Effective use of data on the FAO GM Foods Platform: Canada

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The way how to find the country information

FAO GM Foods Platform

Browse information by Country

Select a country from the Codex Regions below. Please note that the list does not contain all Codex member countries because the list is automatically generated with the names of country that have already registered to the platform. Therefore, even if some countries are not listed below, it does not mean they do not conduct food safety assessments of foods derived from rDNA plants.

- Africa region - CCAfrica
- Asia region - CCASIA
- Europe region - CCEURO
- Latin America and Caribbean region - CCLAC
- Near East region - CCNEA
- North America and South West Pacific region - CCNASWP
  - Australia
  - Canada
  - Cook Islands
  - Kiribati
  - Micronesia
  - New Zealand
  - Papua New Guinea
  - Samoa
  - Solomon Islands
  - Tonga
  - United States of America
Available information/data on Canada’s page
Example: MON-877Ø5-6

Brief Summary of Application

Date of Authorization

Link to BioTrack Product Database

Links to HC and CFIA Decision Documents
Novel Food and Novel Feed Decision Documents for MON-877Ø5-6

### Novel Food

**6. Nutrition**

MON 87705 has an improved fatty acid profile similar to that of canola oil and olive oil, consisting of increased monounsaturated and reduced polysaturated and saturated fatty acid levels relative to conventional soybean.

In order to determine the nutritional similarity of MON 87705 to conventional soybean, three field trials were conducted at three locations: Chile 2007, US 2007, and US 2008. All analyses of test and control soybean lines were performed using approved scientific and appropriate statistical methods.

Nutrients and/or anti-nutrients were analyzed, including: proximates, fibre and, in seed, including: proximates, fibre, amino acids, fatty acids, vitamin E, lectin, trypsin inhibitor, phytic acid, raffinose, stachyose, isoflavones and, in meal, including: proximates, fibre, amino acids, trypsin inhibitor, phytic acid and, in soy protein isolate, including: moisture, amino acids and, in oil, including: fatty acids, vitamin E, lecithin (phospholipids).

In each of the three studies, statistical differences between the control and MON 87705 were noted in 11, 17, and 17 analytes, respectively; however, no trends were noted between the statistical differences and all values were within literature ranges for conventional soybean, with the exception of some fatty acids, as expected.

The fatty acid composition of MON 87705 soybean line consists of approximately 76% oleic acid (monounsaturated), an increase from 17-30% found in conventional soybean. This is comparable to oleic acid content of canola (51-70%) and olive oil (55-83%). There is a significant decrease in linoleic acid (polysaturated) levels from 49-59% to approximately 10% in MON 87705. Furthermore, MON 87705 contains only 6% of palmitic and stearic acids in comparison to 10-19% found in conventional soybean, 4-10% in canola, and 8-25% in olive oil.

The nutrient composition of MON 87705 is similar to conventional soybean, with the only difference being the intended changes in the fatty acid profile of MON 87705.

### Novel Feed

#### 1. Potential Impact of Soybean Event MON 87705 on Livestock Nutrition

**Nutrient and anti-nutrient Composition**

The nutritional equivalence of soybean event MON 87705 to the unmodified control was determined from data of replicated field sites in Chile and the US during the 2007 and 2008 growing seasons. At each field site soybean event MON 87705, the unmodified control and 20 conventional soybean varieties were planted. Forage and seed samples were collected and analysed for protein and fibre and seed samples were further analysed for amino acids, fatty acids, vitamin E, isoflavones (daidzein, genistein and glycitein) and anti-nutrients (lecithin, phytic acid, trypsin inhibitor, raffinose and stachyose). In separate US trials conducted with soybean event MON 87705, the unmodified control and 12 conventional soybean varieties, seed samples were processed and analysed for proximate and fibre, amino acids, trypsin inhibitor, phytic acids (meal), fatty acids, vitamin E (refined oil) amino acids and moisture (protein isolates) and phosphatides (crude lecithin). No statistically significant differences were observed between soybean event MON 87705 and the unmodified control for proximates, acid detergent fibre (ADF) and neutral detergent fibre (NDF). In the Chilean trial, ash in forage was significantly higher in soybean event MON 87705 than in the unmodified control, but the means were within the range of the conventional soybean varieties. Protein (US), fat, arginine, lysine, aspartic acid, cystine, leucine, proline, serine, methionine and threonine values in seed (US or Chile) were significantly different in soybean event MON 87705 compared to the unmodified control; however, all means were within the range of the conventional soybean varieties and literature values.

Soybean event MON 87705 was developed to have lower levels of saturated fatty acids (16:0 palmitic acid and 18:0 stearic acid) and higher levels of 18:1 oleic acid, with an associated decrease in 18:2 linoleic acid). As expected, soybean event MON 87705 seed contained significantly lower palmitic acid (2.3% vs 10.8%) and stearic acid levels (3.3% vs 4.5%), higher oleic acid levels (70% vs 22%) and lower linoleic acid levels (10% vs 53%) compared to the control. Differences in these four fatty acids were consistently observed at each of the individual sites in both trials. Stearic acid in soybean event MON 87705 seed, however, was with the range of conventional soybean varieties, while the other three fatty acids, were outside the range of the conventional soybean varieties. As expected, 18:0 linoleic acid was significantly lower in soybean event MON 87705 compared to the unmodified control seed, but the means were within the range of the conventional soybean varieties. Arachidic and behenic acids were significantly lower in soybean event MON 87705 compared to the unmodified control while elcosanoic acid was higher in soybean event MON 87705 than in the unmodified control seed; however all mean values were within the range of conventional soybean varieties and/or literature values. No statistically significant differences were found between soybean event MON 87705 and the unmodified control for vitamin E, glycinin, daidzein genistein, lectin (Chile), phytic acid, raffinose, stachyose and trypsin inhibitor. With regards to co-products, statistically significant differences were observed between soybean event MON 87705 and the unmodified control sow meat for NDF, alanine, glycine, isoleucine, lysine and valine but the means were within the range of the conventional soybean varieties and/or literature values. In soybean event MON 87705 oil, the levels of palmitic, stearic, oleic and linoleic acids were comparable to the levels and the trend observed in the seed. No statistically significant differences were observed between soybean event MON 87705 and the unmodified control for the amino acids in the protein isolate fraction. All phosphatides in crude lecithin were similar for soybean event MON 87705 and the unmodified control.
Effective use of the data in Canada

• In the event of a Low Level Presence (LLP) issue in Canada, the Platform could serve as a potential resource to review safety assessments conducted by other countries (including origin of LLP source)

• The platform is a source of intelligence for GM events that may not have approval in Canada (Events for Canada to observe)
Insights/tips on the effective use of the data on the database for people outside

- For countries facing a Low Level Presence (LLP) issue, the Platform serves as a resource to review safety assessments conducted by other countries (including origin of LLP source)

- Database provides countries a venue to place their regulatory decisions online, facilitating easier comparison of decisions/approvals between countries