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REPORT ON THE REVIEW OF THE *CANADA GRAIN ACT* AND THE CANADIAN GRAIN COMMISSION CONDUCTED BY COMPAS INC.

Report of the Standing Committee on Agriculture and Agri-Food

Gerry Ritz, M.P.
Chair

NOVEMBER 2006

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has the honour to present its

FIFTH REPORT

Pursuant to its mandate under Standing Order 108(2), the Committee has studied the review of the *Canada Grain Act* and the Canadian Grain Commission conducted by COMPAS Inc.

TABLE OF CONTENTS

REPORT ON THE REVIEW OF THE *CANADA GRAIN ACT* AND THE CANADIAN GRAIN COMMISSION CONDUCTED BY COMPAS INC.

BACKGROUND

On 18 September 2006, Mr. David Anderson, Parliamentary Secretary to the Honourable Chuck Strahl, Minister of Agriculture and Agri-food and Minister for the Canadian Wheat Board, tabled in Parliament the independent review of the *Canada Grain Act* and the Canadian Grain Commission (CGC) conducted by the consulting firm Compas. In a press release announcing the tabling of the Compas report, the Minister asked the Standing Committee on Agriculture and Agri-Food "to study the review and its 102 recommendations."

The review had to be conducted because in its fourth report in the 1st Session of the 38th Parliament the Standing Committee introduced an amendment to Bill C-40, An Act to amend the Canada Grain Act and the Canada Transportation Act. The amendment required "an independent and comprehensive review of the Commission (…) and a report of the review to be laid before each House of Parliament, including a statement of any changes recommended by the authors of the review."[1]

> *There is no question the industry is changing, and we agree it is time to consider change for the CGC.*
>
> Christine Hamblin, Chief Commissioner
> Canadian Grain Commission
> Standing Committee on Agriculture and Agri-Food
> *Evidence* No. 14 — 11:54
> 1st Session 39th Parliament
> Ottawa, 26 September 2006

Although none of the witnesses fully agreed with all of Compas' recommendations, the Standing Committee hearings revealed strong and general support for CGC reform. They also showed that the most challenging issues of the reform were common to the majority of witnesses. Therefore, the present report does not address the 102 recommendations formulated by Compas, but focuses on the common themes raised by witnesses. The issues include the following: the CGC mandate, governance, inspection activities, the government funding, liability of the CGC, kernel visual distinguishability (KVD), and research and development.

A modern, more flexible CGC is what an important grain producing country like Canada requires in an increasingly competitive global market, and a domestic market at a "crossroads" with emerging new opportunities like biofuels production in sight. The Standing Committee believes that not only is another CGC possible, but it is also essential for all stakeholders of the Canadian grain industry.

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[1] Standing Committee on Agriculture and Agri-food Web site, http://cmte.parl.gc.ca/cmte/CommitteePublication.aspx?COM=8973&Lang=1&SourceId=114687

THE MANDATE OF THE CANADIAN GRAIN COMMISSION

> In our estimation, the two main issues are the mandate of the Canadian Grain Commission, including whose interests it serves, and how the CGC should relate to stakeholders.[2]

> *I am so thankful to see the government moving to review this institution.*
>
> Mrs. Vicki Dutton
> Standing Committee on Agriculture and Agri-Food
> *Evidence* No. 17 — 11:25
> 1st Session 39th Parliament
> Ottawa, 5 October 2006

Another important issue raised during the Standing Committee's hearings was whether or not the CGC should mainly or exclusively serve the interests of farmers. When he appeared before the Standing Committee, Dr. Conrad Winn, from Compas, stated that, in theory, in everything that the CGC has done in the past, it should have given priority to the producers. However, in practice this cannot be the case, because there are several stakeholders involved, and there are even conflicts among the producers themselves.[3]

The proposed version of section 13 of the *Canada Grain Act* would remove the words "in the interest of grain producers" from the object of establishing and maintaining "standards of quality for grain and regulate grain handling in order to ensure a dependable commodity for domestic and export markets." This amendment recognizes that the CGC exists to serve the interests of all Canadians.

Indeed, as a government agency that receives public funding, the CGC must keep in mind that it serves "the interests of all Canadians". As legislators the members of the Standing Committee must therefore carefully consider this aspect of the CGC's mandate.

This argument that the Commission cannot, in practice, serve only the interests of producers is bolstered by subsection 16(1) of the Act. Under this provision, the CGC may make regulations establishing grades and specifications for grain, for the "purposes of meeting the quality requirements of purchasers of grain."[4] Furthermore, the proposed amendment to section 13 adds a subsection 2 that begins with the words "in the interests of producers" for various things such as the right of delivery access and to a producer car for shipment, the right to third party grade and dockage verification, and the right of grain producers to have secure commercial transactions with various licensees.

The fact is that the CGC deals on a regular basis with various stakeholders who, sometimes, may have conflicting interests. The proposed amendment to the CGC mandate appears to establish a more balanced approach in general. Furthermore, the legal analysis conducted by the Standing Committee indicates that the proposed section 13 is more in line with the practical reality of the various activities conducted by the CGC. However, the

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2 Compas, *Review of the Canada Grain Act and the Canadian Grain Commission*, 15 August 2006, p. 31.

3 Standing Committee on Agriculture and Agri-Food, *Evidence,* no 15 — 11:50, 1st Session 39th Parliament, Ottawa, 28 September 2006.

4 Emphasis added.

Standing Committee recognizes that some grain producers may have concerns regarding the protection of their interests in the redefined mandate of the CGC. Therefore:

RECOMMENDATION 1

The Standing Committee supports a redefined mandate of the CGC as more in line with the practical reality of the Canadian grain industry and it recommends that any eventual bill clearly protect the interests of grain producers.

GOVERNANCE

1. The Reform of the Executive Level

In its report, Compas states that "we do not see the formal organization of the CGC as the main cause of discontent."[5] The CGC was however created a century ago and the business environment, in the grain industry and elsewhere, has dramatically changed, and greater accountability and transparency are requirements for better regulation. Modernization of the CGC therefore requires modernization of the executive level. The Compas review suggests the creation of a single President/CEO/Chief Commissioner, supported by vice-presidents and other senior executives.

> *I believe that these changes are absolutely necessary in order to allow Canada to be competitive in a very rapidly changing market. Those changes are independent of other changes that might happen to the marketing system. They need to be made in order to allow the Canadian grain industry to be competitive; I don't believe that they should be considered deregulation. It's a modernization of the institution.*
>
> Cam Dahl, Government Relations and Policy Development
> Agricore United
> Standing Committee on Agriculture and Agri-Food
> *Evidence* No. 15 — 12:50
> 1st Session 39th Parliament
> Ottawa, 28 September 2006

Witnesses who appeared before the Standing Committee agreed with this proposal, and at least one witness drew a parallel with other regulatory agencies such as the Canadian Food Inspection Agency (CFIA) and the Pest Management Regulatory Agency (PMRA).[6] There were no discussions, however, on the details of the new proposed reform of the executive level. Should the President/CEO be appointed at pleasure or during good behaviour? What should the term be? Should the appointee be chosen from among the regular pool of deputy ministers and agency presidents of the public service, or should the person be appointed for his expertise in the grain industry rather than for his knowledge of public administration?

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5 Compas, p. 39.

6 Agricore United, Response to the Review of the Canada Grain act and the Canadian Grain Commission — A Submission to the House of Commons Standing Committee on Agriculture and Agri-Food, 28 September 2006, Ottawa, p. 4.

As legislators the members of the Standing Committee have the opportunity to review Governor in Council appointments, and recognize the highly skilled people who serve in various departments and agencies. However, because of the specificity and the complexity of the Canadian grain industry, it appears that any CEO/Chief Commissioner eventually appointed should also have a good understanding of the industry. Therefore:

RECOMMENDATION 2

The Standing Committee recommends modern governance structure for the CGC's executive level and the appointment of a single President or CEO supported by three vice-presidents. The Committee also recommends that the CEO hold office during pleasure for a term of five years.

Furthermore, the Standing Committee recommends that, because of the intrinsic nature of the grain industry, a working knowledge of the industry should be a criterion, in addition to managerial and other skills, to be considered in the appointment process of a CEO.

2. The Six Assistant Commissioners and the Office of Grain Farmer Advocacy

There were some discussions during the Standing Committee meetings on the role of the six assistant commissioners and whether or not their positions should be maintained. The assistant commissioners are appointed by Cabinet for a fixed term, and they are regionally located. They provide awareness in their respective regions of some of the work carried out by the CGC, and they also serve as a mechanism for complaint resolution in some cases. The Act is not very clear on their roles, which means that the way assistant commissioners perceive their role may vary from one region to another.

"At the best of times, they are well regarded by farmers for interceding with elevators in weighing or grading disputes but the style of their interventions are reportedly of .

While some definition as to the duties of the assistant commissioners perhaps would be appropriate, the office of grain farmer advocacy, as envisioned in this report, is very unclear. If it is an office operating outside the Grain Commission, how would it access records in times of dispute on grades, etc.? Would these be separate jurisdictions? Would that be available to them? The fact that they suggest that after three years this office could disappear is extremely worrisome. First, we see it as little more than an ombudsman with ill-defined or no powers.

Terry Boehm, Vice-President, National Farmers Union
Standing Committee on Agriculture and Agri-Food
Evidence No. 15 — 12:20
1st Session 39th Parliament
Ottawa, 28 September 2006

uneven quality. At the worst times, they are inhabitants of patronage heaven. The continuance of these ambiguously defined positions is in our estimation incompatible with principles of modern government."[7]

In its review of the CGC and the Act, Compas recommended the establishment of an Office of Grain Farmer Advocacy, a form of an ombudsperson with the mandate to ensure that farmers understand their rights under the Act and to advocate for them in cases of disputes with other stakeholders.

