



Addendum: Sampling and Testing Protocol for Flaxseed Exported in Containers

March 10, 2010

1. Background Information

a) Description of Commercial Handling and Movement of Flax Shipped in Containers

Flaxseed may be shipped in containers in bags, totes or in bulk. The containers may be loaded at an inland location or at transload facilities near the ports of Montreal or Vancouver.

Flaxseed can be shipped from inland locations to transload facilities in three ways:

- i. bulk in hopper bottom grain railcars
- ii. bags in box railcars
- iii. bags in domestic intermodal containers by rail or by truck

When flaxseed arrives at transload facilities, there are three methods of transloading:

- i. bulk from railcar to bulk container
- ii. bulk to bagging equipment and then bags to container
- iii. bags in railcar or domestic intermodal container to international containers

b) Container Sampling Options

Containers are loaded at many different locations and types of facilities. The following are options for sampling containers:

Bulk flaxseed:

- stream sample taken prior to container loading, either into a bin or as the flaxseed is loaded from a bin into a container
- stream samples can be taken by a CGC-approved automatic sample, or an approved manual method

Bagged flaxseed:

- stream sample taken prior to bagging, either into a bin or as the flaxseed is moved from the container to the bagging equipment, or
- samples taken from a randomly selected bags using a bag trier. These samples can be taken from bags before or as the container is loaded, or from lots of bagged product stored on pallets.

2. Commercial Procedures

a) Producer Delivery Samples

A sample will be taken by grain handling company personnel from each producer delivery into the commercial handling system. Samples will be retained for a period of no less than six months from the date of delivery. The CGC provides guidance on

sampling methods to the Canadian grain industry in its official *Sampling Systems Handbook and Approval Guide*¹.

b) Container Sampling and Testing

A sample will be taken by personnel of third party accredited companies or personnel of grain companies that have been certified and trained by CGC, following protocols set out in their CGC-Certified Container Sampling Program (see section 3).

These composite samples will be tested for the presence of FP967 by an ISO 17025 accredited laboratory on the list of "*Laboratories Approved for Testing Flaxseed Shipments to the European Union*"² using the method described in 6b. If a composite sample tests positive for the presence of FP967, all bins, bagged or container lots testing positive represented by that sample will be diverted from the non-GM flaxseed supply. Individual grain handling companies will retain documentation pertaining to each bin, bagged or container lot and test result.

3. CGC Certified Container Sampling and Accredited Sampler Program

The CGC will certify grain handling companies' sampling systems and sampling procedures of third party accredited sampling companies provided they meet the requirements of the *CGC Sampling System Standard*. Verification that grain companies' sampling systems meet these requirements will be conducted by CGC-accredited third party auditing firms. Verification of third party accredited sampling companies' sampling systems will be conducted by CGC officials. Verification audits will be conducted annually.

The CGC will train grain company staff samplers, third party samplers and third party auditors on appropriate sampling methods for bins, bagged lots and containers based on the *Sampling Methods and Procedures Guide*. The competency of samplers and auditors will be verified by a written test and a practical evaluation.

The CGC will oversee the accredited third party auditors and samplers through annual audits that will verify the compliance with the requirements of the *CGC Sampling System Standard*. The oversight of the third party auditors will include a CGC technical review of each audit report submitted to the CGC. The CGC will also require that third party audit and sampling firms are accredited by an accreditation body which is a member of the International Accreditation Forum (IAF) to either ISO/IEC Guide 65:1996 or ISO/IEC 17011:2004.

4. Requirements for Testing Laboratories

Laboratories undertaking testing for the commercial handling system may only be approved if they operate and have been assessed in accordance with the ISO 17025 standard on 'General requirements for competence and testing and calibration laboratories' and if the proposed test method falls within the scope of the above assessment.

