada's linseed - had improved, the President of the Canadian Flax Council (a national organisation of linseed farmers) told Reuters "I don't think anything has shipped at all." (Nickel, 2009)

## Contamination from a deregistered GE linseed variety

Linseed went from being a profitable crop to an economic disaster because of the unexplained presence of 'Triffid', a GE variety designed to resist herbicide, in Canadian exports.

Triffid was developed by the University of Saskatchewan Crop Development Centre (CDC). It received final regulatory approval from Canadian authorities in 1998 and was placed on the register of varieties approved for commercial production.

Linseed farmers opposed Triffid, fearing market rejection of GE linseed, and prevented it from being sold for commercial production. Farmers convinced CDC to deregister the variety in 2001, only three years after its approval (CGC 2009).

CDC allowed small packages of the GE seed to be distributed by the scientist that created the variety until the Canadian Flax Council objected in 2000. In that year, the President of the Flax Council presciently noted that if Triffid were found in Europe, 'it could literally kill our market'. (Warick, 2000 & Pratt, 2009).

Although the source of the widespread contamination identified in Canadian linseed in 2009 has not been conclusively determined, it has been suggested that the samples distributed nearly a decade ago may ultimately prove to be the origin. In an attempt to understand how contamination occurred, Canada's Flax Council has urged farmers to submit samples of their 2009 harvest for testing.

## Linseed markets paralysed

The first confirmed report of Triffid contamination came on 15 September 2009, when a German food company found evidence of GE material in a shipment of Canadian linseed that it had sampled in August. More intensive testing of linseed quickly ensued in the EU, and by 10 December 2009, eighty six more cases of Triffid contamination had been confirmed (EC RASFF, 2009). In November, Triffid contamination was found in linseed exported to Japan, Canada's third largest linseed customer (Yoshikawa & Maeda, 2009).

At the end of 2009, the dozens of contamination incidents have had the effect of paralysing Canada's linseed exports. Because most Canadian linseed is exported via the St. Lawrence Seaway, which freezes in winter, most of Canada's 2009 linseed harvest will likely remain in storage well into 2010, when the industry will again seek buyers for the crop.

## Economic consequences

News of the Triffid contamination caused an immediate slump in linseed prices paid to Canadian farmers. From early summer highs in excess of \$12.50 Canadian dollars per bushel, prices dropped by late September to \$7.87 at port in Ontario and \$6.80 in Saskatchewan. At the beginning of October, a Manitoba processor ceased bidding for linseed harvests (SFDC, 2009), an indication of how Triffid contamination has severely weakened linseed demand.

Canadian prices have since risen to the \$9.00 per bushel range. However, prices remain low and harvests in storage. Optimists in Canada cite a recovery of linseed prices in European markets (SFDC, 2009); however, this 'recovery' is illusory because shipping volumes are practically non-existent. This is evidence that, due to Triffid contamination, Canada can't meet EU biosafety requirements for new contracts.

Agriculture Canada forecasts the 2009 linseed harvest at 965,000 metric tons, over 35 million bushels (Agriculture Canada, 2009). With prices to farmers down by an average of \$3.00 per bushel, Canadian farmers have lost \$106 million or more from the value of their harvest. It could get worse: Farmers who retained their harvest and processors that have linseed in storage currently face great uncertainty about future prices.

## The rough road ahead

Triffid's ultimate cost to Canada's linseed industry will certainly be even higher, although it is too early to calculate with precision. A 24% decline in planting is forecast for 2010 (SFDC, 2009), and 'burdensome stock levels' mean recovery cannot occur until well into 2010 (Agriculture Canada 2009). Before then, Canadian linseed farmers must test their harvests to identify and attempt to eliminate all Triffid contamination – a complex and costly task that the Canadian Flax Council has deemed mandatory for survival of the industry.

Linseed is marketed as a healthy choice in baked goods and other products for human consumption, often citing its high concentration of unsaturated fats and protein. Triffid contamination is likely to raise safety questions in the minds of consumers, and the damage to this reputation of linseed and linseed oil could prove to be more costly than the direct damage to the linseed market.

### Sources

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## Timeline

