

Manitoba produces quality maintain a

by Doug Wilcox, MASC

Manitoba has a proud history of producing high-quality crops. From the late 1800s until 1971 all western Canadian red spring wheat varieties were traded internationally under the name “Manitoba,” and the grade “#1 Manitoba Hard” was synonymous with the high quality of wheat that international millers wanted for their blends.

Manitoba still produces great quality crops today. However, some areas are more consistent at producing top-quality grains than others, just like some regions are more consistent at producing higher yields. But do you know which regions in Manitoba are better for producing top-quality grains, and if these regions are better for all grains, or just certain ones?

Answering these questions will provide not only the opportunity for regional bragging rights but also can assist with enterprise location logistics, policy decision-making, and improving purchasing and marketing opportunities.

For example, in a simplistic world, enterprises that can work with poorer-quality grains (e.g. ethanol, biofuels) would logically best be located in areas where poorer-quality grains predominate. The reverse would be true for enterprises that require higher-quality grains (e.g. millers, crushers). Similarly, regional agriculture policy could also encourage regional enterprise location using this rationale. More sophisticated analysis would combine this regional quality information with Manitoba crop atlas information illustrating yields and acreage (www.masc.mb.ca/mmpp.nsf/Crop_Atlas_Page.html) to optimize enterprise placement.

Producers and agronomists know that quality is a critical aspect of marketing. Understanding regional quality differences can assist with determining appropriate marketing and management strategies. For example, if you are trying to market a top-grade product you may be more likely to get a higher grade assignment or price if you



cers proud tradition

deliver that product to a traditionally lower-grade region, and vice-versa.

Manitoba Agricultural Services Corporation (MASC) crop insurance provides its insureds with insurance for loss of yield and quality. To do this MASC needs to collect crop quality data from farmers. This uniquely positions MASC as one of the few organizations that has crop quality data by Manitoba region that can be used to analyze regional differences in long-term grain quality. Private company data is collected but it is often proprietary and limited to their purchases. The Canadian Grain Commission collects grain quality data but it does not freely provide regional data freely for public use.

MASC crop quality information comes from two main sources — producer estimates of quality reported on an annual fall Harvested Production Reports and quality assessments from claims. Not all production is insured

and not all insureds report all quality information but generally MASC annually has quality information for approximately 70 per cent of the acres in Manitoba.

A 10-year picture

For the purposes of this article the “top grades” are considered any grades equal to, or better than, the MASC guaranteed grade for the crop. For mapping purposes MASC agencies were selected as the plotting regions because this was the smallest unit to which quality information could be aggregated without complex programming assumptions being required (e.g. what percentage of this bin of wheat comes from this R.M. and how much from the other R.M.). Additionally, for visual simplicity,

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Figure 1.

Percentage Of Red Spring Wheat Production At Top Grades (\geq #2 CWRS 13.5% PR) Average By Agency - 1997 to 2006

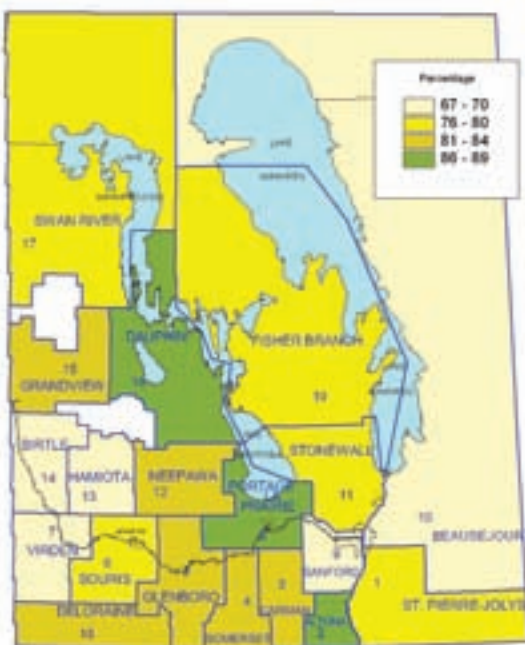
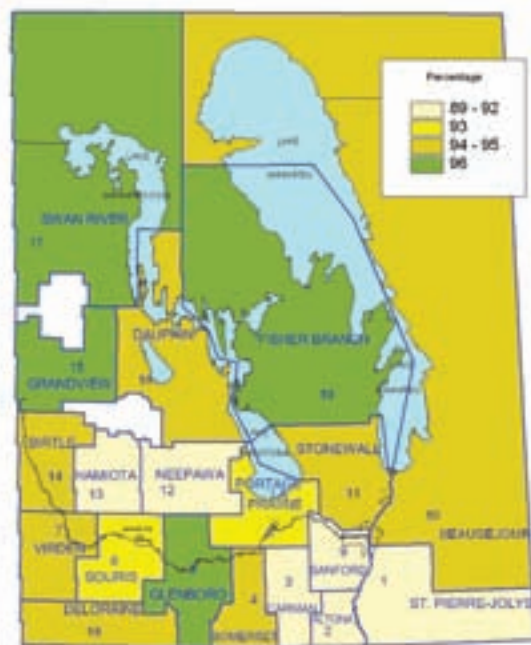


Figure 2.

