

A National Plant Breeding Strategy Must Work for Every Crop

A joint statement from Atlantic Grains Council, Producteurs de grains du Québec, Grain Farmers of Ontario, Ontario Bean Growers, Ontario Canola Growers Association, Manitoba Pulse & Soybean Growers, Prairie Oat Growers Association, Alberta Pulse Growers, and SeCan



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The journey of every crop planted by farmers begins in plant breeding programs, often more than a decade before a single seed is ever placed in the soil. This research is the foundation under everything else in food production: it is how farmers gain varieties that stand up to pests and diseases, withstand weather extremes (e.g., drought, excess rainfall, soil salinity, etc.), and produce more food on the same acre across different regions. That foundation is also what the country is now counting on. The recent Halifax Statement commits federal, provincial, and territorial governments to driving productivity and competitiveness and strengthening resilience across the agriculture value chain, while the National Food Security Strategy sets out a national goal of growing and processing more of Canada's food at home. Neither goal is achievable without a plant breeding system capable of delivering the varieties Canadian farmers need, in every region and for every crop they grow. However, not all crops are positioned to attract the same level of private sector breeding investment, and a successful national breeding strategy must recognize those differences.

The undersigned organizations have been in discussion about what that system needs to look like for a specific and important group of crops: those where market size and royalty economics are not conducive to significant breeding investment by the private sector. Oats, food-grade soybeans, wheat and barley grown in Eastern Canada, canola grown in Ontario, and some pulse crops (including dry beans) grown in parts of the country fall into this category. For many of these crops, the market opportunity is too small to support a fully private breeding model, regardless of the crop's importance to farmers, food processors, or the broader food system. For these crops, public investment is not one option among several. In many cases, it is the foundation that keeps the crop viable in farmers' rotations and available to end users.

This statement builds on the growing national conversation about the future of Canadian plant breeding, including a recent industry vision exercise focused on wheat and barley in Western Canada. The undersigned organizations welcome that conversation and share its ambition for a stronger, more innovative Canadian breeding system. Farmers growing crops with limited private sector investment have advocated for years for a strategy that reflects their reality, and this statement is offered in that spirit: as a contribution to a shared national effort, not a rejection of it. Different crops operate under different economic realities, and successful breeding systems must be designed accordingly. Any future national breeding model developed with government must consider every crop in its own context.

All participating organizations agree on the following shared vision:

A plant breeding system that recognizes the unique realities of each crop, is anchored in stable public investment where needed, is responsive to regional growing conditions, and delivers a steady pipeline of varieties that are beneficial to farmers, customers, and Canada's food system.

The path forward to achieving this vision is still developing, but the undersigned organizations have identified the following guiding principles to evaluate options and decisions as that path takes shape.

The optimal plant breeding system for these crops will:

Deliver Superior Regionally Adapted, Field-Ready Varieties.

Deliver varieties bred and tested for the specific growing conditions of the region where a crop is grown, including agronomic, pest and disease conditions, as well as end-use quality demands. A variety developed for one region cannot be assumed to perform well in another, and a national breeding system must support the development, testing, and release of finished varieties adapted to the conditions where they are grown and to the quality specifications buyers require.

Match Technology to the Program, Not the Other Way Around.

Have the capacity to deploy technologies and breeding approaches appropriate to the scale, objectives, and economics of each program and crop. The most advanced tools available are not always the right tools; effectiveness matters more than sophistication. Innovation should be practical, effective, and farmer-focused, ensuring breeding programs have access to the tools needed to deliver results.

Recognize Farmer Contributions as Investment.

Recognize that royalties paid by farmers and farmer check-off dollars invested into variety development are private investment and ensure that revenue generated through seed royalties contributes to sustaining the breeding capacity that generated those varieties. Farmers are not merely beneficiaries of public breeding – they are investors in the system.

Treat Public and Private Investment as Complementary.

Enable public investment to operate alongside private investment. Where the private sector has limited commercial incentives to invest, public investment is the foundation the system depends on. In some crops or regions, a public breeding program is the only source of new varieties, or it may provide much-needed competition that accelerates innovation, provides choice to farmers, and strengthens seed-system resilience. Public and private investment each have important roles to play, and successful systems should leverage both wherever possible.

Genetic Access and IP Protections that Work.

A resilient breeding system depends on breeders having appropriate access to genetic diversity, released varieties, traits, and breeding material, so new work can build on existing genetic progress. Intellectual property protections, including the use of patent law, should support investment in innovation only where it improves industry competitiveness without compromising farm profitability or breeders' access to genetic material and technology, consistent with Canada's plant breeders' rights framework.

Provide Stable, Predictable, Long-Term Public Investment.

Recognizing the multi-year and often decade-long process required to develop and deliver new crop varieties, reliable long-term public investment is essential. Seed royalties and market returns alone cannot generate the scale of investment needed to sustain breeding programs for crops with limited private sector breeding economics.

Measure Return in Broader Economic and Societal Value.

Define return on investment in terms of the value these crops deliver to farmers and Canada as a whole, including diversified crop rotations, export opportunities, food security, improved farm resilience, domestic processing capacity, and reduced reliance on imported food and feed. For some crops, the greatest return from variety development is measured not through seed revenue but through the economic and societal benefits generated across the value chain.

Attract and Retain Breeding Capacity.

Attract and retain the talent, infrastructure, testing environments, and institutional knowledge needed to sustain productive breeding programs over the long term. This includes multi-site testing networks and disease and pest screening environments equipped with the land, staff, and specialized infrastructure needed to reliably evaluate new varieties.

Stay Connected to Farmers Through Strong Feedback Loops.

Maintain strong feedback loops between breeders, farmers, and end users in each growing region so breeding priorities reflect local agronomic realities, market opportunities, and farmer needs.

Build a Pragmatic Regulatory and Commercialization System.

Support a regulatory and commercialization system that enables new varieties to move efficiently from breeding programs to farmers while recognizing the different market realities of each crop. The system should be proportionate to the risks and opportunities associated with each crop and should not create barriers that disproportionately disadvantage crops with smaller markets.

The system is already delivering. Publicly developed oat varieties, bred for Canadian growing conditions, are the backbone of a domestic milling and food manufacturing industry that puts Canadian oats on breakfast tables around the world. Canada's identity-preserved, non-GMO soybean sector, worth an estimated \$1.5 billion in annual exports, exists because public breeding programs continue to produce improved varieties that meet the exacting specifications global food customers demand. Winter wheat bred for Eastern Canadian growing conditions anchors a local milling and baking industry and supplies a growing export market while meeting the quality standards that keep customers coming back. None of this happened by accident. It is the direct result of sustained public investment working alongside private capital (including farmer check-off funds) in places where private capital alone was unlikely to invest. If that public support were to disappear, the varieties that built these markets would eventually disappear as well, putting both farmers and the industries that depend on them at risk.

The undersigned organizations look forward to continued discussion with Agriculture and Agri-Food Canada and other stakeholders as this work progresses. A truly national breeding strategy recognizes that different crops require different pathways to success. The objective is not a single model, but a system that works for every farmer, every region, and every crop it is meant to serve.

Canada's strength lies in the diversity of crops grown across the country. Our plant breeding system should reflect and support that same diversity.