WA’s livestock industry could gain some relief from drought-inflated feed prices, which have doubled in the past year, with the impending WA release of a durable new variety of the legume lathyrus sativus, commonly known as ‘grasspea’.

Although boasting drought and waterlogging tolerance and 25 per cent protein, it contains the neurological toxin, ODAP.

This has limited its use as animal feed, despite its nutritional value, according to Centre for Legumes in Mediterranean Agriculture (CLIMA) researcher, Colin Hanbury, who recently attended a grasspea workshop in Nepal, supported by the Australian Centre for International Agricultural Research (ACIAR).

“When ingested in high concentrations, ODAP can paralyse animals and humans. Known as lathyrism, the condition occurs mainly in Nepal, Bangladesh, Ethiopia and India, where grasspea is a human and animal dietary staple.”

After years of breeding and selection at the University of WA based CLIMA, a new benign, safe-to-eat grass pea variety has been developed by Dr Hanbury and his team by crossing low ODAP Bangladesh land races with Turkish germplasm.

Now being bulked up for commercial release in WA next year, the variety is also being trialed in Nepal.

While ODAP concentrations of 0.2 per cent are considered safe for animals and humans, the new CLIMA variety expresses just one quarter of that.

Sheep live weight gain per kilogram, on a grasspea diet, was greater than on lupins, while non-ruminants, such as poultry, could also be safely fed the new variety.

This important finding resulted from collaborative research by CSIRO Livestock Industries and CLIMA, with funding from both the Grains and Rural Industries Research and Development Corporations.

CLIMA Deputy Director, Clive Francis noted that if this variety suited Bangladeshi and Nepalese conditions, where grasspea was the most common legume, it could help avert local health concerns.
“Their grasspea has more than twice the recognised safe level of ODAP. This causes health problems when drought eliminates other foods and leaves locals at the mercy of a complete, unregulated grasspea diet.

“By supplying a non-toxic alternative, this research could have great health implications for those populations relying on grasspea,” Professor Francis said.

In WA, grasspea’s drought tolerance could help avoid a similar feed grains shortage as this year, by sustaining higher production, despite dry conditions.

Agronomy trials by the Department of Agriculture indicate that green manuring with grasspea can lift subsequent cereal yields by 20 per cent and improve protein levels.

EDITOR’S NOTE: Lathyrus sativus (grasspea) is an annual legume that is well adapted to low rainfall, but also fairly tolerant to waterlogging. It has a prostrate growth habit, with thin grass-like foliage and red-brown, blue or white coloured flowers. Grasspea uses include grain, fodder, hay and green manuring. CLIMA variety ‘Chalus’, released in 1998, is Lathyrus cicera (dwarf chickling). This also has low ODAP and is more adapted to the low rainfall regions of southern Australia.

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