Percentage Of Canola Production At Top Grade (#1 CW) Average By Agency - 1997 to 2006



the mapped agencies were divided roughly into quartiles with a different color for each quartile.

Grades can vary for many reasons. Field and variety selected, seed quality, seeding timing and management, fertilizer rates and timing, pest control, harvest timing and management, weather conditions and storage management all come into play. Although some speculation is made, no effort has been made in this article to isolate which of these individual or groups of factors is responsible for the regional differences in grade.

Also it is important to note that these maps represent data from a particular 10-year period and since quality data can vary considerably from year to year the regional top grade differences mapped here may not be applicable in a different period or in any one year.

Mapping the areas

The major red spring (RS) wheat-producing areas in Manitoba are the band of Rural Municipalities (R.M.s) along the U.S. border and many of the R.M.s in a line from Swan River to Altona. The highest-yielding RS wheat areas are in the R.M.s south of Lake Manitoba to the U.S. border. Figure 1 illustrates the percentage of RS wheat at top grades (grading greater than or equal to #2 CWRS 13.5 per cent protein). Over the 1997 to 2006 period, the MASC data indicates that an average of 79 per cent of Manitoba's RS wheat production was in the top grades.

Figure 1 illustrates that the regions with the most top-grade RS wheat (87 to 89 per cent top grades) over the last 10 years are the regions served by the Dauphin, Portage la Prairie and Altona agencies.

We know that if wheat freezes before it is mature there is a loss of both yield and grade, and that high nitrogen results in higher grades. The RS wheat top grade regions have some of the best heat units and nitrogen levels on wheat — one could speculate that that is why these regions produce more top grades than others.

In contrast Figure 1 illustrates that the Hamiota, Virden and Birtle and Sanford agencies have the lowest percentages of RS wheat top grades (67 to 70 per cent top grades). The Sanford agency is in a hail-prone region and one could speculate that that explains why RS wheat quality tends to be poor there. One could also speculate that frost may be an explanation for lower top grades in the Birtle, Virden and Hamiota areas.

Canola likes it cooler

In Manitoba canola is similar to RS wheat in terms of which RMs are the main production areas and highest-yielding areas. Figure 2 illustrates the percentage of canola at top grades (grading greater than or equal to #1 CW) by MASC. Over the 1997 to 2006 period the MASC data indicates that an average of 93 per cent of Manitoba's canola production was at top grades. Figure 2 illustrates that the regions with the most

top-grade canola (96 per cent) over the last 10 years are the regions served by the Swan River, Grandview, Fisher Branch and Glenboro agencies.

In canola it is generally understood that high quality is generally associated with cooler temperatures and the canola top-grade regions are some of the coolest regions in Manitoba (with exception of Glenboro). One could speculate that that is why these regions have more top-grade production than other regions.

In contrast Figure 2 illustrates that the Hamiota, Neepawa, Sanford, Carman, Altona and St. Pierre-Jolys agencies produce the lowest percentages of top-grade canola (89 to 92 per cent top grade). One could speculate that fall frost may be an explanation for more poor quality in the Hamiota and Neepawa agencies and excess moisture may be the reason for more poor-quality canola in the southeast.

Also note that for canola there is not that big a difference in average percentage from the poor-quality (89 per cent) regions compared to the best-quality (96 per cent) regions.

But oats like heat

The major oat-producing areas in Manitoba are the R.M.s in a band from Portage to Altona, in the southwest along the Saskatchewan border, and in the Dauphin area. The highest-yielding oat areas are in a band from Portage to Altona. Figure 3 illustrates the percentage of oats at top grades (grading greater than or equal to #2 CW) by MASC. Over the 1997 to 2006 period, the MASC data indicates that an average of 73 per cent of Manitoba's oat production was in top grades.

Figure 3 illustrates that the regions with the most top-grade oats (81 to 86 per cent) over the last 10 years are located in the Portage la Prairie, Carman, Altona and Beausejour areas. In general it is understood that warm springs and high nitrogen availability can result in higher oat grades. The regions with the highest percentages of top-grade oats have some of the most favourable heat units and nitrogen levels in Manitoba — one could speculate that this is why these regions have more top-grade production.

In contrast, the southwest corner and the Dauphin and Swan River agencies have the lowest percentages of top-grade oats (45 to 60 per cent). One could speculate that the southwest corner is likely too dry to produce top-quality oats, and the northwest regions too cool.

Flax data surprises

In Manitoba the major flax-producing area is a triangular region in south-central Manitoba with the top point at the R.M. of Portage and the basal points at the Turtle Mountain and Franklin R.M.s. The highest-yielding flax areas are the Portage R.M. south to the U.S. border, and the R.M.s west of Riding Mountain along the Saskatchewan border.

Figure 4 illustrates the percentage of flax at top grades (grading greater than or equal to #1 CW) by MASC. Over the 1997 to 2006 period, the data indicates that an average of 95 per cent of Manitoba's flax production was in top grades. Figure 4 illustrates that the regions with the most top grade flax (97 to 98 per cent top grade)

