

PULSES NOW AND THE FUTURE

Trevor Bray
Pulse Australia, Griffith NSW.

Take home message

- Pulses last season were affected by both drought and frosts.
- Prices were exceptional in 2006/07, with high demand and low supply.
- Herbicide residues may influence crop rotations more than diseases in 2007.
- Seed quality and availability will also be a big issue for pulses in 2007.
- Timeliness of sowing is becoming a greater issue with pulses.
- Pulses cut as forage proved to be a worth while option last season
- A good seasonal break will inspire confidence in the pulses, which continue to be a viable part of many farming systems.
- New improved varieties are now available with most interest in chickpeas.

Introduction

We can learn after exceptionally dry, frosty conditions that impacted heavily on pulses in the southern region from some positive experiences. Yield predictions were dramatically cut each week from mid spring in 2006 as we hoped for that saving rain. The whole region from southern NSW through Victoria and into SA suffered frosts and decile 1 rainfall for the 6 months of winter-spring. Some areas were the driest on record.

Seed implications for 2007

Small seed invariably leads to poorer germination, establishment, and more importantly low seedling vigour, and this is more evident when conditions stress the emerging seedling. Retained pulse seed will need to be heavily graded to remove trash, small and damaged seeds. Seed carried over from previous years may have normal size, but its germination and vigour can decline, so re-test that seed before using it. If you do not have seed then consider growing a small area for seed increase for the following year, particularly if you wish to introduce a new variety.

Sowing time and practices

In the 2006 early sown pulses including those that were dry sown showed more promise, particularly when sown into stubble, and on wider rows. Standing stubble seemed better than mulched in ensuring better crop establishment and retaining soil moisture. Precision inter-row seeding showed advantages with pulses sown close to old standing stubbles able to utilize the old root zone for better root penetration and moisture storage. Most pulses survived the dry conditions well, but frosts affected pod set and fill.

Managing frost risk

The 2006 frost incidence was too frequent, and too severe to allow different management practices to impact. Peas and vetch are more sensitive with chickpeas usually able to escape the early frosty period, while lupins are assisted by their ability to flower over an extended period. A mix of sowing times and variety maturities can help. Sowing into standing cereal stubble or bare ground, rolling, canopy management, wider rows and paddock selection can also help, and are worth a try.

See “Managing pulses to minimise frost damage” www.pulseaus.com.au

Diseases

In an extremely dry year fungal diseases were virtually nil, but unfortunately viruses did have an impact in some areas where pastures or lucerne (dryland and irrigated) were close by. Early aphid flights due to the dry autumn conditions helped spread Bean Leaf Roll Virus and Beet Western Yellows Virus. These viruses are not seed borne, so summer weed management, monitoring and control of aphids is essential. Management practices to minimise aphid flights and landings can help in an integrated management package, particularly where adjacent perennial pastures are the source of infection.

See the new Pulse Australia publication “Virus management in pulse crops” at www.pulseaus.com.au

Which crop and where

The decision as to which pulse to grow, and where, in 2007 will be based on risk and rotation need. Beware of potential herbicide damage following cereal, canola or pulse stubble, and over-use or crop sensitivity if the same chemical or group is re-used. Solutions will not become apparent until we know what autumn rainfall has fallen. Check the herbicide labels for plant-back periods based on rainfall, soil pH and use-age rate conditions. Paddock selection is still critical, and sowing time along with canopy management is always important in disease management, and the cheapest to implement. Following the drought, we should be able to sow pulses on time or even slightly early and manage the reduced disease risk. We are now better served with fungicide options in pulses should the need arise.

See “Pulse seed and foliar treatments” at www.pulseaus.com.au

If considering sowing a pulse again on a failed pulse disease risk is one of the main considerations, and whether it can be managed. Botrytis Grey Mould, phoma and sclerotinia are common across most pulse species, but ascochyta is not. There is an ascochyta specific to each pulse species that do not cross infect. A self-sown pulse could be a temptation to continue with through to harvest as a cheap crop. The crop emergence date is dictated by germinating rain, and often too early by normal standards. Disease risk is higher, and control more difficult, particularly if sown too early. Plant population may not be ideal and weed control becomes more difficult by the time the decision is made to keep the crop.

