Drought in the Wimmera

David Walker

The Alberta Pulse Growers organized a farm tour to visit farms, handling facilities and research centres last November in the Wimmera area of Australia. The purpose of this note is to summarize the most interesting pulse related tour observations.

The initial plan was to visit the Esperance area in Western Australia to see field peas and the Horsham, Wimmera, area of Victoria for lentils and chickpeas. The Western Australia leg was cancelled in July as Esperance did not receive a decent "break" – rains necessary for seeding peas. This was a foretaste of what was to come as drought was the salient feature of the visit.

While the Wimmera had received promising break rainfall, this was about as much as the area got during the winter/early spring, July/October, growing season. Not only were irrigation and domestic supply reservoirs dry, but in some cases they were green with vegetation, suggesting they had been dry for several years.

November is spring in the southern hemisphere, equivalent May for us, and harvest had started on their fall seeded pulses, which is normal. But the countryside in the Wimmera looked like it does here just before the snow flies - quite brown, so combining did not look out of place.

Just as the outward signs of the seasons were rather different to what we were used to, so was the agronomy. The first inkling that we were in for some eye opening experiences was the suggestion that light sandy soils do better in drought conditions than heavy clay soils.

In a Canadian prairie context clay holds more moisture than sand, so has more to draw from if it does not rain. But all this changes if there is no moisture in the soil in the first place. Then it is matter of getting as much rainfall as possible to percolate into the soil in the vicinity of plant roots, ensuring as much as possible of it gets into the plant and is effectively utilized in seed production, and is not lost through evaporation or on unthrifty plant growth.

Success is gauged in terms of production per millimetre of rainfall during the growing season. One farm was able to produce 30-35 bu/ac of cereals on 6-7 inches of rain and soil moisture combined, where neighbours produced none. Some of the techniques used to do this included wide row spacing – 12 to 15 inches, inter row seeding – this years crop being seeded between the previous crop's row, high stubble with minimal disturbance of trash from the previous crop, discing seed in between ridges, and strict farm equipment traffic control to minimize soil compaction. The combination of wider row spacing and inter row seeding was also observed to benefit the standability and harvest ease of lentils.

Another technique used by all farms was to collect rainwater off of every building and shed. This rainwater is the source for drinking and washing, and even spraying. Some farms described how they had been unable to spray pesticides due to the lack of water.

All this seems very different to Canadian experience and one may wonder whether there will be a period of adjustment back to traditional practice, if and when more traditional rainfall patterns return, but farmers and officials there believe new conservation practices learned in these difficult periods will be kept and yield will soar when wetter conditions return. The area is now in its eighth year of below average rainfall even though in some years early season break rains have been promising.

Our visit was organized by Pulse Australia with their Pulse Development Officers Trevor Bray and Wayne Hawthorne. In contrast to Canada, there are no state, or provincial, pulse associations, possibly because funding is organized at the national level with the government of Australia matching mandatory grower marketing levies dollar for dollar. Funds are allocated by Grains Research and Development Corporation which is governed by a mixed board of appointees with farming, research, trade and government experience. Thanks for two very interesting days, Trevor and Wayne.

David Walker is a freelance agricultural economist working for the Alberta Pulse Growers Commission.

Lentils growing between the stubble of the previous year's cereal crop.