Although there were few concerns expressed about the new Office, the Standing Committee regards these concerns to be very valid, particularly those regarding its powers and the possibility that it may eventually disappear following a review, conducted every three years, on the need for its services. Similar points were raised in another context by the Standing Committee in its May 2002 report on the Pest Management Regulatory Agency. The Standing Committee recommended an ombudsperson and provided details on the mandate and the relationship to the Agency. Therefore:

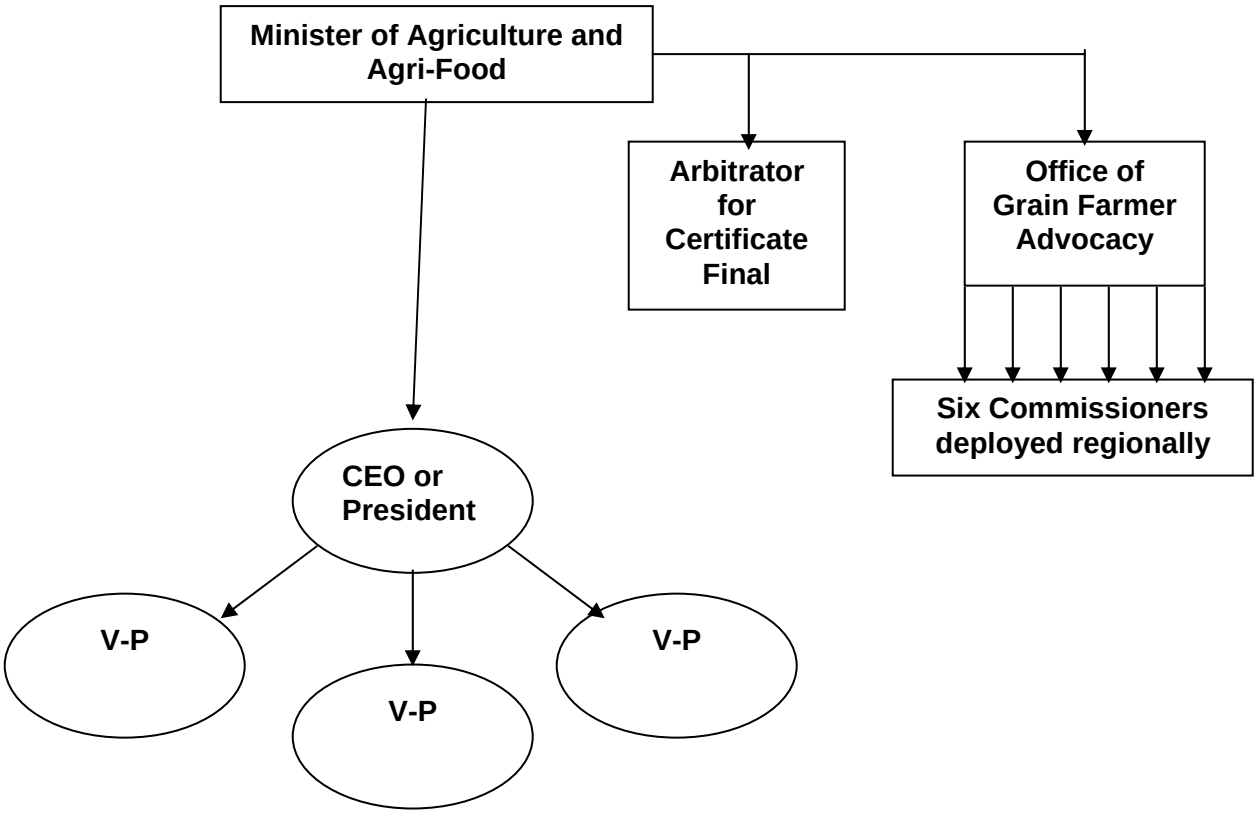
RECOMMENDATION 3

The Standing Committee recommends the establishment of an independent Office of Grain Farmer Advocacy composed of six commissioners deployed regionally.

Furthermore, the Standing Committee recommends that the Office be permanent and be funded to perform adequately its role of defending, in the same manner all across Western Canada, the interests of all grain producers in disputes with other stakeholders, including the CGC itself. Finally, the Office should report directly to the Minister of Agriculture and Agri-food,

[7] Compas, p. 40.

The new governance structure proposed by the Standing Committee would be represented by this chart:



WEIGHING AND INSPECTION ACTIVITIES

1. Inward Inspection

"Weighing and inspection of grain is carried out by the CGC and is mandatory on bulk shipments overseas but not for container movement or for exports to the United States, where these are optional."[8] Inward inspections are the weighing and grading that take place when railcars or trucks arrive at transfer elevators or terminal elevators. The CGC then provides third-party weighing so as to forestall errors and to provide assurance to producers.

Because it is difficult to justify maintaining the current mandatory inward inspection given that it is not a universal requirement, Compas recommended that inward inspection become optional at the shipper's request, but that outward inspection and weighing remain mandatory. In addition, Compas recommended "that the Act require the CGC to ensure that a capacity for carrying out such inward inspection be maintained at public cost."

[8] Ibid., p. 54.

The Standing Committee heard differing viewpoints on both sides of the inward inspection issue, and recognizes that both carry their own merits. However, several strong factors seem to support optional inward inspection: the inward inspection requirement is already not universal; optional inspection would not affect producer rights of access to the terminal; and producers and the Canadian Wheat Board should not be unduly affected financially if a proper publicly supported infrastructure and pricing system are put into place in light of the public benefits of maintaining an inward inspection capability.[9] Moreover, optional inward inspection is a perfect example of the flexibility that can be introduced, and that is required, in the current grain system. Therefore:

RECOMMENDATION 4

The Standing Committee is in favour of optional inward inspection, and recommends sufficient funding so that the CGC can maintain efficient and timely services for both producers and smaller handlers who need such services for transactional purposes.

2. Contracting Out of Inspection Services

The Review of the *Canada Grain Act* and the Canadian Grain Commission contains a recommendation with respect to the contracting out of services. During its review, Compas received complaints about timely inspection services in peak periods and inflexibility in service delivery, particularly regarding authorization of overtime when required.

In the Compas report and during the Standing Committee hearings the following comments were heard or reported: outsourcing would help improve the cost effectiveness of the system; for renewal contract consideration the private sector would be under pressure to provide better and more timely services; if implemented successfully, contracting out would benefit all players in the system by improving efficiencies; and, the Government of Canada Regulatory Policy allows the use of private- sector services.

However, the comments were often anecdotal and trivial, and were not supported by any strong analysis in terms of real costs and benefits. Even the section on that issue in the Compas report raises special concerns:

> To ensure competitiveness, it is envisioned that more than one service provider would be engaged and sustained, which increases the complexity. The method of assigning work will need to be determined. Developing a method with multiple competitive service providers to impartially allocate the business will be critical.[10]
>
> In keeping with longstanding Government of Canada Regulatory Policy, we recommend contracting out because the burden of proof and evidence should be with the proponents of the CGC service, not the proponents of

[9] Ibid., pp. 56-57.

[10] Ibid., p. 60.

> contracting out. We do not believe that the proponents of CGC service have satisfied the threshold of proof. But we also do not believe that contracting out, especially in concert with inward inspection optionally, will be uneventful or a cure-all.[11]
>
> At ports with multiple terminals (Vancouver, which is busiest and most congested), the process could be complex. Such complexity could increase costs and even delays.[12]

The Standing Committee recognizes that contracting out for inspection services will eventually bring greater efficiency and flexibility in the grain system, it however also notes that witnesses who appeared before the Standing Committee failed to provide any strong evidence that contracting out would automatically and immediately result in cost savings and improved quality services. Therefore:

RECOMMENDATION 5

The Standing Committee supports pilot projects in contracting out services for grain inspection, but recognizes the absence of strong factual data on the advantages and the costs.

In that context, the Standing Committee recommends that Agriculture and Agri-Food Canada take advantage of the first three years of the CGC reform to conduct a cost-benefit analysis on contracting out services.

RECOMMENDATION 6

In order to offer a benchmark for a cost-benefit analysis on contracting-out services, the Standing Committee recommends that the Canadian Grain Commission receive adequate funding to improve its services, particularly regarding the flexibility on authorizing overtime when specific delivery conditions are required to satisfy foreign buyers and protect Canada's reputation.

3. Outward Inspection

Although Compas reported some support for optional outward inspection, it did not recommend such a change.

Canada's reputation as a provider of superior-quality products must not be jeopardized, and mandatory outward inspection is an excellent tool for protecting Canada's grain products at

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11 *Ibid.,* p. 61

12 *Ibid.*, p. 61.

the international level. The Standing Committee therefore supports continued mandatory outward inspection and weighing.

KERNEL VISUAL DISTINGUISHABILITY (KVD)

The issue of KVD was second in importance, after the one of "the interests of grain producers," in terms of discussions during the Standing Committee hearings. It was also the issues that gave rise to the greatest number of comments contradicting the evidence presented in the Compas report. It is by far the most complex issue of the debate and the one that carries the greatest opportunities in terms of modernizing the Canadian grain industry.

> *There are no KVD requirements in other cereals that we grow. Oats never had KVD and it was removed from barley a few years ago. We are the only country in the world, or western Canada is the only place in the world that uses something like KVD to identify quality types.*
>
> Dr. Brian Fowler, Professor, Plant Science Dept, Univ. of Saskatchewan
> Standing Committee on Agriculture and Agri-Food
> *Evidence* No. 17 — 11:10
> 1st Session 39th Parliament

1. Background[13]

The system of wheat classes and grades is built on kernel visual distinguishability (KVD) and the registration system for cultivars. For wheat, cultivar registration requires assent of the Canadian Grain Commission under the authority of the *Canada Grains Act* while marketing of the product is a monopoly of the Canadian Wheat Board (…).

Certainly it is easy to criticize a system which must collect and segregate diverse production from across the Prairie provinces, ship and sell it halfway round the world and then accurately, fairly and usefully return value from a multitude of transactions back to those producers who contributed their grain. It is also difficult to advise those who feel they can afford not to listen. In the end all things change and so must we.

> *We will have to give up KVD sooner or later. The only important question is when. Last-ditch expenditure of scarce research resources to maintain genetic progress for a few more years in the face of KVD will further delay the influx of new germplasm which we need in coming to grips with a fast-changing world.*
>
> Dr. Julian B. Thomas, Genetics Application — Cereal Research Centre, Winnipeg
> *A Technical Critique of the Western Canada Quality Assurance (QA) System*, 12 July 2006, p. 11.

The stakes for a producer in the compromise of traits that exist in those varieties that are chosen for him are not trivial. Wheat production is not an abstraction. Wheat producers generate about 600 trillion wheat kernels per year. These are produced by real plants that consume real inputs and which are routinely assaulted by real pests and diseases. Beyond discussion the varieties which we have in place for producers are suboptimal. Otherwise, why invest in plant

[13] The entire background section includes large excerpts from a report entitled, *A Technical Critique of the Western Canada Quality Assurance (QA) System*, written by Dr. Julian B. Thomas, from Genetics Applications — Cereal Research Centre, 12 July 2006. The report was provided to the Standing Committee for its consideration. The drafter of the Standing Committee has edited Dr. Julian's text to fit in the present report, but respected the letter and spirit of the text.

breeding? Nonetheless, in advancing material for registration, priority is always given to satisfying the quality assurance (QA) system as it currently exists. Multi-dimensional considerations of pest resistance, yield, and even the need for a research climate friendly to innovation are understood, but are generally secondary, or postponed or regretfully denied (…).

The fundamental requirement for KVD in the present QA system is to separate CWRS kernels from all others. This requires that the cultivars themselves be distinguished and that low levels of admixtures also be distinguishable. This degree of stringency requires that kernel samples of CWRS cultivars appear to be 100% uniform; as well, other types of wheat must not contain any CWRS-type kernels down to low tolerances. This requirement for absolute distinguishability places a severe burden on wheat cultivar development for reasons which are only tenuously connected with the conventional science of genetics and plant breeding.

2. The Costs Associated with KVD

The cost of maintaining KVD, both in terms of direct and indirect costs on producers and on the effects on plant breeding, was at the heart of the debate on that issue during Standing Committee hearings. Only one witness quoted a report that estimated an actual cost associated with maintaining KVD:

> The cost of maintaining KVD in Western Canada we believe has been somewhat underestimated in the past and that is I guess it's easy to underestimate the cost when you can't see exactly what you're missing. There have been some suggestions by a report that it's somewhere in the neighbourhood of $200 million a year. That is arguably much higher when you consider the cumulative beneficial effects of plant breeding over time.[14]

That figure is derived from a non-peer-reviewed study that used the following hypotheses to establish the cost of KVD:

- Assuming that KVD is removed;
- Canadian wheat varieties would yield 5-10% more, or $3B x 5%= $150M/year;

[14] Standing Committee on Agriculture and Agri-Food, *Evidence*, no. 16 — 9:15, 1st Session, 39th Parliament, Ottawa, 3 October 2006.

