Fruit Industry Development and Pruning to Optimize Yield

There are many ways to optimize the yield of fruit trees and shrubs. Techniques include many common agricultural practices like: ensuring plants receive the requisite nutrients and water; minimizing the negative impacts of weeds, insects and disease; and spacing the plants at a distance apart that maximizes the conversion of energy from the sun into energy usable by the plant.

A horticultural technique not practiced by the larger agricultural community is pruning. It seems counter productive that removal of plant growth could translate into improved yields, but for most perennial fruit crops this is true. Part of the reason is that, like proper spacing, more of the sun s energy can be converted into plant food that in turn, is directed toward the production of fruit and new plant growth (instead of unproductive woody tissues). With most fruit crops, pruning techniques have developed over time in areas with a long history of production. The grape vineyards of France and Italy are a good example of this.

In Saskatchewan, our saskatoons and dwarf sour cherries are spreading bush type plants that do not have a history of commercial production in other areas of the world. As a result, the best pruning techniques have not been developed for these plants. The period between planting to fruit production commonly takes from three to ve years. Furthermore, as the plants mature, fruit production increases yearly. Without proper pruning, the greater balance of the plant tissue starts to become non-fruiting and production begins to decline. Pruning can make a higher level of yield sustainable for a greater period of time.

Understanding the physiology and growth characteristics of these species allows scientists to anticipate what the best pruning techniques will be. Clarence Peters, the recently retired provincial fruit specialist, had good suggestions about how to optimize the yield of these crops, and experiments based on his theories will be conducted over the coming years.

As the new provincial fruit specialist, I look forward to the development of protocols for best pruning practices of saskatoons and dwarf sour cherries.

FOR MORE INFORMATION

Contact Forrest Scharf, Provincial Specialist, Fruit Crops at (306) 787-4666 or forrest.scharf@gov.sk.ca.

WESTERN CANADIAN ETHANOL PROJECT

As ethanol production in Saskatchewan increases, interest in the adaptation of different wheats and cereals for use as potential feedstocks became a high priority for the Western Applied Research Corporation. To address this issue, research began in 2005 at the Agriculture and AgriFood Canada location in Scott. In 2006 and 2007, interest within Saskatchewan and Western Canada increased to the point that in 2007, there were 25 locations across Western Canada that participated in what has been termed the Western Canadian Ethanol Project.

Dr. Curtis Pozniak, a wheat breeder from the Crop Development Centre, has been instrumental in the project and has been responsible for the quality analysis for protein and starch, as well as putting the yield data together. Information from varieties grown in 2007 was included in the Saskatchewan Variety of Grain Crops for 2008.

Cereal varieties trial at Scott Research Farm

In 2007, the project included hard red spring wheat (AC Barrie and AC Superb), soft white wheat (AC Andrew and Bhishaj), Canada prairie spring (CPS) white wheat (AC Vista and SnoWhite 475), and CPS red wheat (AC Crystal and 5700 PR). Spring triticale (AC Ultima) and hulless barley (CDC McGwire) were also included as there was some potential for use as ethanol feedstock and yields in relation to wheat needed to be evaluated.

In Saskatchewan, the 2007 trial locations included the Agriculture-Applied Research Management (Agri-ARM) locations of Scott, Canora, Melfort, Swift Current and Redvers, as well as other partners at Lake Lenore, Regina, and Saskatoon. There was also a location under irrigation at Outlook.

Initial results show soft white wheat varieties outyielding all other wheat classes, up to 140 per cent of Superb yields. Next in terms of yield were the CPS white varieties (up to 116 per cent of Superb) followed by CPS red varieties (up to 104 per cent of Superb). Other crops being tested, such as triticale and hulless barley, yielded similar to the soft white wheat, 127 per cent and 128 per cent of Superb, respectively.

As these are initial results, the full report will be made available once the protein and starch analysis has been completed. Watch for this trial to be repeated in 2008.

FOR MORE INFORMATION

Contact Shannon Chant, Saskatchewan Agriculture Crop Development Specialist at (306) 778-8291 or at shannon.chant@gov.sk.ca.