Info-bio

THE ORGANIC FEDERATION OF CANADA NEWSLETTER

April 2016

- The Canadian Organic Science Conference
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The 2nd Canadian Organic Science Conference

September 19-21, 2016

- **Call for abstracts will close April 29, 2016**
- **Registration is open on the Conference website**
- **World renowned international and Canadian scientists will present their research in all aspects of organic agriculture**

ON THE PROGRAM

Two days of conference presentations (in English) and a field day of visits to Quebec organic farms. Click here for more information.

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Tom Manley
President and General Manager
Homestead Organics

Science is inextricably linked to the development of organic agriculture

Research improves practices and yield of organic crops

'Homestead Organics strongly support research and education in organic agriculture as the key tools to improve environmental sustainability, increase productivity and profitability on the farm, and debunk myths about organic agriculture. We have invested in the Organic Science Cluster for several years and we see the impact on farms as new knowledge improve performance in organic agriculture.'

Contributing $500 or more is an excellent investment!

Click here to consult the sponsorship plan or contact Nicole Boudreau, OFC coordinator info@organicfederation.ca – 514-488-6192

Prevention of GE contamination

A complex learning process

New clauses added to the revised version of the Canadian Organic Standards (COS) published in November 2015 require organic growers to assess GE contamination risk and design a plan to prevent GE contamination.

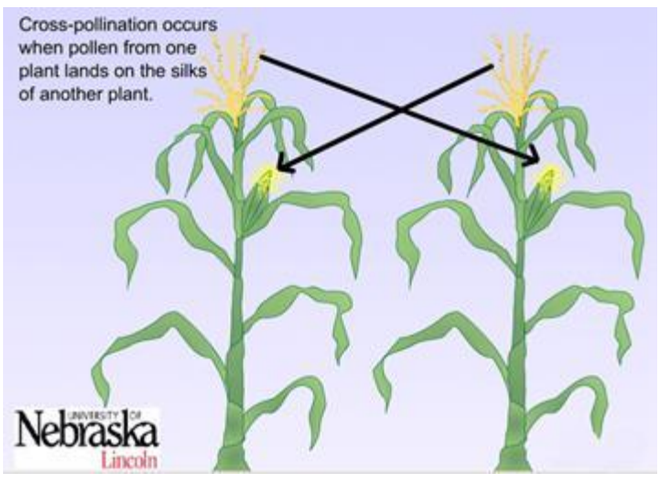
4.4.4 *The operator shall design and implement a risk management plan to prevent GE contamination, which may include strategies such as physical barriers, border rows, delayed planting, testing of seeds, isolation distances and equipment and storage sanitation protocols.*

Another clause, 5.2.2 d), specifies that: '*…crops at risk of contamination from commercialized GE crops shall be protected from cross-pollination. Mitigation strategies such as but not limited to physical barriers, border rows, strategic testing or delayed planting shall be implemented unless generally accepted isolation distances for the at risk crop type are present (see Note below)'.*

The isolation distances proposed in the Note are: soybeans – 10 m; corn – 300 m; canola, alfalfa (for seed production) and apples– 3 km.

Producers have one year from November 25, 2015 to comply with the new rule and to draft their management plan: failure to assess contamination risk and to present a consistent prevention plan could lead to the suspension of their certification.

Jean Duval, a Quebec agronomist involved since 20 years in organic agriculture working at CÉTAB+ (Victoriaville, Quebec) recently presented a 6 hour training session explaining how to comply with the new GE contamination prevention requirements. He focused on preventing contamination from GE corn, because corn is a valued commercial crop for field crop and livestock producers in Eastern Canada.



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Inspectors, certification body (CB) representatives, organic crop and seed producers and a MAPAQ researcher attended the session. Intense discussions took place throughout the 6-hour session.

The organic producers agree with the necessary prevention of GE contamination: consumers demand GE-free food and they want to trust that organic food is their best choice.

But producers feel that they must bear all the pressure and that, even when applying best organic practices, a result of 0% contamination is not guaranteed; GE pollen is readily carried by the wind and widespread by bees. And, no coexistence measures are imposed to help side-by-side producers of GE and non-GE crops limit drift. Jean Duval referred to studies with alarming numbers related to drift.

Corn is wind-pollinated and produces vast amounts of pollen. A study was done in Germany in 2014 to measure maize pollen dispersal at 216 sites. "Depending on the variety and growing conditions, each plant releases approximately 5 million to 50 million pollen grains per season. Assuming an average density of 7 to 12 plants/m^2, a 1-ha maize field sheds approximately 10^{11} to 10^{13} pollen grains over the flowering season".

The authors of the study analyzed results and created an equation to predict the quantity of maize pollen at various distances from the source crop.

