



CULTIVATING COEXISTENCE

A BEST MANAGEMENT PRACTICES GUIDE

Coexistence for the Benefit of All

Coexistence in Canada

Canada's Agricultural Policy Framework (APF) sets out to develop "an agriculture policy that is comprehensive, integrated and ensures that farmers have the tools to address issues, be competitive and capture opportunities in areas of science, food safety and environmental stewardship."¹

To achieve the goals of the APF, growers, exporters and food manufacturers need access to a range of production methods and products that best serve local agronomic and environmental needs as well as market opportunities at home and abroad. This means the ability to utilize and sustain valued traditional production methods, while facilitating the introduction of new technologies or crop types in Canada through investment in agricultural research and development.

New Opportunities for Producers

The evolution of production technologies will create new opportunities for Canada's

growers, but requires cooperation to achieve practical coexistence of various agricultural production systems.

In 1995, biotech or genetically engineered (GE) crops were introduced in Canada. Since then, the acres of GE canola, corn and soybean have steadily increased each year to the point where 50% or more of the total acres of these crops consists of GE varieties.² Conventional and GE agriculture are the dominant production methods for canola, corn and soybean in Canada, with organic production filling a small but significant niche market.

In the agricultural context, coexistence² means the mutual sustainability of differing production systems in the same geographic region. It is based on the principle that farmers should be able to cultivate freely the crops of their choice using the production system they prefer (GE, conventional or organic). Coexistence is not a concern from either a human health or environmental safety perspective, as the products have been reviewed and approved by Health Canada (HC) and the Canadian Food Inspection Agency (CFIA) as being safe for consumption and environmental release. The reality of agricultural production on a large scale and in an open environment is that unavoidable low levels of commingling will occur. This is termed adventitious presence (AP) and is not a new concept. Market specifications traditionally have accounted for AP (e.g. yellow corn in white corn), and this same

concept is relevant for coexistence of GE, conventional or organic agriculture.

The Canadian Experience

The Canadian experience with coexistence illustrates that there are ample markets for crops from all production systems. Typical examples include: the production of industrial rapeseed and food grade canola, organic and conventional crops, and non-GE and GE soybeans. With the advancement of new production techniques, it is important to allow integration of beneficial new technologies into the existing production systems. The Canadian General Standards Board (CGSB) standards for organic agriculture production and for labelling of foods that are products of genetic engineering demonstrate how product specifications allow for coexistence in the field and in the marketplace. The organic agriculture standard is based on a system that follows a defined process of production that includes methods and inputs. In addition, the organic agriculture standard sets tolerances for the accidental presence of ingredients outside the standard (e.g. pesticide residue due to drift). The GE food labelling standard sets out rules for those who want to label foods as being from GE or non-GE sources. The key to this standard is the setting of practical thresholds for AP, as it is recognized that absolute zero is not practical in agricultural food production.



¹ http://www.agr.gc.ca/cb/apf/pdf/gen_e.pdf
² Canola Council of Canada, AgCare.



representing the plant science industry



Principles of Coexistence

There are a number of guiding principles that facilitate a Canadian framework for coexistence of the three main types of production systems – conventional, organic and GE agriculture:

1. The goal of coexistence must be to provide all producers with choice and opportunity to pursue diverse markets.
2. Coexistence requires mutual respect and shared responsibility among practitioners of different production systems (one system should not exclude another).
3. Growers must have the freedom and choice to produce crop types or utilize production systems that best suit their needs.
4. Zero tolerance for one system in relation to commingling or AP is not feasible in commercial agricultural production and will not facilitate coexistence.
5. Coexistence standards (practices, specifications, tolerances/thresholds) are market driven and must reflect good agricultural practices that are practical, achievable and economically feasible.
6. Coexistence requires appropriate and crop-specific management, handling and verification practices.
7. Those who will benefit economically from growing specialized crops or meeting specific market standards have the primary responsibility for implementing production practices that will achieve these standards.
8. Communication and cooperation among growers will be a key element in the continued success of coexistence.

Guidelines to

1. Know What You Grow:

Always confirm that you are planting a known quality seed (e.g. pedigreed seed). Read and understand all licensing agreements before proceeding with seed purchase and planting. If you are concerned with meeting a specific market standard, understand the management practices you will need to employ to reach these standards. This may mean using guard rows or other techniques to prevent introgression of unwanted pollen from neighbouring fields.

2. Be Aware of Your Target Market Specifications:

Not all crops are accepted by all buyers or markets. Therefore, it is important to understand if there are any market restrictions that will require segregation of the harvest at some point. Ensure that you are aware of required production specifications or tolerances required to meet your target market. Always communicate with your buyers, seed suppliers, extension agents and other information sources to understand market issues relating to your harvest.



Grow by:

3. Understand the Regulations:

Understand your responsibilities when producing a given crop, whether these are mandated by federal or provincial regulations (e.g. use of refuges for Bt corn production), grower associations (e.g. organic standards, seed purity standards), or other groups. These rules have been established to protect the environment, the technology, or product quality, and must be followed to optimize the value of a particular production system.

4. Review Your Farm Plan:

Know which fields offer opportunities or problems for use of a given production system. If you are concerned about pollen movement from crops like corn and canola, or pesticide drift to susceptible crops, choose isolated fields. Consider using physical buffers such as windbreaks and hedgerows where available and/or field placement to reduce pollen movement or pesticide drift to neighbouring fields.

5. Consult with Your Neighbours:

Communicate regularly with your adjacent neighbours, especially if they are using production systems different from your own. Growers need to understand what practices they need to employ to achieve specific harvest standards. Cooperation with neighbours on production intentions will assist in making the necessary management decisions.

6. Coordinate Decisions on Neighbouring Crops:

Understand the type of crops grown and production systems used in your immediate neighbourhood. If you are concerned about cross-pollination or pesticide drift from neighbouring fields, adjust planting dates or field locations to minimize this potential. If your neighbour has flexibility in the field location of particular crops, ask your neighbour about coordinating planting decisions with you.

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Planting, in Season and at Harvest:

YOUR EQUIPMENT:

Be confident in how to use, calibrate and clean your field equipment, including rented and borrowed pieces. If equipment will be used to seed or harvest crops from different production systems, fully clean equipment prior to use in each system. Document your equipment cleaning activities to ensure adventitious presence of seed or grain is kept to a minimum.

YOUR HARVEST:

If sampling is required to confirm harvest standards, try to submit samples prior to harvest to determine crop status. If you suspect harvest standards may have been compromised, sample along a grid pattern, going from areas of highest likelihood to lowest. Maintain and submit samples separately, and keep duplicate crop samples and copies of all test results.

YOUR TRANSPORT:

Carefully inspect and clean trucks and trailers between usage if you are using them to move crops produced from different production systems, or are unsure of the previous use. Document cleaning activities by keeping records, including clean transportation affidavits and bills of lading.

YOUR CROP STORAGE:

Carefully inspect and clean storage units prior to use. Make sure that storage units are well segregated if you are harvesting or storing grain from more than one production system. Thoroughly clean augers, bins, grain dryers, rotary screen cleaners, etc., if they are to be used for harvests from more than one production system. Use air compressors or vacuums, and document all cleaning activities.

Communication & Cooperation will Ensure Success

Coexistence among users of different production systems can be achieved and maintained by following these guidelines. Communication, cooperation, knowledge of various production specifications, and attention to detail will ensure that all producers will continue to have access to available agricultural technologies, and will use the tools they need to produce valued and abundant harvests.



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