- CWRS/CPRS and perhaps other wheat classes would include Fusarium Head Blight (FHB) resistant varieties, or between $0 to $50M/y, a mean of $25M/year;

- CWRS and several other classes would include midge resistant varieties, which could total between $10M to $50M, a mean of $30M/year; and

- The total for these three traits equal a potential cost of $200M/year.[15]

Another study published in 2003 (the Oleson study) used a number of scenarios to estimate a range for the impact of KVD removal. This peer-reviewed study is based on a complex methodology, but it can be summarized as follows: yield scenarios were combined with demand scenarios, and a baseline case was developed with acreage allocated so that the increase in domestic demand just met the increase in production. Revenues were therefore calculated based on realistic scenarios. The study's conclusion is that full removal of KVD is estimated to yield an annual benefit in excess of $100 million that would be reached over the next 5 to 10 years depending on what is in the wheat breeder pipeline.[16]

Finally, the findings of the Oleson study were also used in another approach. Oleson estimated a loss of 5% arising from KVD constraints on plant breeding. This loss translates into a "cost" of $7 to $12 per tonne if prices range from $140 to $240 per tonne. The lost yield is applied to all production of common wheat, which includes seed, feed and downgraded production, rather than just that proportion whose identity can be preserved with advantage, as with Varietal Eligibility Declarations (VED). A scenario was then developed to estimate the accumulated difference by which CWRS trails CWAD after three decades of improvement. The yield lag was estimated at 15%, which was then multiplied by the crop size (14,000,000 tonnes as an average), multiplied by a typical price ($200 per tonne). Under this scenario these figures show that the cost of KVD could reach $420 million per year in income lost to wheat producers.[17]

All the reports that were brought to the attention of the Standing Committee, regardless of which scenarios or estimates were used, clearly indicated that the KVD constraint to plant breeders has a cost, which also affects wheat producers who face needed genetic enhancements delayed for years.

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15 Jim Bole, Research Advisor, FarmPure Seeds, *KVD as an Impediment to Wheat Development*, no date of publication (see Appendices for a copy of the study).

16 Brian T. Oleson, *Kernel Visual Distinguishability (KVD) Identifying the Benefits of Moving Away from KVD*, prepared for the Canadian Grain Commission, August 2003.

17 Dr. Julian B. Thomas, p. 14 (see Appendices for a copy of the study).

3. The Recent CGC Reform Regarding KVD Requirements

As reported in the Compas report, "the CGC announced on 29 June 2006 the establishment of a new class of wheat so as to reduce some of the barriers to innovation presented by KVD. The Canadian Grain Commission would sustain its traditional protection of quality assurance by maintaining the KVD requirements for CWRS and CWAD. The CGC would allow no new variety if it resembled visually either of these two. But, effective 1 August 2008, the CGC would end KVD requirements for minor wheat classes. The CGC would create a new class of wheat, Canada Western General Purpose (CWGP), with disease resistance and agronomic criteria but few other quality requirements and no visual requirements other than not visually resembling CWRS and CWAD."[18]

> *Coming back to the Ontario example, again, since 1989 we've seen the number of classes and opportunities that are available to Ontario farmers dramatically increase to the point now where we're actually able to grow....Most of the varieties we grow in Ontario are in fact visually indistinguishable from each other. This has resulted in a significant increase in processing capacity and processing investment in Ontario. A lot of that wheat that's being supplied to the domestic mills is now displacing wheat from western Canada where they are under the constraints of Kernel Visual Distinguishability*
>
> Jeff Reid, Second V-P. Canadian Seed Trade Association
> Standing Committee on Agriculture and Agri-Food
> *Evidence* No. 16 — 9:15
> 1st Session 39th Parliament
> Ottawa, 3 October 2006

The literature shows that such a simplified approach to KVD is in practice not a huge leap in the direction of a more modern Canadian grain quality system. On the other hand, some stakeholders believe that the CGC's approach is a compromise that does not put at risk Canada's traditional export wheat varieties.

But again, if the Canadian grain industry is really at a "crossroads", it is time to question whether the system is prepared to offer more options and greater flexibility required to meet challenges such as the biofuels strategy. Also, if Ontario wheat is indeed displacing wheat from Western Canada in the domestic milling industry, it is time to review KVD in the only place in the world that still uses it to identify quality types.

Any eventual abandonment of KVD requirements must however be accompanied by immediate control measures and, in the longer term, by support for research and development in the areas of new technologies, quality standards and market-oriented varieties. Some witnesses mentioned that the technology already available from DuPont Inc. meets the primary marketplace need to accurately analyze and grade grains.[19] Therefore:

RECOMMENDATION 7

The Standing Committee recommends that kernel visual distinguishability (KVD) be abandoned, and be replaced by a system

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18 Compas, p. 47.

19 Standing Committee on Agriculture and Agri-Food, *Evidence*, no. 17 — 11:35, 1st Session, 39th Parliament, Ottawa, 5 October 2006.

based on farmer's declarations or affidavits supported by science-based mechanisms of quality control. The Committee also recommends that farmers' declarations be coupled with producer and industry monetary penalties to be introduced in the *Canada Grain Act*.

FUNDING FOR RESEARCH AND DEVELOPMENT AND CGC INFRASTRUCTURE

1. Research and Development (R&D)

It is a well-known fact that Canada's investment in agricultural research in general is lagging behind that of its main competitors. At these hearings, the Standing Committee heard the same message as in previous hearings: if our research budgets are not synchronized with the movement of markets at both global and domestic levels, Canada will sooner or later lose some of its comparative advantages in agriculture. Innovation is not a static concept, and increased investments in research and development (R&D) must not be driven only by sudden crises such as the avian flu or BSE.

What is true for agriculture in general is particularly true for the grain industry. With opportunities like biofuels on the horizon, a "new" grain industry must develop a R&D strategy that will allow it to face new challenges and to blossom.

Compas recommended that the federal government embark on a long-term (7-10 year) plan to greatly increase, by fourfold in 10 years, or $40 million, grain research spending with the largest portions targeted towards the Grain Research Laboratory (GRL). Matching initiatives, a centre of excellence, an outsourcing research program, and separate appropriation funding for the GRL, are among the various detailed recommendations formulated by Compas.

Many factors justify a well-integrated and planned R&D strategy for grain. They include the following: increasing grain demand and production from emerging countries; an eventual reform of the QA system; rapid changes in world market conditions; modifications in the grain production pattern as a result of climate change; and, biofuels or other non-food uses for grain. Therefore:

RECOMMENDATION 8

The Standing Committee supports the proposed increase, to about $40 million, for R&D funding in the grain industry, and also supports a separate appropriation for the Grain Research Laboratory (GRL). Furthermore, the Standing Committee recommends that the government conduct a study to determine if the GRL would be better located, and become more independent, under Agriculture and Agri-Food rather than under the Canadian Grain Commission.

2. The CGC Infrastructure

The previous recommendation also raises the issue of the general funding provided to the CGC. Compas concluded that "there are several reasons for believing that the CGC is funded inadequately."[20] That raises the following question: how should it be funded? How much should the benefiting stakeholders contribute? What should the contribution of taxpayers be?

What are the CGC infrastructure costs? Compas has defined infrastructure broadly "to include both physical infrastructure and the ongoing management capability necessary to provide incremental individual services necessary for commercial transaction." Because the grain economy has enormous economic importance as Canada's third largest export sector and significant potential importance for both the environment and security of supply in respect of energy, Compas concluded that "the people of Canada and hence the federal government have a special reason to protect and sustain the regulatory system and infrastructure." Compas recommended "that the federal government defray all basis infrastructure costs of the CGC, assigning cost recovery to the marginal expenses associated with individual services necessary for commercial transaction."[21]

It is unclear that the reasons referred to by Compas for its recommendation provide a solid rationale for its recommendation. The fact is that many other sectors of the Canadian economy can also claim that they "have enormous economic importance", and that they are important exporters and "have significant importance for both the environment and security of supply in respect of energy." This raises some concerns for legislators because infrastructure should also be considered a public good as well. A real public good is a good that is non-rival; in other words, consumption of the good by one individual does not reduce consumption by other individuals. The use of public roads is an example. A real public good is also non-excludable, which means that is almost impossible, or only at a very large cost, to exclude one individual from using the road. It is unclear how this applies to the grain industry.

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20 Compas, p. 43.

21 Ibid.

Some witnesses who appeared before the Standing Committee recognized that the Compas recommendation may put a lot of pressure on government expenditures. Because timely delivery is directly related to the issue of competitiveness, the Standing Committee has already recommended that overtime costs be covered by the government, but for the moment it is unclear what other CGC infrastructure costs should be defrayed by the government. Therefore:

RECOMMENDATION 9

The Standing Committee recommends that the government review all the CGC infrastructure costs, including costs related to overtime and other individual services necessary for commercial transaction, and establish which ones may deserve to be defrayed by the taxpayers of Canada, so as to ensure the long-term sustainability of these services.

LIABILITY AND CERTIFICATE FINAL

In general, the Standing Committee hearings show that stakeholders wish to see increased and better defined liability in the entire grain system. The Standing Committee agrees that reform of the CGC will not be possible without a clear accountability level for all stakeholders and regulators of the grain handling, marketing and transportation system.

The issue of Certificate Final was used as an example of the required liability in the system. A Certificate Final is issued by the CGC when ships are loaded at port, but errors are always possible. If a Certificate Final is not "final", there is a cost associated with the change of standards. In a regulatory system such as CGC operations, the question is: what level of liability should the CGC carry? Changes to the Certificate Final do not occur very often; the last such event took place on 23 September 2004, but the possibility is there and therefore must be included in the review of the Act and regulations.

Some witnesses also mentioned that CGC grading standards are not always constant, and changes have a detrimental monetary impact on producers and grain handlers. In such a situation whoever is responsible should pay for damages.

In the case of the integrity of a Certificate Final, Compas recommended an amendment to the *Canada Grain Act* "to hold the CGC and the federal government as its underwriter, responsible for up to 33% of harm incurred." Compas also suggested that an arbitrator appointed by the Minister of Agriculture and Agri-Food determine the value of the harm.[22]

Although it is understood that a limited responsibility for the CGC will force all other stakeholders to also be responsible, the Standing Committee hearings did not permit the Committee to clarify why the limit of responsibility would be 33% or if it was an optimal

[22] Ibid., p. 63.

limit. In a previous recommendation, the Standing Committee already recognized that farmers had to be liable under the *Canada Grain Act*, as should other stakeholders. Therefore:

RECOMMENDATION 10

The Standing Committee supports the concept of an independent arbitrator (appointed by the Minister of Agriculture and Agri-Food), and recommends that the government consider amalgamating the functions of the arbitrator in the Office of Grain Farmer Advocacy. Further, the Standing Committee recommends that the government re-evaluate the level of responsibility a reformed CGC should carry in the future. (see chart in recommendation 3)

SECURITY AND LICENSING

In their discussions with members of the Standing Committee, some witnesses raised the issue of the contractual security required in the system. The question is what kind of protection should be offered to farmers and other sellers in the event of another stockholder's failure to pay? Compas reports that, "since 1982, there have been 19 failures of licensed, bonded, companies. Of these 19, there are 3 instances where the payout was less than 100%, 1 being virtually 100% (98.4%). There are 2 other instances where the CGC paid producers 100% for failures of companies that were not licensed or carrying security. The CGC made payments in addition to or in the absence of security provisions in a total of 5 cases."[23]

Although the CGC requires licensees to post security in the form of bonds, cash deposits, letters of credit, and other types of guarantees, the entrance of new players and subsectors in the system has apparently led to uneven compliance. According to some witnesses the lack of uniformity has been detrimental to smaller players. Some companies associated with smaller operations, particularly those in the special crop sector, have complained that existing CGC security requirements are too onerous and inflexible. It is argued that posting of bonds to cover 100% of the liability limits operating capital and acts as a barrier for new companies and restricts competition.

