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Options for Failed Chickpea and Lupin Crops with Livestock

by Tiffany Bennett, Livestock Project Officer for the MacKillop Farm Management Group

For many producers in the south east this will be the first year that they have faced the prospect of failed lupin or chickpea crops and are therefore now being forced to look outside of normal practices as to how best to utilise these crops for livestock.

Even though there is limited information in regards to using these failed crops for livestock, there are opportunities if you combine this with farmer experience.

Failed lupin crops can be utilised for livestock successfully, however chickpea crops will not provide any real value.

Lupins

Hay

Cutting lupins for hay can be an option and reduces the risk of lupinosis if the crop was left to mature and then grazed as a standing dry crop in the event of rain.

The biggest challenge is that the lupin plant has a relatively large stem to small leaf ratio and can prove difficult to dry down for hay even with the use of a mower condition to hasten stem drying. Often the leaf will dry and fall off before the stem has had a chance to dry.

Erosion risk

Erosion risk can be significant when grazing a failed lupin crop particularly if the crop is not strip grazed.

Under drought conditions the biomass available in the paddock is often low and lupin crops are generally grown on lighter sandy soils which are more predisposed to erosion.

If strip grazing is not undertaken animals will often over graze areas near the watering point with poor utilisation of feed in the parts of the paddock located furthest from the watering point.

Lupinosis risk

Most producers are aware of the condition referred to as lupinosis which generally occurs postharvest when livestock are grazing lupin stubbles following a summer rain.

It is caused by a toxin that is produced by a fungus that grows mainly on the stem, but can also grow on the pod or grain.

Lupinosis results in sudden death, reduced growth rates, loss of appetite, pregnancy toxaemia or liver dysfunction and photosensitisation. It affects all livestock types with sheep and young animals being the most susceptible.

Some varieties have a higher prevalence and there are newer more resistant varieties available on the market, however these are not immune from infection. Narrow leaf lupin accounts for the majority of production in South Australia with varieties of this species being more resistant but again they are not immune.

Whilst the fungus on green lupin plants is uncommon and unlikely to be a problem for livestock it can still be present. Most of the issues with livestock occur on lupin stubbles or trash and could potentially be an issue on a mature failed crop that has dried with livestock grazing following a rainfall event.

Wild species of lupin often referred to as 'blue lupin' found in Western Australia contain high levels of bitter-tasting alkaloids in both the vegetative material and the seeds. These alkaloids are highly toxic and offer the plants some protection against insect attack and fungal diseases, as well as stress tolerance. The high alkaloid content wild varieties are not present in South Australia and the 'sweet' low-alkaloid types is what is most commonly grown.

Chickpeas

Failed Chickpea crops are, unfortunately, not a good news story for farmers wishing to utilise them for livestock.

Chickpeas have a malic acid coating on the leaves which makes them unpalatable for livestock from a grazing or hay production perspective. Whilst livestock may consume some flowers, pods, or new growth more so in some varieties than others, the greatest feed value will be the nontoxic weeds such as annual ryegrass.

Once the livestock have consumed the weeds or other species in the paddock, livestock should be removed otherwise significant weight loss will occur. Grazing with lower stocking rates will enable livestock (particularly sheep) to freely select other species in a paddock.

In the south east of South Australia there are some weeds that are detrimental to livestock health and under drought conditions or when livestock are grazing failed crops or stubbles they may be forced to consume that they would normally avoid. These include Salvation Jane (Patersons Curse), Soursob, Sorrel, Blackberries, Gorse, Boxthorns, Caltrop, Thistles, Clammy Goosefoot, Lesser Loosestrife and Flat Weed. Bracken Fern can also be toxic but is protected under certain

circumstances. Often problems occur when these weeds are consumed in large quantities over a long period of time or they become a significant component of total feed intake.

Withholding Periods and ESIs

For many one of the largest concerns is the Withholding Periods (WHP) and Export Slaughter Intervals (ESI) on chemicals used on the crop which was not initially intended for use by livestock.

These include herbicides, insecticides or fungicides.

It is important to check the label and abide by what is written there. This is most important for livestock destined for slaughter, dairy cows or if you intend selling the feed on to another producer.

A failed crop is never a great outcome but there are always some management decisions you can make for the benefit of your livestock or future crop rotations.

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