New varieties

The performance of the new quick maturing varieties such as Sturt field peas, Mandelup lupins, Genesis 090, 509 and Yorker chickpeas was evident in 2006, along with the low input costs on fungicides and this may see demand for these varieties

remain strong. However, it is best to look at the long-term results, as consistency over time and in all seasons is a better reflection of performance. Commercial release of the new lentils (Nipper, Boomer and Tiara), and chickpeas (Genesis 509) has been delayed because of low seed increase in the drought.

Variety specific agronomy management packages (VMP's) will be provided with each new variety to ensure they are managed to achieve their optimum potential.

Field peas

Peas again proved their ability to handle drier conditions better than most other pulses, but suffered during spring with above average temperatures and exhibited their susceptibility to frost damage during pod-fill. They did however show their flexibility to make very good quality hay where they failed to pod. See "Using pulses as forage crops" www.pulseaus.com.au



Kaspa Field Peas at Cowra

Bacterial blight was not an issue, but can arise more in the year following a drought as seen in 2003. It is a manageable disease, and occurs if infected seed is sown, and particularly if the peas are physically damaged or stressed during frosty periods followed by showery conditions. Variety choice is a consideration with recent work (Armstrong and Richardson 2006) showing that Parafield, and Morgan are better varieties to minimise bacterial blight risk, with Yarrum and Sturt intermediate and Kaspa or Excel being more sensitive.

Chickpeas

The chickpea prices offered in 2006 were at a record high, and has attracted enormous interest in the crop for 2007 sowings. The small kabuli Genesis 090 proved it is well suited to medium to higher rainfall areas in Victoria and southern NSW. It too succumbed to frosts in some areas, but showed potential until the end. Yorker and Genesis 509 also performed well in a tough season. The need for an extended growing

season with large seeded Kabulis (Almaz, Nafice, and Kaniva) was also confirmed in 2006.



Chickpea at Cowra in a sowing time trial

The new chickpeas have enabled the re-establishment of the chickpea industry in the south with ascochyta resistance and more reliable varieties. Flipper and Genesis 090 and 509 required no fungicides in 2006 as did Yorker in the dry south, however Yorker did show from events in the north that it requires a preventative fungicide program, and this is highlighted in the Yorker VMP. Genesis 090 should be considered more as a commodity crop like desi's rather than as a kabuli per se. Yields in 2006 were comparable to field peas, but with greater returns, especially in the northern regions where yields were quite good.



Genesis 090 at Cowra – podding very well

Lupins

Albus lupins surprised many growers with their ability to hold on, and be harvested in southern NSW. All albus sowing seed should be tested for bitter seed contaminants (NSW DPI Wagga). Luxor and Rosetta will not be widely available in 2007, and will be alkaloid free, so keep it that way by ensuring no contamination or cross-pollination from the old albus varieties.

The Eastern Australian Lupin Plan was launched in October at the Pulse Feed Focus Conference at Corowa, and further changes made because of the Conference feedback that occurred. Follow up with stockfeed buyers is now planned along with other initiatives listed in the plan.



Mandelup Lupins at Cowra

Pulse grain marketing prospects

We must continue to reliably and efficiently produce a quality product that the pulse markets require, but at low cost for the domestic market. We can expect that pulse prices in 2007 may drop from those experienced in the drought of 2006; however the anticipated ongoing shortfalls of production over supply in the Indian sub continent may work in our favour. Many factors can affect the possible prices for the 2007 pulse crop, making predictions difficult. Take for example 2005/06 and 2002/03 when domestic feed prices virtually over-rode all export price prospects for beans, peas and lupins.

Pulse sowing intentions are usually based on choosing the appropriate pulse and it's fit into the whole farming system, rather than exact price predictions.

For further information go to www.pulseaus.com.au