Based on a submission from the Western Barley Growers Association and suggestions from other groups, Compas recommended that the CGC "explore the costs and benefits of operating a clearinghouse mechanism."[24] Compas also recommended a stakeholder round table based on the Canadian Food Inspection Agency model, which could develop solutions to provide optimal security and fair prices for producers.

Similarly, a witness who appeared before the Standing Committee suggested an approach similar to the Ontario's Grain Financial Protection Program (GFPP), which is a system of fees similar to a check-off that protects producers from failure of payment by licensed grain

[23] Ibid., p. 68.

[24] Ibid., p. 69.

handlers. The GFPP is administered by Agricorp on behalf of the Ontario Ministry of Agriculture, Food and Rural Affairs. Another witness suggested that the provision of bonding should become a voluntary service because that would remove the barrier to entry within the industry. Producers would then have the freedom to select a bonded or non-bonded facility depending of the level of risk aversion each farmer has.

The Standing Committee recognizes that modernization of the grain system must be accompanied by an efficient and flexible system of contractual security that will be understood by all participants. Being at the beginning of the system chain, grain producers require protection against potential failures emerging from downstream activities in the grain sector. Therefore:

RECOMMENDATION 11

The Standing Committee recognizes the necessity of contractual security and supports the concept of a clearinghouse, or other models such as the Ontario's Grain Financial Protection Program. However, the Standing Committee believes that such an important risk management tool requires further investigation and therefore recommends that the federal government report back to the Standing Committee, prior to the tabling of a new grain legislation, on the various models that could be implemented for protecting grain farmers.

PRODUCER CARS

The allocation of producer cars by the CGC is an issue that neither the Compas report nor witnesses mentioned. Under the *Canada Grain Act* grain farmers have the right to order producer cars. It is the CGC's responsibility to provide a service to producers by arranging for the transportation of their grain.

Under the *Canada Grain Act*, elevators and grain dealers must be licensed by the CGC and post security to cover their liabilities to grain producers. The CGC exempts producer car loading facilities from these provisions, as long as they meet certain conditions. Therefore, grain handled and stored at producer car loading facilities is not protected by security held by the CGC.

The CGC allocates rail cars available from the railways for both CWB and non-CWB grains. For CWB grains, the CGC allocates cars based on the CWB grain and grade program. The producer must have a valid CWB delivery permit book and ensure that sufficient acreage-based or contract delivery calls are in place. For non-CWB grains, the CGC allocates cars depending on whether the producer has a confirmed sale or not. If a sale has not been confirmed, the number of allocated cars is limited to 10% of the cars for shipment of any one type of grain to a particular destination. In all cases, CWB grain or non-CWB grain, the

CGC allocates cars in each category to producers in the order the applications are received.[25]

Because of the importance of producer cars for grain farmers, the Standing Committee believes that a CGC reform must also allow an enhancement of the producer cars allocation system. Therefore:

RECOMMENDATION 12

The Standing Committee recommends that the Canadian Grain Commission facilitate and maintain access to producer cars, and that CGC's inward inspection on producer cars be maintained.

CONCLUSION

Members of the Standing Committee have carefully listened and discussed with witnesses, and they believe that these recommendations will be helpful in developing a new grain regulatory system that will take into consideration the interest of grain producers and that of all stakeholders. Members are looking forward for a new legislation that the Standing Committee will review carefully whenever it will be referred to it.

[25] Source: Canadian Grain Commission Web site.

LIST OF RECOMMENDATIONS

RECOMMENDATION 1

The Standing Committee supports a redefined mandate of the CGC as more in line with the practical reality of the Canadian grain industry and it recommends that any eventual bill clearly protect the interests of grain producers.

RECOMMENDATION 2

The Standing Committee recommends modern governance structure for the CGC's executive level and the appointment of a single President or CEO supported by three Vice-Presidents. The Committee also recommends that the CEO hold office during pleasure for a term of five years.

Furthermore, the Standing Committee recommends that, because of the intrinsic nature of the grain industry, a working knowledge of the industry should be a criterion, in addition to managerial and other skills, to be considered in the appointment process of a CEO.

RECOMMENDATION 3

The Standing Committee recommends the establishment of an independent Office of Grain Farmer Advocacy composed of six Commissioners deployed regionally.

Furthermore, the Standing Committee recommends that the Office be permanent and be funded to perform adequately its role of defending, in the same manner all across Western Canada, the interests of all grain producers in disputes with other stakeholders, including the CGC itself. Finally, the Office should report directly to the Minister of Agriculture and Agri-food,

RECOMMENDATION 4

The Standing Committee is in favour of optional inward inspection, and recommends sufficient funding so that the CGC can maintain efficient and timely services for both producers and smaller handlers who need such services for transactional purposes.

RECOMMENDATION 5

The Standing Committee supports pilot projects in contracting out services for grain inspection, but recognizes the absence of strong factual data on the advantages and the costs,

In that context, the Standing Committee recommends that Agriculture and Agri-Food Canada take advantage of the first three years of the CGC reform to conduct a cost-benefit analysis on contracting out services.

RECOMMENDATION 6

In order to offer a benchmark for a cost-benefit analysis on contracting-out services, the Standing Committee recommends that the Canadian Grain Commission receive adequate funding to improve its services, particularly regarding the flexibility on authorizing overtime when specific delivery conditions are required to satisfy foreign buyers and protect Canada's reputation.

RECOMMENDATION 7

The Standing Committee recommends that kernel visual distinguishability (KVD) be abandoned, and be replaced by a system based on farmer's declarations or affidavits supported by science-based mechanisms of quality control. The Committee also recommends that farmers' declarations be coupled with producer and industry monetary penalties to be introduced in the *Canada Grain Act*.

RECOMMENDATION 8

The Standing Committee supports the proposed increase, to about $40 million, for R&D funding in the grain industry, and also supports a separate appropriation for the Grain Research Laboratory (GRL). Furthermore, the Standing Committee recommends that the government conduct a study to determine if the GRL would be better located, and become more independent, under Agriculture and Agri-Food rather than under the Canadian Grain Commission.

RECOMMENDATION 9

The Standing Committee recommends that the government review all the CGC infrastructure costs, including costs related to overtime and other individual services necessary for commercial transaction, and establish which ones may deserve to be defrayed by the taxpayers of Canada, so as to ensure the long-term sustainability of these services.

RECOMMENDATION 10

The Standing Committee supports the concept of an independent arbitrator (appointed by the Minister of Agriculture and Agri-Food), and recommends that the government consider amalgamating the functions of the arbitrator in the Office of Grain Farmer Advocacy. Further, the Standing Committee recommends that the government re-evaluate the level of responsibility a reformed CGC should carry in the future. (see chart in recommendation 3)

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The Standing Committee recognizes the necessity of contractual security and supports the concept of a clearinghouse, or other models such as the Ontario's Grain Financial Protection Program. However, the Standing Committee believes that such an important risk management tool requires further investigation and therefore recommends that the federal government report back to the Standing Committee, prior to the tabling of a new grain legislation, on the various models that could be implemented for protecting grain farmers.

RECOMMENDATION 12

The Standing Committee recommends that the Canadian Grain Commission facilitate and maintain access to producer cars, and that CGC's inward inspection on producer cars be maintained.

APPENDIX A
LIST OF WITNESSES

Organizations and Individuals	Date	Meeting
Canadian Grain Commission	2006/09/26	14
Christine Hamblin, Chief Commissioner		
Terry Harasym, Assistant Chief Commissioner		
Jarett Goodwin, Manager, National Affairs		
COMPAS Inc.	2006/09/28	15
Conrad Winn, President		
Tom Halpenny, Collaborator		
National Farmers Union		
Terry Boehm, Vice-President		
Colleen Ross, Women's President		
Western Grain Elevator Association		
Wade Sobkowich, Executive Director		
Cam Dahl		
Agricultural Producers Association of Saskatchewan		
Ken McBride, President		
Marvin Shauf, Policy Manager		
Canadian Seed Trade Association		
Jeff Reid, Second Vice-President		
Great West Railway	2006/010/05	17
Conrad Johnson, President		
University of Saskatchewan		
Brian Fowler, Professor, Département des sciences végétales		
As an Individual		
Vicki Dutton		

APPENDIX B
LIST OF BRIEFS

Organizations and individuals

Canadian Grain Commission

Canadian Seed Trade Association

COMPAS Inc.

Great West Railway

University of Saskatchewan

Western Grain Elevator Association

APPENDIX C

A technical critique of the Western Canada

Quality Assurance (QA) system

in Wheat

by

Julian Thomas

Genetics Applications - Cereal Research Centre

195 Dafoe Road, Winnipeg, MB

Canada, R3T 2M9

July 12, 2006

“Wheat is 14% protein and 86% politics”

Source unknown

Table of Contents

Introduction.

As the quote on the title page implies it is hard to remain dispassionate about wheat. As a young scientist I suppose I must have thought it would be possible to separate political and technical issues. Twenty eight years later I realize that technical opinion may be patronized, ridiculed, ignored, misrepresented or may even be attended to depending on the expediency of the moment. That is the way it works. Since my own economic position is independent of wheat politics it would be presumptuous to support a political position. Nonetheless, it is also intolerable to keep quiet. I thus feel free to explain how I believe things work at the technical level to anyone who is interested.

I take it for granted that the industry of wheat farming in western Canada belongs to wheat farmers and that they have a right to be informed about and assent to policy issues which affect their interests. A workable, efficient system for quality assurance (QA) of milling wheat is an important adjunct to their ability to compete with other countries and regions that also have milling quality wheat for sale. If we were to set out now to create a QA system for milling quality wheat, it seems obvious (to me at least) that we would expect that our new system to conform to the following three principles.

1. The cost of quality assurance for any product should not be imposed on transactions that obtain no benefit from it.

2. Quality assurance for one product should not prohibit the development of other markets or the adoption of other harmless technology

3. The QA system should be cost effective and reflect the market behavior of the customer.

The Existing QA System and Attitudes to Change.

The system of wheat classes and grades is built on kernel visual distinguishability (KVD) and the registration system for cultivars. For wheat, cultivar registration requires assent of the Canadian Grain Commission under the authority of the Canada Grains Act while marketing of the product is a monopoly of the Canadian Wheat Board. Top-down assumptions of the Grains Act and the Wheat Board Act dovetail closely and have not been seriously questioned for at least seventy years. The result is that most producers do not understand how or why there is an upside and a downside to important technical choices which are made on their behalf and no-one feels obligated to inform them.

