



Variety Registration in Canada

Canadian Seed Trade Association, December 3, 1998

Background:

The objective of CSTA in the Variety Registration review is to minimize the barriers to the introduction of genetically superior material to Canada. A significant study could be undertaken to document the changes to the Registration operating procedures at both the crop testing committee level and the Variety Registration Office (VRO). I will not attempt such a study here but will highlight some of the key changes.

- **More Private Sector Research Programs**

In earlier years most varieties were developed from public sector research programs and extensively tested by public stations. In many species, only a few varieties which demonstrated generally wide adaptation were supported each year. As public sector research funding for plant breeding declined and the private sector was willing to invest, the VRO stated that they would support registration of varieties equal in performance to the check varieties in the marketplace. It was critical that the private sector had a means to recover the research investment and this could not be accomplished if varieties equal to their competitors are blocked from the marketplace.

- **Recognition of Regional Adaptation**

Breeders and agronomists pressed for supporting registration of varieties based on regional performance data rather than wide adaptation. This was profoundly demonstrated by maturity differences of varieties. Most "restricted regional" registrations are granted for reasons of maintaining crop quality or disease susceptibility. Registration does not assure that a variety is grown only in areas of adaptation because most registrations are for all of Canada and it would be impractical to impose and enforce such a requirement. Some maturity zones can be as small as a single county in southwestern Ontario. Throughout Canada, seed sellers play the largest role in helping their customers choose the varieties for their farm.

- **Diversification to Varieties with Special Traits**

Recalling the presentation called "The Third Wave of Development", variety registration played a key role in the "2nd Wave" by assuring the production of all varieties were uniform in quality. With the "3rd Wave", many crop species are now diversified to provide a range of characteristics and quality as specified by customers further down the production chain. Registration testing committees had to further adapt the procedures to accommodate diversity rather than uniformity.

With the advent of "novel traits" such as herbicide or insect tolerance, testing procedures are considerably more complicated as committees try to develop formulae for an objective decision. There are many other procedural questions such as: Should additional trials be conducted to test the merit of the novel trait?

- **Declining Public Sector Testing Resources**

During the past decade, federal and provincial agriculture ministries have reduced budgets for testing. This has led to very high user fees and recognition of private test data. In some species, private test data is not available and in other species registration support is based entirely on private data.

Declining resources creates major problems if decisions are made using insufficient data or poorly conducted trials. Companies frequently need to commit to seed multiplication increases, PBR applications and production of promotional materials prior to the variety being supported for Registration. Too often, varieties are rejected for lack of a kilogram of yield or lack of station years. Committee and trade members become enormously frustrated when they intuitively know that there is not enough data for a decision with that level of precision.

Current Variety Registration System Mandate

In May 1996, the Seeds Regulations were amended to reflect the following principle:

"The variety registration system is seen as having 3 mandates:

- a) to ensure that agronomically inferior or unadapted varieties are excluded from the Canadian marketplace,*
- b) to ensure that new varieties meet current requirements for resistance to economically important diseases and*
- c) to ensure high quality products for processors and consumers."*

Current CSTA Position

The current Variety Registration system does not reflect the needs of today's agricultural producers.

Mandates (b) and (c) are important for several major crop species like wheat and canola which will continue to require a minimum standard for quality. Specifically, canola must meet the definition of canola and wheat must meet a milling standard. Other species may have a serious disease problem requiring minimum tolerance. It is important to recognize that Variety Registration sets the minimum standard for a variety to be sold in Canada. Individual companies may choose to exceed the minimums or add other standards over those required for Variety Registration. The marketplace will determine if those companies made a good choice. The registration testing committees must set the minimum standards and require testing only for those traits that are critical for the health of the industry. The challenge for each crop committee is to determine which traits, if any, should be included as minimum standards for registration testing

Given the wide range of growing environments in the Canadian marketplace, and "Full Registration" varieties may be sold nationally, it is complete nonsense to interpret mandate (a) as ensuring that unadapted varieties will not be grown on Canadian farms. The only practical way to interpret mandate (a) is to say that the variety must be adapted to somewhere in Canada. Fundamentally, if you design a testing program to detect a small difference (one kilogram) for an extremely variable trait such as yield, it takes a large number of station years. However, if the difference you need to detect is very large (adapted to Canada), this can be measured with very few station years.

The value of conducting tests required for mandate (a) does not warrant the cost because it is as likely that a Canadian producer will plant an unadapted variety from within available sources of Registered varieties than from external sources.

[During the November 1998 CSTA meeting, members proposed that the species with significant quality traits that require a uniform standard and Variety Registration are: wheat, canola, flax [and oilseed soybeans].]

The CSTA position clearly draws a distinction between testing for registration purposes and testing for provincial or regional recommendation purposes. For registration purposes, the essential mandate statements can be met with minimal data in a short period of time. Once registration is granted, the proponent can proceed with seed multiplication, PBR application, production of promotional materials, and entry into ongoing regional recommendation testing.

The CSTA position recognizes that the "novel trait" testing requirements are not linked to Variety Registration. Most crop species and all horticulture species have no variety registration requirements and systems must be developed, independent of registration procedures, to evaluate and catalogue varieties with novel traits. Unless the trial is specifically designed to meet the requirements for confined testing, registration trials are considered as unconfined testing. In addition, registration is independent of procedures for entry into the national or international pedigree seed schemes. In Canada, species that do not require registration may be entered into the schemes. Further, the USA, with no registration system, may enter their varieties on international lists such as OECD or AOSCA.

The CSTA position is consistent with changes to remove corn and turf species from registration testing. If the species does not appear to have any traits that are critical to the health of the industry and should be set as a minimum registration standard, then remove the species from registration testing.

The CSTA position would require that procedures be science based and predictable. International market approvals of seed and/or "products of" would not be acceptable to include in registration criteria. Many potential markets are not predictable and could radically change within months due to weather disasters or market forces like exchange rates. If a new market develops, would varieties currently in production need to be withdrawn? How enforceable is such a requirement? While markets and customer acceptance are essential, the approval procedures for international shipments will probably be determined by other international agreements such as the Biosafety Protocol.

The CSTA position recognizes that crop testing committees are at varying stages of evolution. For example, corn, soybean and canola are well served by numerous private research programs capable of doing high quality trials. What works for cereals in the east may not be appropriate in the west. The turf seed marketplace must serve very discriminating buyers and there is no need for registration. In the case of some special crops or forage species, it is foolish to require a species go through registration testing if there is no committee prepared to offer a testing program. The VRO should not expect one crop committee to be used as model for all.

The VRO must accommodate ongoing change as the industry continues to evolve and it is desirable that changes be timely and handled administratively rather than by regulation. There should be clear guiding principles for crop committees. In particular, CSTA prefers to appoint individuals to crop committees and they are expected to represent the seed industry as a constituency. CSTA urges all crop committees not to allow voting privileges to individuals who do not represent a stakeholder constituency.