Predicted maize pollen deposition	
Distance to next field (m)	**Predicted deposition (n/m^2)**
In field	3,258,000
1	1,271,000
10	330,000
100	85,900
200	56,800
300	45,200
500	33,500
800	25,100
1,000	22,500
2,000	14,700
4,450	9,340

At a distance of 1 meter from the border of the maize field, results show 1,271,000 pollen grains per m^2. This number falls at 56,800 pollen grains at a distance of 200 meters. The drop is considerable, but 56,800 pollen grains at a distance of 200 meters is a still quantity that can not be ignored.

The two dominant factors influence potential contamination: wind, and the size of the field.

The gene flow is obviously stronger when the organic field is exposed to a dominant wind coming from the direction of where the GE crop is located. But the size of the field plays a major role: contamination levels are reduced when harvests are from a larger field.

Duval presented prevention strategies to trap pollen drift, such as: delayed planting, strategic rotation, border rows, vegetative barriers, and regular use of testing for measuring efficiency of prevention measures. Each strategy has positive effects, but no strategy has a 100% guaranteed impact. Delayed planting could be inefficient under wet and cool weather that might delay pollination, leading to simultaneous flowering of crops planted at different times. In any case, a study reports that 2/3 of organic field crop growers use the delayed planting strategy in US.

Rotation works best when the neighbour planting GE crops accepts to cooperate with an organic producer: but, last minute changes to plans, depending on seed availability and market fluctuation can reduce impact of relying on a rotation strategy to reduce contamination risk.

Border rows can help: these are peripheral rows planted with a different crop to help trap pollen that will be sold on the conventional market. Peripheral rows combined with vegetative barriers, such as sunflowers or hybrid willows, will also have a positive impact.

An American study showed that cross-pollination is reduced by 50% when windbreaks are protecting organic crops.

Isolation distances proposed in the COS are 300m for corn. But this proposed value is not definitive in terms of what is perceived to be “effective”; around the world, proposed isolation distances vary, from 15 m (Sweden) to 800 m (Hungary). A study by Devos (2009) established a 50 m isolation distance to achieve contamination levels lower than 0.9%.

Organic producers asked many questions at the training session, including:

- What do you do if your test reveals contamination?
- Can you still feed your livestock with the contaminated crop?
- What is the level that you should not exceed?
- Who will pay for the test if an operator's contamination prevention plan includes testing of the seed before planting and testing of the harvested crops?
- And what to do about the value of border rows that are lost?
- Is it better to use untreated conventional seeds with no contamination than using contaminated organic seeds?

Buyers play an increasing role on the market: they bargain prices down when crops are contaminated above 1% (an agreed-upon level that replaces the unregulated contamination threshold). Producers are generally not comfortable with this new market approach.

While there are multiple approaches to preventing contamination, many questions remain unanswered. Producers at the information session expressed a clear determination to continue growing organic crops. That is the good news. CB representatives also admitted that they were looking for the best management of the new prevention rules: they certify the process, not the final product. All those present agreed that this learning curve was complex, that more research is needed but that a coexistence strategy should be created and reinforced: organic growers cannot fight alone against contamination; GE crop growers need to be involved.

Revised greenhouse crop production section under scrutiny

Under the revised COS, new requirements of subclause 7.5 regarding greenhouse production could have a huge impact on Canadian greenhouse producers.

The soil volume requirement of 70 L/m^2, with a minimal container height 12 in, has raised several concerns for producers who never got a chance to comment on these modifications before their implementation: because of time constraints, these new requirements were adopted by the Technical Committee on Organic Agriculture at the December 2014 meeting and submitted to final ballot (summer 2015) without being submitted to public comment.

The Crops Working Group Convener, Jean Duval, and the Chair of the Technical Committee on Organic Agriculture, Hugh Martin, agreed to listen to greenhouse producers' concerns; the OFC created a Greenhouse Working Group (GWG) that will discuss the impact of the revised sub-clause 7.5 on their production systems.

The GWG's first meeting is scheduled for the end of April. If you are interested in participating in this discussion, please contact Nicole Boudreau – info@organicfederation.ca, 514-488-6192

Canadian organic associations allying together to stop sale of GM alfalfa

Minister MacAulay is urged by 15 agricultural associations, including 10 associations promoting organic agriculture and trade, to stop the sale of GM alfalfa:
'Firstly, we ask you to take immediate action to stop the further commercial release of GM alfalfa seeds by removing variety registration for all GM alfalfa varieties, until a full economic impact assessment is conducted'.
Click here to read the letter signed by 15 signatories who are willing ' to support and protect the future of family farming, organic food production, sustainable agriculture and alfalfa-related exports in Canada'.