Those who call for change in the current QA system run the risk of an “anti-quality” label and a dismissive attitude toward the practical or the scientific issues which they raise. I reject the labeling. After a career of breeding milling wheats I am proud of the high quality of the cultivars that I have registered and I wish to see that value protected by quality assurance. However I also find that the current means by which milling quality is assured is technically restrictive and that negative side effects are greater than the benefits which this QA system provides.

Certainly it is easy to criticize a system which must collect and segregate diverse production from across the prairie provinces, ship and sell it halfway round the world and then accurately, fairly and usefully return value from a multitude of transaction back to those producers who contributed their grain. It is also difficult to advise those who feel they can afford not to listen. In the end all things change and so must we.

The stakes for a producer in the compromise of traits which obtain in those varieties that are chosen for him are not trivial. Wheat production is not an abstraction. Wheat producers generate about 600 trillion wheat kernels per year. These are produced by real plants that consume real inputs and which are routinely assaulted by real pests and diseases. Beyond discussion the varieties which we have in place for producers are suboptimal. Otherwise why invest in plant

breeding? Nonetheless, in advancing material for registration first importance is always attached to satisfying the quality assurance system as it currently exists. Multi-dimensional considerations of pest resistance, yield, even the need for a research climate friendly to innovation are understood but these are generally secondary, or postponed or regretfully denied.

Nature of the Critique

This critique principally concerns three regulated traits: kernel visual distinguishability (KVD), protein content and kernel size. In the QA system, it is assumed these three traits are somehow simply inherited just like any other trait. This is most definitely not the case. All three traits are very complex and have negative side effects on the ability of plants breeders to develop and register new cultivars carrying important, overdue genetic enhancements such as resistance to Fusarium Head Blight, wheat midge, straw strength, resistance to stress and optimized market value as well as the development of new kinds of wheat in support of alternative end uses. Each trait will be discussed in turn. In developing this argument I have tried to ask rigorous questions and to seek commonsense answers.

Kernel Visual Distinguishability (KVD) and CWRS Wheat.

The fundamental requirement for KVD in the present QA system is to separate CWRS kernels from all others. This requires that the cultivars themselves should be distinguished and also that low levels of admixtures should also be distinguishable. This degree of stringency requires that kernel samples of CWRS cultivars must appear to be 100% uniform plus other types of wheat must not contain any CWRS-type kernels down to low tolerances. This requirement for absolute distinguishability places a severe burden on wheat cultivar development for reasons which are only tenuously connected with the conventional science of genetics and plant breeding.

Inheritance of KVD.

According to the protocol developed by the Inspection Division for the determination of KVD acceptability, experimental details (cultivars and locations) are printed on the outside of the

envelopes containing the submitted samples. Therefore the inspector has certain knowledge of the "right" answer prior to making his determination. For this reason, KVD evaluations cannot be treated as unbiased scientific observations; objective analysis of botanical or genetic traits in relation to KVD is thus not possible since the results of inspections defy conventional genetic explanation. I accept that KVD represents something which can be and is reliably recognized but the requirement for reliability is so tight that it can admit very few genotypes. Consider the case of the FHB-resistant hard red spring wheat BW330; 15 parts in 16 of its original parentage are CWRS in origin, it derives from a cross of two lines which met KVD; prior to submission to the Central Bread Wheat Coop the line was checked for CWRS appearance; upon its first official inspection it did not meet KVD. Other cases where both parents meet KVD but many (all?) of the progeny were officially deemed unacceptable are legion. Consequently the suggestion that there is a simple heritable component which explains KVD acceptability strains credulity. In his discussion paper of the benefits of KVD, Brian Oleson remarked that KVD is merely one trait among many which the plant breeder must retain in his progeny. This is an egregious understatement. KVD approval is a *sine qua non* for registration yet it is determined in a manner which is not amenable to rational analysis. If there is an intelligible genetic basis for KVD that could be manipulated as an objective trait in a breeding program it is lost in a fog where statutory authority and scientific objectivity are in conflict.

Phenological restrictions from KVD.

Diversity in kernel appearance in common wheat is related to kernel size. If wheat kernels are all small then this conveys an impression of uniformity. If a variety tends to produce variable or larger kernels in response to favorable conditions then at least some kernels will no longer resemble a "typical" kernel of the variety but will look like "something else". This strongly limits the freedom of CWRS breeders to advance high yielding selections. Since the correlation between grain yield and kernel size is low, at first sight it is not clear how large kernels could be important. However there is no reason why a low-yielding wheat selection cannot form large kernels. Since we are concerned only to raise yield, the trait associations of low yielding wheats

are irrelevant. If instead we focus on the highest yielding lines we find that out of 341 cultivars tested in the Western Bread Wheat Coop, 31 showed yields greater than 110% of Neepawa (McCaig and DePauw; CJPS 75:387). Of these only two lines had kernels smaller than Neepawa while 29 had kernels that were larger; most of these were a lot larger. The take home message is plain: if we insist on uniform kernels and kernels only a little bit bigger than Neepawa (see page 14) then most of the high yielding lines which we might discover will be discarded as well. The problem is not that kernels of our high yielding lines are too big, the real problem is that a variety with all those nice, ***uniform*** CWRS-type kernels has an unresponsive sink (a place to store its yield) that is not allowed to form bigger kernels no matter how favorable the conditions become for higher yield. These are the cultivars we are saving through KVD. Around the world many modern wheat cultivars have optimized on a kernel size of 40-45 mg. In CWRS we are stalled at 35 mg and KVD is a major contributing factor.

KVD and other classes of wheat.

The proposed KVD system for separation of non-CWRS classes was founded on the initial observation that samples of Norstar (CWRW), Genlea (CWES) and Biggar (CPS) could generally be distinguished from CWRS and from each other. With hindsight, it is clear that the hope that this observation could be expanded into a complex reliable system of class identification was naïve. Initially, Norstar samples mostly came from southern Alberta, Glenlea samples were largely from southern Manitoba while samples of Biggar were mostly from the Parkland. Thus reliable separation was enhanced by a predictable geographic distribution of three and only three distinctive cultivars. As various other candidate cultivars emerged from breeding programs and were grown in trials across the various geographic zones the unexpected but inevitable result was confusion between classes. These problems divided into two. First there was a risk of a percentage of “CWRS” type kernels in the other classes; second there was a risk of confusion among the long kernelled classes themselves (“CPS” type kernels in winter wheat for example). After 25 years of frustration, the KVD system for the distinguishing among the “long kernelled” classes has now been declared officially dead.

"Simplified" KVD.

The Grain Commission has proposed a "simplified" version of KVD which keeps only the distinction between CWRS and the other classes. While this sounds like a significant concession, in practice this is no simplification at all. Confusion among CWRW, CPS and CWES has been tacitly ignored for years. At least some of the time these classes have been marketed and sold as mixtures! Distinguishing between real and apparent mixtures involving CWRS and the other classes is now the only important role expected of KVD and the issue over which all the recent carnage in breeding lines has been occurring. Winterhardy winter wheat germplasm, largely built on Norstar seems particularly prone to generate spurious mixtures. An attempt to maintain even simplified KVD will require that the gene pool of CWRS varieties be kept narrow and that the kernel size of CWRS varieties remain small. CWRW germplasm may also have to be retreaded to yield a gene pool that segregates a more distinctive set of kernel shapes. These are very negative restrictions. Since CWRS cultivars are gaining in size as we pursue higher yields (as with Superb, AC Intrepid and AC Cadillac) I predict that even if nothing else is changed, that these large kernelled CWRS wheats will prove to be the Trojan horse of KVD. Even if the immediate cultivars are themselves distinguishable their elite progeny will inevitably be less predictable in line with their larger kernels. The result will be a steady escalation in the potential for confusion and (in the end) an unsupportable cost of sustaining genetic progress in other traits[1]

Alternatives to KVD.

The obvious alternative to KVD for common wheat would see wheat delivered, binned and sold by variety. Costs of this system include a paper trail to track the preserved identity and genetic testing to monitor compliance and to resolve disputes. In the Canadian Grain Commission (2003)

[1] KVD and Innovation: The burden which even "simplified" KVD places on existing classes also exists with other kinds of wheat such as specialized feed or biomass cultivars. As these industries develop and integrate they will make quality demands that will conflict with milling requirements e.g. low phytate and extra-hard kernels in feed wheat or low protein, high starch and soft kernels in "biomass" wheats. If we retain KVD to make such separations this places a barrier to innovation whose cost is quite literally unknowable. (The point of the low phytate trait in feed is to reduce phosphate throughput in animals and into their effluent and thus reduce water pollution. Low phytate in human diets is thought to be a risk factor in colon cancer for people in the developed world by its positive influence on gut concentration of iron and zinc ions. In Canada low phytate wheat would probably need to be segregated. Paradoxically, in the third world high cereal diets are associated with rapidly spreading iron and zinc deficiencies. These deficiencies are thought to be caused by iron and zinc sequestration by phytate in the gut and are identified as causing blindness and mental retardation in millions of people.)

discussion paper, the cost of a Varietal Eligibility Declaration (VED) was estimated at from $1.50 to about $3.75 per tonne. Presumably stringent monitoring ($3.75) would be incurred where it was most valuable to do so (for premium export markets and top grades). For seed sales, feed markets, ethanol or even domestic milling these costs would be partial or would not exist. Nonetheless the view in the grain handling industry is that VED represents a major added cost of doing business in wheat which compares unfavorably with the "efficiency" and "low cost" of KVD. We will examine the issue of the true cost of KVD after we have considered its probable effect on wheat breeding.

KVD and Durum.

Pasta-quality tetraploids are readily distinguished by their kernels from all other existing kinds of wheat (these are all hexaploid). For the separation of tetraploids from hexaploids, KVD thus works well and at virtually zero cost to the breeding program. Durum thus might provide an opportunity to measure the cost of KVD within the Canadian system by comparing its rate of technological progress with that of spring wheat. The comparison is not reassuring.