¹ <http://www.grainscanada.gc.ca/guides-guides/ssh-mse/sshm-mmse-eng.htm>

² <http://www.grainscanada.gc.ca/gmflax-lingm/ltf-lal-eng.htm>

The CGC will maintain a list of “*Laboratories Approved for Testing Flaxseed Shipments to the European Union*”³ on its website. Laboratories designated on this list will handle and prepare samples in accordance with ISO accredited procedures. Laboratories will employ the construct-specific method verified by the European Community Reference Laboratory.

5. Industry Procedures for Exports: *Sampling*

- a) Sampling Method – All containers containing flaxseed destined for export under this protocol will be sampled by CGC-trained staff of grain handling companies or third party accredited sampling companies following documented and audited procedures that meet the requirements of the *CGC Sampling System Standard*.
- b) Sample Size – For lots of flaxseed exceeding 500 metric tons, a minimum sample size of 50 kilograms will be taken. For lots between 50 metric tons and 500 metric tons, a sample equal to 0.01% of the lot size will be taken. For lots less than 50 metric tons, a minimum sample size of 5 kilograms will be taken. These sample sizes are in accordance with European Commission Recommendation 2004/787/EC⁴.
- c) Multiple Container Lots – consignments up to a maximum of 10 individual containers may be combined into a single lot for sampling, testing, and documentation purposes.
- d) Sample Reduction, Submission and Retention – Samples will be divided using a Boerner-type divider for submission. Two 2.5 kilogram samples will be prepared. One 2.5 kilogram sample for testing will be expedited to a laboratory on the list of “*Laboratories approved for testing flaxseed shipments to the European Union*”⁵.

6. Laboratory Procedures for Exports: *Testing by ISO 17025 Laboratories*

- a) Testing Preparation – Laboratory personnel will draw four 60 gram sub-samples from the single 2.5 kilogram laboratory sample. Each 60 gram sub-sample represents approximately 10,000 individual flax seeds, which is capable of achieving a level of detection of 0.01%.
- b) Testing Procedures – The approved laboratory will test four 60 gram sub-samples taken from the single 2.5 kilogram laboratory sample. One DNA extraction will be made from each sub-sample using the *Fast ID Genomic DNA Extraction Kit*. Two PCR analyses will be carried out for each DNA extraction. The construct-specific method, verified by the EU Community Reference Laboratory, will be used for the qualitative PCR assay⁶.
- c) Testing Results – A lot shall be considered negative when all four 60 gram sub-samples test negative.

³ <http://www.grainscanada.gc.ca/gmflax-lingm/ltf-lal-eng.htm>

⁴ OJ L 348, 24/11/2004, p 0018- 0026

⁵ <http://www.grainscanada.gc.ca/gmflax-lingm/ltf-lal-eng.htm>

⁶ <http://gmo-crl.jrc.ec.europa.eu/flax.htm>

7. CGC Procedures for Exports: *Documentation*

The CGC will prepare an official *Letter of Analysis* on CGC letterhead based on an analysis report forwarded by an approved laboratory, which may include a *Type 1 Submitted Sample Inspection Certificate*.⁷ The *Letter of Analysis* will be presented to the Canadian flaxseed exporter, who will in turn provide it directly to the appropriate EU authorities. The *Letter of Analysis* will include a statement as follows:

The tested sample was submitted to [Insert Laboratory Name] for testing on behalf of the shipper by a company that the CGC recognizes as having met the requirements of a certified sampling program.

[Insert Laboratory Name] operates and has been assessed in accordance with the ISO 17025 standard on 'General requirements for competence and testing and calibration laboratories', and the testing method employed falls within the scope of that assessment.

[Insert Laboratory Name], has tested the sample representing the container lot and determined it to be negative for the presence of FP967 (CDC Triffid) based on the verified testing procedures outlined in Section 6 of the Sampling and Testing Protocol for Canadian Flax Exported in Containers. The lab report is attached.

⁷ Type 1 certificate will include a statement that reads: A sample said to be representative of the lot or consignment identified above has been submitted to the Canadian Grain Commission (CGC) for grading on behalf of the shipper by a loading facility that the CGC recognizes as having met the requirements of a certified sampling program.