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Larisa — a clover for very wet areas

By D.A. Nicholas

Until recently the main clover cultivars (“cultivated” varieties) sown along the south coast between Many Peaks and Margaret River were Mount Barker, Woogenellup and Yarloop. However the rapid spread during the 1970s of the diseases, clover scorch (*Kabatiella caulivora*) and root rot meant that the old cultivars could not be relied upon to grow well.

A recently released alternative, Larisa, was collected from between Larisa and Trikkala, two towns in Northern Greece in 1965. The collection tour was organised to increase the number of representatives of the Yarloop group, *Trifolium yanninicum*. At that time Yarloop was the only commercially available cultivar able to tolerate water-logged conditions, but because of early maturity it was not ideally suited to the long growing season of the south coast of West Australia.

Description

Larisa plants are almost hairless, with long leaf stalks (petioles) rather finer than those of Yarloop, and large cream to amber seeds (110,000 to 150,000 per kg). The leaflets have a distinct pale green central area, with white arms extending to the leaflet margins, and flowers are white. Larisa plants look identical to those of Trikkala. The maturity, or time of flowering, was one of the reasons for the selection of Larisa. Flowering begins early in mid-October, a little later than Mount Barker and some three to four weeks later than Trikkala and Yarloop. Being late flowering, Larisa is able to take advantage of long growing season conditions.

Disease and insects

When Larisa was initially selected neither clover scorch disease nor root rot disease was recognised as a major problem. Fortunately Larisa has shown useful tolerance to both diseases, and resistance to red leaf virus disease has been reported.

Sheep infertility

Larisa should not reduce fertility of sheep, as formononetin levels are similar to Mount Barker which is safe. Content of formononetin in Larisa ranges from 0.03 to 0.10 per cent of dry weight in winter.

Seed

Seed production by Larisa has been usually in the range 100 to 600 kg/ha. Because of its late maturity it is sensitive to early finishes to the season. However Larisa possesses a moderate level of hard seededness — a little higher than that of Yarloop — and so should survive an occasional year of low seed production.

Water-logging

Even before the spread of disease no really suitable clover cultivar was available for the high rainfall south coastal areas. Neither Woogenellup nor Mount Barker would persist satisfactorily under water-logged winter conditions, and Yarloop flowered too early. Larisa, being a yanninicum, is able to withstand the water-logged conditions.

Clover scorch

Under normal conditions Larisa has shown a useful tolerance to clover scorch disease — not as tolerant as Mount Barker but better than Yarloop or Woogenellup. However, if the pasture is mismanaged and large quantities of partly infected material are left over summer, losses can occur in autumn, particularly if there is an early start to the season. Under such conditions even Mount Barker can be affected severely. Also in years when seasonal conditions are most favourable for the clover scorch, Larisa stands can be moderately affected. However, rarely do stands collapse completely as can occur with Yarloop or Woogenellup. Management practices, such as moderate to high grazing pressure, will reduce the likelihood of such losses.

Root rot

Larisa has a moderate tolerance to south-west root rot disease. While not as good as Daliak or Dinninup it is similar to Esperance, which is superior to either Mount Barker, Woogenellup or Yarloop.

Seasonal production

Growth during winter by Larisa is normally slow. It is accentuated by a prostrate growth habit. Poor nodulation could also contribute to slow growth but the commercial strain of rhizobia (WU95) has been shown to be effective on Larisa. Poor winter growth is most marked when...
the season begins late, or if sowing is delayed after early May.

Management practices should aim at promoting the grass component of the pasture to overcome the deficiency. Also clovers like Trikkala, which make better early growth, can be incorporated into mixtures with Larisa. Rapid late spring growth, long petioles and some resistance to clover scorch disease make Larisa a suitable cultivar for production of quality hay.

Areas suitable
Larisa has been tested in small plots principally south of a line joining the towns of Many Peaks and Margaret River — the area corresponds with the region where Mount Barker was widely sown. It can persist and grow over a wide range of soil conditions — from the water-logged acid bottle-brush flats, to gravelly sands and karri loams. Larisa can be grown in selected areas outside the region such as around Cape Le Grande at Esperance or in swampy situations near Bunbury and Boyup Brook.

On the better drained soils where disease is a problem Larisa has proved superior to Woogenellup and Mount Barker, having better persistence and higher yields of clover, particularly in the spring. Under water-logged conditions Larisa has been outstanding; for example at Denmark on a Plantagenet peaty sand the seed yield after four years of pasture was 500 kg/ha for Larisa while an adjacent Varloop/Woogenellup pasture contained 48 kg of Varloop and 32 kg of Woogenellup seed per hectare.

Animal production
While commercial experience with Larisa under grazing is limited, experimental evidence has shown that it is capable of promoting good weight gains in steers and pastures remain productive over a number of years.

Establishment
The time of planting Larisa for either pasture or a seed crop is very important. Ideally seeding should take place at the opening rains, or by the 1st of May at the latest. If seeding is delayed until late May or June early growth will be very slow and there is a strong likelihood of a poor seed crop. When planting, normal attention should be given to land preparation, inoculation and line pelleting, fertiliser applications, and insect control. The seeding rate is usually about 10 kg/ha if sown alone, or less if sown in a mixture.

At establishment Larisa requires the normal fertiliser for a clover pasture. Because a large proportion of the south coastal region consists of sandy soils, particular attention has to be paid to rate and time of subsequent applications of phosphorus, sulphur and potassium. Before seeding Larisa into acid peaty swaps, 2 to 3 tonne/ha of good limestone should be applied.

Seed production
While first year seed crops are rarely grazed, in older stands grazing during the season should be heavy enough to encourage burr burial. Grazing may be required at the end of the season to remove as much top material as possible, although the tops will separate readily from the burr and can then be raked away. Burning cannot be recommended because of the relatively high proportion of unburied burr.

Special care needs to be taken during harvesting, as with all yanninicums, to avoid burr breakage and resultant seed loss. Hot, low humidity conditions are best and the number of harrowings used to bring up the burr should be kept to a minimum — twice is usually enough. Commercial production of Larisa seed requires a long growing season, and in such areas, unfavourable weather often prevails at harvesting.

Seed supplies
A small quantity of seed was released by the State Herbage Plant Liaison Committee to two farmers in 1977. The resulting seed crop was not available for planting until late May 1978 and combined with a relatively poor season, little seed was produced for 1979. In both years only about 1 tonne of certified seed was produced. A marked improvement in supply should follow the 1979 harvest.

Further information