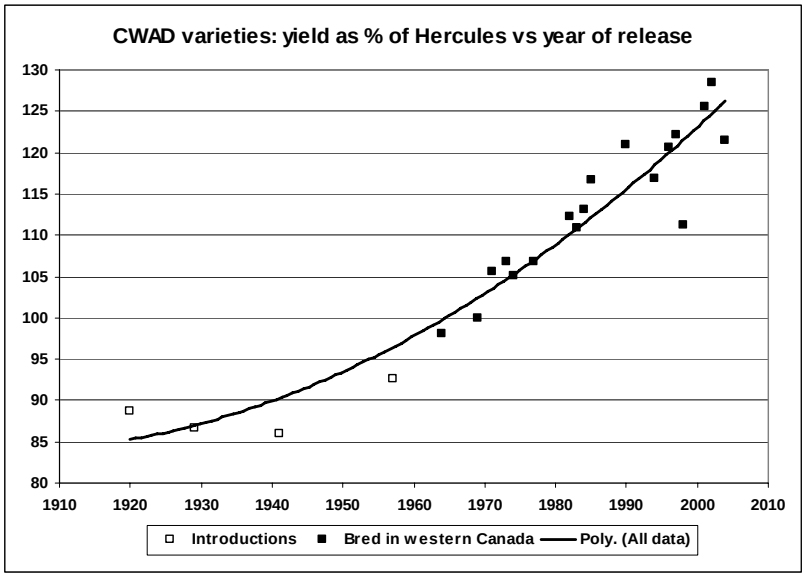
Table 1. Plant Breeding Personnel, Crop Area and Yield Gains in Durum Wheat versus Spring Wheat

	Wheat Breeders (PY)		Crop Area (ha)		Gain in Yield of registered varieties* (% of long term check per year)			
	1971	2001	1971	2001	Data Source	From	To	Gain.year^{-1}
Spring Wheat	8.5	8.5	7575	8197	WBWC (hollow)	1902	1991	0.23%
					WBWC (solid)	1946	1992	0.39%
					CBWC	1902	1992	0.32%
					Average	-	-	0.31%
Durum Wheat	2.5	1.5	997	2036	Durum Coop	1963	1992	0.81%

***Yield gains as reported by McCaig & Clarke (CJPS 75:55) and McCaig & DePauw (CJPS 75:387). In the second paper, CWRS slopes were calculated for a subset of cultivars with higher than average yields. If this use of filtered data is rejected as arbitrary then yield gains in CWRS are overestimated. On the other hand, where there is rapid uptake of a higher yielding variety such as AC Barrie, the rate of genetic gain in the sequence of varieties will be lower than the genetic improvement of the crop and some of the backlog in crop improvement may be considered to have been cleared.**

Table 1 (page 9) shows that the rate of improvement in yield achieved in CWAD outpaces the same rate in CWRS genotypes. This is especially striking when we compare the relatively small research investment that has been made in the tetraploids. In fact durum has not always been free of KVD issues. According to Fred Townley-Smith, a requirement that durum cultivars should

not resemble either Pelissier or Golden Ball was ended in the early seventies. Therefore the sustained upward swing in the yield of durum at about this time could as well be attributed to the relaxation of KVD as to the startup of Canadian-based breeding (c.f. McCaig and Clarke 1995.



CJPS **75**:55). Perhaps both were involved. Regardless of the past, for thirty and some years KVD has imposed no restrictions on durum breeding in the choice of parents, in a selection overhead required in early generations and in the unexpected failure of lines in advanced trials due to unpredictable changes in shape and size distribution. In both cases (CWRS and CWAD), crop improvement is heavily and similarly constrained by statutory requirements for quality and protein content. Rates of yield gain in wheat reported from other countries round the world are comparable with the rates achieved with durum rather than with those of spring wheats which until recently were very low. All this points toward KVD as a limiting factor in CWRS yields.

The general effect of KVD on breeding.

While one effect of KVD has been to influence yield phenology by its impact on kernel size distribution, KVD also exerts a negative effect on the improvement of traits which are only remotely connected with kernel development. The basis for a general effect of KVD on wheat

improvement can be understood from the following simple argument. As we saw with BW330 (page 6, line 6) even a small genetic contribution from an introduced parent, will seriously disturb the ability of a new selection to meet KVD reliably. Most wheats from around the world will not meet KVD as a major or even as a minor parent in a breeding program. Despite this difficulty, there is really no other store of genetic diversity for improving our cultivars. Therefore as a practical matter the entire set of possible genotypes which might carry needed improvements in pest resistance, quality and agronomics is many times larger than the possible set of genotypes which possess all these same advantages but which also reliably meet KVD. Thus the population of advanced lines from which new cultivars can be selected is a small fraction of that which would be available without KVD. The only safe response for a plant breeder to cope with this ludicrous situation is to cross and backcross with Canadian or acceptable North Dakota parents that meet KVD until an acceptable hard red spring wheat genotype is reconstituted. This enforced conservatism is what leads to the low rates of yield gain documented in Table 1. For a fact, world wide there is no group of cultivars that is more out of date or more incestuously interrelated than CWRS varieties. KVD has a stranglehold on the introduction of disease resistance, on the overall genetic diversity and on the rates of yield gain of the largest crop we grow. It seems clear we will have to give up KVD sooner or later. The only important question is when. Last-ditch expenditure of scarce research resources to maintain genetic progress for a few more years in the face of KVD will merely delay the influx of new germplasm which we will need in coming to grips with a fast-changing world.

The Cost of KVD.

Kernel visual distinguishability is believed to be cost-effective because no-one has to write a check to pay for it. In fact, the cost of KVD is substantial and is borne by two groups; the first are plant breeding programs where promising lines developed at great expense are discarded without appeal on the basis of the unexpected or bizarre KVD evaluations; the second are producers whose access to needed genetic enhancements could be delayed for years or even decades. It is a rule of thumb in wheat breeding that, all other things being equal, selecting for “just one

more" additional gene will halve the effective size of a breeding program. Adding a second gene drops the breeding program to a quarter of its former effective size. Now consider a complex trait like KVD (many genes) whose manipulation is accompanied by adverse correlations and whose rating is subject to abrupt reversals. Adding such a trait isn't something one should do lightly.

To get an idea of the role of time in wheat breeding I have summarized the history of key derivatives of Tobari '66 in CWRS breeding programs since it was first introduction from Mexico in the late sixties. Most strikingly none of the varieties in this sequence were free of major flaws. AC Barrie despite its many virtues and great popularity proved to have low water absorption and non-durable resistance to leaf rust. Each of these problems might have been overcome by using other crosses, or retaining a few more sister selections to choose from. In this light you can see that insisting on a complex artificial trait that is hard to understand, is of dubious commercial value and is negatively related to yield (i.e. KVD) is quite likely to be very counterproductive.

Table 2. Key Tobari '66 derivatives in CWRS germplasm

Line	Year of Coop entry	Year of Regis-tration	Parentage	Strengths	Weaknesses
Tobari'66*	1966?	-		Good straw, leaf rust	Quality, KVD,
BW15	1974	-	Manitou/**Tobari'66**	High yield	Too strong
BW90	1983	-	**BW15**/BW38//BW40/RL4353	High yield	KVD, too strong
Laura	1984	1986	**BW15**/BW517	High yield	Weak straw, FHB susc
AC Barrie	1991	1994	**BW90**//Neepawa/Columbus	High yield	Leaf rust susceptible
AC Cadillac	1993	1996	**BW90***3/BW553	High yield	Weak Straw
AC Elsa	1993	1996	**BW90/Laura**	High yield	FHB susceptible
BW853	2005	-	**AC Elsa**/BW248	High yield, good straw	Too strong
?	2012?	?	**BW853/???**	?	?

* While never in the coop this line was introduced from CIMMYT, Mexico to Canada probably between 1965 and 1968 when it was used as a parent. BW15 was then widely crossed as a source of improved yield to give BW90 and Laura. Close relatives of BW90, Cadillac and Barrie may also have figured in further crosses but since the resulting increment to total variability was small these are considered as equivalent and so are not listed.

Most plant breeders will agree that the added value lost to our present set of cultivars through restrictions imposed by KVD greatly exceeds $3.75 per tonne of production. By and large, traits such as pest resistance and improved agronomics were omitted from the ledger of lost benefits arising from KVD mentioned by the Oleson Benefits Study which commented that deployment of FHB resistance was "slightly" delayed by KVD. This was based on the case of HY644 which was denied registration in February 2001. This assessment is now out of date. Since then three

highly resistant “CWRS” lines (BW330, BW346 and BW379) were all denied quality testing because of their failure to meet KVD. Currently, contrary to the Oleson study, FHB resistance is an excellent example of urgently needed improvement which the QA system has sacrificed in the interests of maintaining perfect KVD[2]. In terms of yield the Oleson benefits study estimated a loss of 5% arising from KVD constraints on plant breeding. This loss translates into a “cost” of $7 to $12 loss per tonne if prices range from $140 to $240 per tonne. The lost yield must be applied to all production of common wheat (i.e. it includes seed, feed wheat and downgraded production) rather than just that proportion whose identity can be preserved with advantage (as with VED).

If we take the 5% yield loss estimate quoted in the Oleson benefits seriously this means that the negative economic fallout from KVD exceeds that from VED by a factor of two to eight times. Since this number was based on little more than a casual guess of Barrie Campbell’s, perhaps we might re-examine this issue. It is an old puzzle why the estimated rates of improvement for CWRS wheats is so much smaller than those reported by other wheat scientists from around the world when both are estimated using the same basic statistical approach. It is fair to say, it was previously assumed this had something to do with the maintenance of disease resistance and end use quality. Now however, long term trial data in CWRS and CWAD seems to point the finger squarely at KVD and yield phenology. If the rates of gain in these two classes as reported by McCaig and coworkers are to be taken seriously (why should they not be?) and the difference can be related to KVD (why should it not be?) then the accumulated difference by which CWRS trails CWAD after thee decades of improvement could be as high as 15%. If so then the cost of KVD for common wheat becomes quite staggering. Since CWRS represents the lions share of the crop the true cost may reasonably be estimated by the yield lag (15%) multiplied by the crop

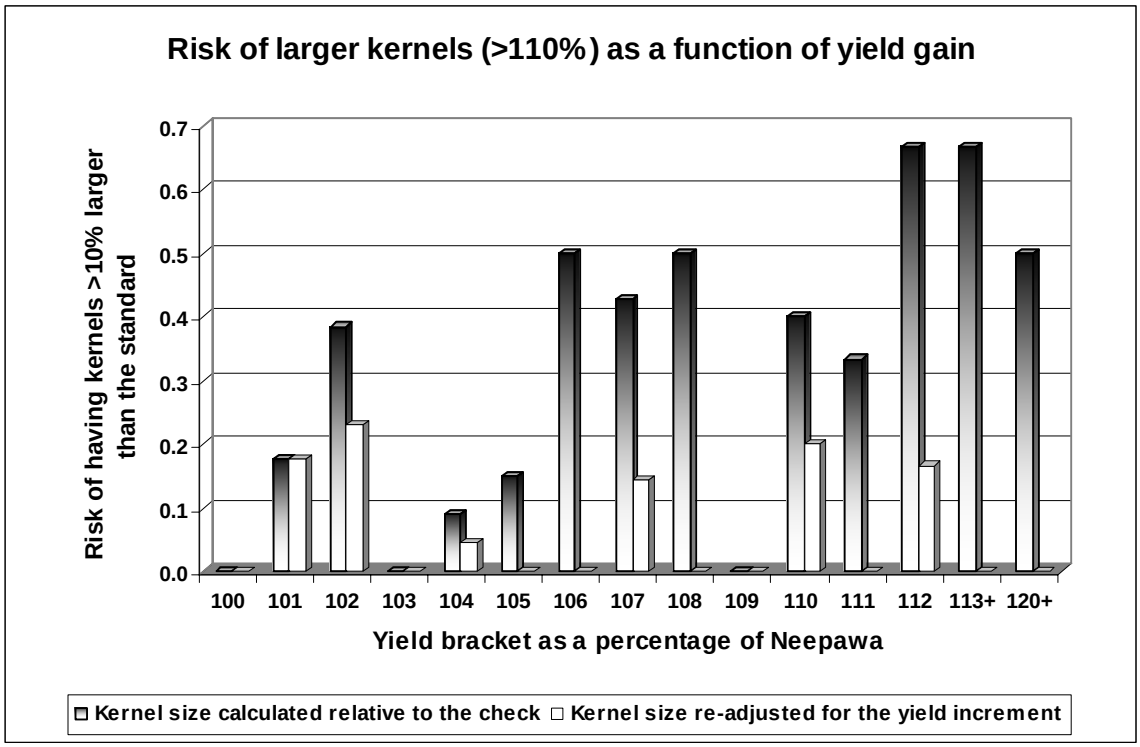
[2] Further insight into the QA system is shed by the asymmetric pressures that affect variety distribution at the 49th parallel. North of the border, U.S. varieties are kept out of Canada by the registration and QA system which we operate. South of the border, Canadian varieties are excluded from the U.S. by their poor performance in a free market for both grain and varieties. Despite the preference of U.S. mills for CWRS varieties, apparently U.S. mills are not prepared to pay enough to their local farmers in order to create a local supply. Since U.S. farmers exhibit no xenophobia over agronomically inferior Canadian cereal varieties in pursuit of a high quality market (as witnessed by the popularity of Harrington) apparently the agronomic advantages of U.S. wheat cultivars outweigh the quality advantages of Canadian varieties in a market system which values the product of yield ***and*** price. Paradoxically the QA system may achieve a positive outcome in the U.S. where our high protein varieties are attractive to U.S. millers. Since the alternative to U.S sales is transport to salt water, a relatively small yield depression experienced with high protein cultivars is small price to pay for penetrating a nearby market

size (say 14,000,000 tonnes) multiplied by a typical price (say $200 per tonne). With these figures the true cost of KVD comes out at $420 million dollars per year all of which represents income lost to wheat producers. If true this cost will continue long past the "end of KVD" until we catch up on all the forgone crop improvement. The number is so grotesque that I anticipate the common response will be automatic disbelief. I claim no great degree of prescience in reaching these conclusions; most of the key analyses in this critique were made very recently. Nonetheless the figure is so large that if I am wrong it would seem a simple matter to find where my analysis is in error.

Kernel Size and Milling:

It was argued previously that one effect of KVD is to sharply suppress any increase in kernel weight of CWRS varieties. At the same time, in the process of quality evaluation, candidate cultivars which do exhibit larger kernels than normal are criticized or even rejected on the grounds that this will cause problems in the cleaning and milling of wheat grists because of the resulting large range in kernel sizes. So far this has not been a contentious issue because most good candidates with larger kernels are eliminated by KVD. Nonetheless, despite the small kernels of most coop entries, analysis of the data shows that there is a steady upward pressure on the kernel weight of high yielding entries. This pressure is sufficient that three recent high yielding cultivars, AC Cadillac, AC Intrepid and Superb all attracted unfavorable comment from the quality committee due to a kernel size that was slightly larger than existing cultivars. Not surprisingly, Superb, the largest and highest yielding of the three is also now generating KVD problems as well. The critical degree of enlargement which seems to draw adverse comment is about 10% enlargement over typical CWRS cultivars. With Neepawa (the long term check) at 35 mg this would be an enlargement of 3.5 mg. It might seem reasonable that if a wheat should have higher yield we should also allow it to form larger kernels at least in proportion to its yield increment. Ten percent bigger yield, ten percent bigger kernels – no problem! Despite this commonsense approach, comparisons of kernel size are always made to the checks without reference to the merit of the entry. Based on long term data from the Western Bread Wheat

Coop, the figure shown here calculates the risk of a 10% enlargement of kernels considered as a function of the yield gain that was observed for the line. Two bases for calculation were followed. The first is the kernel size expressed as a percentage of Neepawa. The second is also expressed as a percentage of Neepawa but is also re-adjusted for the size of the yield gain.



Plainly with kernel size evaluation, high yielding wheats risk arbitrary elimination at a rate that escalates sharply with the extent of the yield increase. Our figure shows also shows that if we were instead to identify wheats with unreasonably large kernels after adjusting the kernel size increment for the size of the yield increment we would find that rate of elimination by the 10% rule no longer depends on the yield increment of the line. At the present time, kernel size evaluation discriminates against wheats which show a yield breakthrough not because they have unreasonably large kernels which are out of line with their improved yield but ***because*** they are higher yielding and therefore on average will make bigger kernels out of ***necessity***. In plain English, the bigger the yield breakthrough the more likely it is that the line will be discarded. If you think that this sounds crazy you are right. Welcome to the twilight zone!

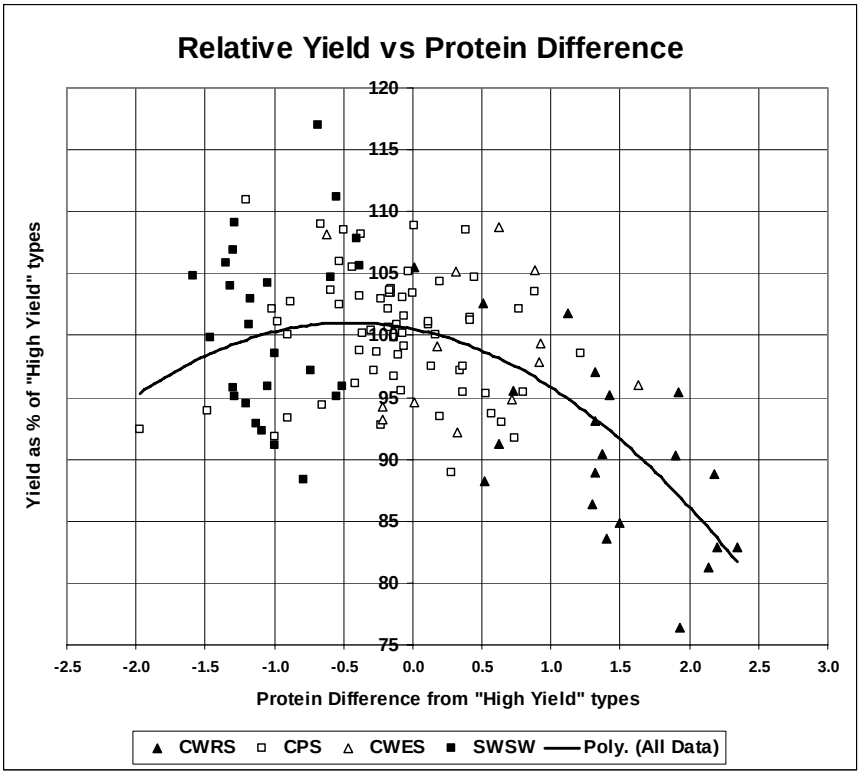
It is worth noting that CWRS kernels are processed in mixed grists by millers all over the world in company with larger kernelled wheats apparently without any trouble. Logically, we should suppose that domestic millers with easy access to small kernelled CWRS wheats would have the most reason for concern over escalating kernel size. Remarkably, if these concerns are significant, then the interests of domestic millers over kernel size stand in opposition to those of the larger export market. Would we not in fact be doing our principal customers (the export market) a favor by increasing kernel size as rapidly as possible in order to catch up with the other larger components that probably would be in their grists?

Protein Content and Yield.

It is a commonplace of wheat breeding that yield and protein are negatively correlated. The reason that is normally cited is that since the N supply is limited, selection for high protein will identify low yielding cultivars which generate less starch to dilute the available N. In fact this simple picture is an over-simplification. A wheat seed needs a minimum amount of N to deploy its first photosynthetic leaves and produce a vigorous seedling. After all, a wheat crop is unlikely to recover and yield well if its establishment was compromised by N deficiency in the seedling. The agronomic optimum for nitrogen content in the seed is probably close to that exemplified by early Canada Prairie Spring (CPS) cultivars such as Biggar, AC Taber, AC Foremost and Genesis since these varieties entered the Canadian system with strong selection for yield and relatively weak selection for grain protein content.

As protein declines from the high level encountered in Canada Western Red Spring (CWRS) cultivars we should first encounter a set of lines where the slope of the negative relationship between yield and protein declines or becomes neutral, (as with Canada Western Extra Strong and Canada Prairie Spring); then a region where it becomes neutral or positive (as with Canada Prairie Spring or Soft White Spring). Yield and protein data sampled from recent editions (1995-2005) of the most diverse coop trials confirm our suspicion that the relationship between yield and protein is highly curvilinear. The centre of the CWRS cloud of observations lies about 1.5%

above the mean protein content of CPS and CWES lines included in the same trial (by definition this mean=0); yield was normalised as a percentage of the mean of CPS or less commonly CWES types in the same trial (by definition this mean=100%). At this level of protein content, a tangent to the best fit line has a slope of about 10%. The Oleson Benefits Study also mentioned a figure of 10% per percent increment in protein but noted a lack of hard data. Our analysis[3] supports the 10% figure but also shows that the clear distinction which used to exist between yield and protein among the various classes is slowly eroding. When high yielding CWRS genotypes (e.g. Superb and Infinity) yield well on this graph relative to CPS and CWES lines they exhibit no large advantage in protein content while higher protein CPS and CWES lines (e.g. 5701PR) no longer show the distinctive advantage in yield which we have traditionally expected to see with CPS lines.



[3] There are no varieties in common between SWSW and other trials so SWSW proteins were adjusted down by 1% but yield was not adjusted to accommodate their low protein-high yield status. To avoid possible bias SWSW data was not used to fit the line.

Since the price difference between CPS and CWRS wheats is as large as ever despite the narrowing yield and protein comparison, I conclude that any strategy for improvement for CPS wheats which prefers protein content over yield is misconceived.

Protein Content and Price.

If it is true that there is a negative relationship for CWRS wheats between yield and protein content then it logically follows that there should be a commercially optimum range of protein levels in the CWRS varieties that we register. To my knowledge, exactly where that optimum range might fall and how wide it should be has never been seriously investigated. A reasonable mean value might be where a line drawn at a tangent to the yield/protein relationship has the same slope as the average premiums provided by the market place[4]. In fact protein premiums are rather variable. Over the last four years they have ranged from about 2% to 6.5% and averaged 4% (Table 3). Premiums from previous years have also ranged around 5%. Thus the price trade off (about 5%) seems swing widely but to average about half the value of the yield trade off (which is about 10%). Does a year when premiums are low indicate a year when there is an oversupply of high protein wheat? Likewise could the discrepancy between the yield trade off and average premium for protein indicate that Canada has a chronic oversupply? I confess I have no idea. Sales benefits such as class reputation and market access are said to flow from intrinsically high protein contents. My question is: how can we assess to what degree such factors counter-balance the discrepancy between the price/protein and yield/protein trade off?

Table 3. Protein premiums (% increment in price per 1% increment in protein*) in Canadian wheat by Year and Grade

	1CWRS	2CWRS	*3CWRS*	1CWAD	2CWAD	*3CWAD*	*1CWRW*	*2CWRW*
2005-2006	**6.54%**	**6.55%**	*3.27%*	**6.25%**	**4.93%**	*1.92%*	*2.08%*	*2.19%*
2004-2005	**5.53%**	**5.25%**	*3.81%*	**4.75%**	**3.24%**	*1.51%*	*1.74%*	*1.79%*
2004-2003	**1.98%**	**2.00%**	*1.07%*	**1.15%**	**1.07%**	*0.49%*	-	-
2003-2002	**2.21%**	**2.12%**	*1.27%*	**1.58%**	**1.72%**	*0.80%*	-	-
Mean	**4.07%**	**3.98%**	2.36%	**3.43%**	**2.74%**	*1.18%*	*1.91%*	*1.99%*

* Calculated as a percent of the FOB price at the midpoint of the protein band
Italics – These protein bands are narrow in scope with weak premiums but a relatively high base price. Since they appear to represent smaller categories of supply they may be unrepresentative and have therefore been ignored.

[4] An enquiry directed to the Canadian Wheat Board elicited the opinion that our system is the envy of the world. I translate this as "Our customers like our protein contents". Indeed they do! What is there not to like? The question is can we afford it? If I am assigning a literal meaning to CWB protein premium schedules that they are not intended to possess, then what exactly do they mean? How should I assess the value that the marketplace attaches to protein content?

If plant breeders are temperamentally inclined to underestimate the commercial benefit of a marginal increment in protein content, then marketers are equally prone to discount the negative relationship between protein and yield and at present it is their prejudice which prevails. The yield/protein figure (page 17) implies that the intensity of the yield and protein trade-off is sensitive to small shifts in relative protein content; thus a drop of 0.75% in average protein would bring the yield/protein and price/protein relationships into an approximate balance. Could higher yielding, lower protein varieties actually increase the size of the protein premium? I don't know. I do know that at the worst, a range of CWRS varieties varying in yield and protein content would allow producers to vary what they plant in response to market signals. Right now they have little to choose from.

End Use Niches and Wheat Breeding.

Niche food markets are not a suitable goal for wheat *improvement.* This conclusion is directly counter to conventional wisdom. The need for niche-based breeding is always overrated because niches do not last. If a wheat variety is identified which fills a niche then of course it should be exploited. Nonetheless the temptation to make a niche market the target of a breeding program should be resisted even if the niche variety has severe deficiencies. Chances are the niche will vanish before much of a return is made on the total breeding investment. Consider: Glenlea as a correction wheat (late seventies), soft white spring wheat (late seventies to early eighties), Glenlea-types (again!) for frozen dough (early nineties). All three markets prompted the startup of breeding programs which were left stranded when the market evaporated. Soft wheat is now down to 20,000 acres despite excellent varieties; Bluesky, (a mediocre hangover from the "correction wheat" bubble) was the most widely grown CWES variety after Glenlea. This success was an unpredictable freak since it occurred in central Alberta long after Bluesky was registered when the "frozen dough" bubble caught on in the west and only after Archer Daniels Midland gained some confidence that Bluesky was "equal to Glenlea"; by way of background, Glenlea is poor in Alberta while Bluesky, (bred at Beaverlodge) performs poorly Manitoba. In all likeliehood, extra-strong durum will fade out in much the same way.

Fertilizer Use and Protein:

Agronomic trials also indicate the primacy of yield and a low valuation of protein by the market since the economic return from N fertilizer is principally gained from yield and only secondarily from protein content. It is likely that the breeding of higher yielding cultivars would encourage increased use of N fertilizer rather than discourage it since such varieties are likely to be more responsive to inputs.

Conclusions and Recommendations

1. Kernel visual distinguishability (KVD) and kernel size evaluation have large interlocking negative effects on the rate of genetic improvement in common wheat. Annual income lost in this way has exceeded the cost of implementing a varietal eligibility declaration by a large margin and by one rational estimate might exceed $400 million per annum ($26 per tonne). KVD and kernel size evaluation should be abandoned immediately.

2. Protein requirements for CWRS cultivars should be relaxed by one half a percentage point below some suitable standard to allow a yield-centred approach to breeding and provide producers with the range of cultivars they need to respond to and to benefit from market signals over protein content. Deregulation over KVD, kernel size and some relaxation over protein will provide the scope for long term yield gain in CWRS of 15%. To maintain quality, CWRS rheology should be assessed at constant protein.

3. Breeding of CWES, extra-strong durum, soft white spring wheat, and CPS Red and White wheats are poor investments and should be abandoned. Hard white wheat will not succeed until the product of yield and price is greater than for the best CWRS varieties. This is a feasible goal, but will not be attained under the present QA system. Winter wheat breeding should be continued as an agronomic and soil conservation alternative to CWRS. Marketing efforts for milling quality winter wheat should examine near-equivalence of AC Tempest with CWRS.

4. Alternative wheat research should focus on high yield coupled with research into modern hybrid and apomictic systems for capturing heterosis and industrial uses related to the environment including biomass, fibre and feed wheats. Feed wheat research should examine traits for high conversion efficiency and reduced phosphate in feedlot effluent.

APPENDIX D

KVD as an Impediment to Wheat Development

1. KVD is more an impediment to wheat breeding than previous cost/benefit studies have estimated.

- not an issue if a breeder is crossing two CWRS or with a DNS varieties to develop a new CWRS variety, but class will never progress if breeders are just rearranging existing gene pool in class.
- major problem for CWRS or CWAD breeder attempting to make wide crosses and incorporate a trait from another class or wild relative.
    - Higher yield
    - FHB
    - Midge resistance
    - Other disease resistance genes (stem rust, stripe rust, etc.)

- major problem for breeder of minor classes (eg winter wheat) wishing to improve milling quality, or transfer other traits from CWRS or CWAD

- CWRS breeders unable to utilize the major germplasm pool from CIMMYT or EC winter wheat.

- Impossible to introduce wheat lines from other countries. Multi nationals are unwilling to invest in wheat breeding in Canada

- Breeders have to discard 50-80% of lines, and often don't know a line does not meet KVD until 6-10 year investment. 15-25% of lines in coop trials fail KVD after 10 year investment.

- Recent cases of environmental effects on KVD mean a line that is OK for several years suddenly lacks KVD (example HY 644). Not surprising since drought or excellent moisture affects kernel colour, vitreousness, kernel plumpness, test weight. Why not kernel shape or weight.

2. If KVD did not exist:
    - Canadian wheat varieties would yield 5-10% more. ($3B*5%=$150M/y)
    - CWRS/CPSR and perhaps other wheat classes would include FHB resistant varieties (0-$50M/y mean $25M)
    - CWRS and several other classes would include midge resistant varieties ($10-$50M mean $30M)

Total $200M for theses three traits

3. Suggestions:
    - Need reasonable tolerance for CWRS kernel shape in other classes, especially where trait is influenced by environment (eg up to an average of 10% over all test sites – even if a few sites exceed this) (example HY644)
    - Why wait till 2008 (plus 3 years to develop pedigreed seed etc). Do it in 2007, and sort out grades, etc while pedigreed seed of minor classes is being multiplied.
    - Why limit CWPG to feed or ethanol. If a Canadian Miller wants to contract a CWGP variety for milling, especially for a niche market, what is the problem? IF a

processor is wiling to pay a premium price for the special quality trait needed in a product, isn't this a positive change?

- The removal of KVD on minor wheat classes is a positive first step. It will supply suitable wheat for alternative end-use processing. But for farmers to benefit significantly, the removal of KVD needs to be extended to the other 80-90% of wheat production, the CWRS and CWAD classes. Subject to the successful removal of KVD on minor classes, the replacement of KVD by an affidavit system on all wheat classes must be implement asap.

Jim Bole
Research Advisor
FarmPure Seeds

REQUEST FOR GOVERNMENT RESPONSE

Pursuant to Standing Order 109, the Committee requests that the government table a comprehensive response to this report.

A copy of the relevant Minutes of Proceedings (*Meetings Nos.14, 15, 16, 17, 24, 28 and 30)* is tabled.

Respectfully submitted,

Gerry Ritz, M.P.
Chair

MINUTES OF PROCEEDINGS

Thursday, November 23, 2006
(Meeting No. 30)

The Standing Committee on Agriculture and Agri-Food met at 11:05 a.m. this day, in Room 371, West Block, the Chair, Gerry Ritz, presiding.

Members of the Committee present: David Anderson, Alex Atamanenko, André Bellavance, James Bezan, Ken Boshcoff, Hon. Wayne Easter, Jacques Gourde, Larry Miller, Gerry Ritz, Jean-Yves Roy, Paul Steckle and Hon. Robert Thibault.

Acting Members present: Hon. Charles Hubbard for Paul Steckle and Brent St. Denis for Paul Steckle.

Associate Members present: Barry Devolin.

In attendance: *Library of Parliament*: Frédéric Forge, Analyst; Jean-Denis Fréchette, Principal.

Witnesses: *Fédération des producteurs de porcs du Québec*: Lise Grenier-Audet, Vice-President. *Olymel*: Paul Beauchamp, Principal Vice-President, Supply and Corporate Affairs. *Maple Leaf Foods Inc.*: Don Davidson, Vice-President, Business Development, Government and Industry Relations; Rory McAlpine, Vice-President, Government and Industry Relations. *Canadian Pork Council*: Clare Schlegel, President; Martin Rice, Executive Director; Jean-Guy Vincent, Second Vice-President.

Pursuant to Standing Order 108(2), the Committee proceeded to a briefing on Pork Issues.

The witnesses made statements and answered questions.

At 1:02 p.m., the sitting was suspended.

At 1:12 p.m., the sitting resumed in-camera.

Pursuant to Standing Order 108(2), the Committee resumed its study of the draft report on the Canadian Grain Commission.

It was agreed, — That the draft report on the Canadian Grain Commission be adopted.

It was agreed, — That the Chair present the report to the House.

It was agreed, — That the Chair, Clerk and analyst be authorized to make such grammatical and editorial changes as may be necessary without changing the substance of the report.

At 1:33 p.m., the sitting was suspended.

At 1:37 p.m., the sitting resumed in public.

The Committee proceeded to the consideration of matters related to Committee business.

Wayne Easter moved, — That the Committee recommends

1. That the Minister of Agriculture shall hold, pursuant to section 47.1 of the Canadian Wheat Board Act, a plebiscite with respect to the future of the Canadian Wheat Board on the following questions: Farmers shall be asked:

For wheat:

A) I wish to maintain the ability to market all wheat, with the continuing exception of feed wheat sold domestically, through the CWB single desk system

B) I wish to remove the single desk marketing system from the CWB and sell all wheat through an open market system.

For barley:

C) I wish to maintain the ability to market all barley, with the continuing exception of feed barley sold domestically, through the CWB single desk system

D) I wish to remove the single desk marketing system from the CWB and sell all barley through an open market system.

2. Voter eligibility for the plebiscite shall be the same as that outlined in the CWB Act and regulations for CWB Director elections, with the voter list based on the 2005-06 list of CWB permit book holders.

And that the Chair of the Committee reports the motion to the House.

The Chair ruled the proposed motion inadmissible on legal grounds

Whereupon, Charles Hubbard appealed the decision of the Chair.

The question: "Shall the decision of the Chair be sustained?" was put and the decision was overturned on the following recorded division: YEAS: David Anderson, James Bezan, Jacques Gourde, Larry Miller — 4; NAYS: Alex Atamanenko, André Bellavance, Ken Boshcoff, Wayne Easter, Charles Hubbard, Robert Thibault — 6.

The question was put on the motion and it was agreed to, by a show of hands: YEAS: 6; NAYS: 4.

At 1:47 p.m., the Committee adjourned to the call of the Chair.

Jean-François Lafleur
Clerk of the Committee