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Five new clovers bring change in pasture recommendations

The release of five new subterranean clovers should improve pastures throughout farming areas. This article summarises the new recommendations.

The last three years have seen the release of five new subterranean clover cultivars—Esperance, Larisa, Nungarin, Trikkala and Northam. Each has been developed for a specific role in developed pastures.

Esperance has been selected from a cross between Daliak and Bacchus Marsh for its resistance to clover scorch. It closely resembles Daliak but is three weeks later in maturity, intermediate between Dinninup and Woogenellup.

Larisa is suitable for waterlogged situations and is late maturing, a few days later than Mt Barker. It has shown some resistance to clover scorch and root rots in field trials.

Nungarin has been released for low rainfall areas. It is very early maturing, about 7 to 10 days earlier than Geraldton, and low in oestrogens. Its hard seed content is about twice that of Geraldton, and therefore it is likely to be much more persistent through cropping and poor seasons.

Trikkala is a replacement for Yarloop, being suited to waterlogged conditions, and of similar maturity. However unlike Yarloop, it is low in oestrogens and has some resistance to clover scorch.

Northam is a vigorous, early maturing clover low in oestrogens and with good hard seed content. It should be an ideal alternative to Dwalganup.

The new clovers are included in the recommendations summarised in the map (see over). The zones used in these recommendations do not coincide exactly with climatic boundaries, but reflect eras of development of the State's pastures and more recently zones of disease susceptibility—particularly to clover scorch Kabatiella caulivora.
Main existing sub clovers: Mt Barker, Woogenellup, Yarloop.
Recommended: Larissa for general sowing in mixture with Trikkala. Esperance to be included on gravelly hills where clover scorch is prevalent, but replace with Woogenellup if scorch risk is low. Mt Barker can be used where root rots are not prevalent. Pitman serradella on Banksia-Sheoak sands.

Main existing sub clovers: Seaton Park, Daliak, Dwalganup, Woogenellup.
Recommended: Seaton Park for general sowing on all soils with gravel in the profile, and in higher rainfall areas, Woogenellup should be included in the mixture. Daliak or Northam should be included in the mixture in drier areas of this zone.

Pitman serradella is recommended on sandy soils, except the deep white sands in this area which are not recommended for agriculture. It should be sown either alone or with a low rate of sub clover, not more than 2 kg/ha. Uniserra can replace Pitman's serradella in drier areas.

Main existing sub clovers: Geraldton, Dwalganup.
Recommended: Nungarin on all sandy soils, and Cyprus on heavy red soils. Northam is an alternative for Nungarin in the higher rainfall and more southerly parts of this zone.

Main existing sub clovers: Woogenellup, Yarloop, Seaton Park, Daliak.
Recommended: an Esperance/Trikkala mixture with Daliak included in the drier regions. Woogenellup can be included if clover scorch has not been severe. Pitman serradella is recommended for medium to deep sands. In cropping areas north of Esperance, such as Speddingup and Grass Patch, Harbinger and Tornafield are recommended for sandy soils, Cyprus on red soils and Jenalong on wetter edges of these areas.

Main existing sub clovers: Dwalganup, Geraldton, Daliak.
Recommended: For the western zone, a Northam/Daliak mixture, and for the eastern zone, include Nungarin in a mixture with Northam and Daliak particularly if cropping is frequent. Cyprus is recommended for heavy red soils.
As experience with new cultivars develops and additional cultivars are added, the recommendations will change. They will be reviewed annually by the Species and Cultivar Evaluation Sub-Committee of the State Herbage Plant Liaison Committee.

Zone 1
Cattle industries predominate in this zone. Mt Barker and Woogenellup based pastures have deteriorated due to the combined ravages of clover scorch and the more insidious root rots. Experience is now showing that Larisa maintains its density better than the older varieties. Trikkala should be mixed with Larisa to provide the early winter growth which Larisa lacks. Esperance is not an ideal clover for cattle grazing but will give the pasture stability where scorch has been bad or on the gravelly slopes. The older varieties, Woogenellup and Yarloop can no longer be recommended for this zone, because of their susceptibility to clover scorch. Pitman serradella is recommended for Banksia and Sheoak deep sands.

Zone 2
Zone 2 is predominantly sandplain country, where the subterranean clovers Seaton Park and Daliak are the most widely sown and still the most suitable. Woogenellup can also be grown successfully in wetter low areas where the new cultivar Trikkala will also be successful, in particular if waterlogging is a problem.

Farmers developing new land on deeper sandy soils will find serradella to produce better than subterranean clover in the earlier years and it is therefore recommended as a major component.

Northam can be used in the drier parts of the zone, particularly if cropping is to be frequent. Its hard seed content is higher than either Daliak or Seaton Park, and it can be expected to regenerate better after cropping.

Other clover species, particularly Kondinin rose clover, have been successful in the region but its general use is not recommended due to susceptibility to heavy grazing. Medics, particularly Harbinger and Tornafield, also produce well on yellow sands and are alternative species particularly if cropping is to be frequent.

Zone 3
Zone 3 is largely dominated by lateritic soils and hilly topography. Diseases have not yet proved a major problem.

Woogenellup and Seaton Park are still recommended for general sowing, with Daliak on drier margins. Trikkala should be sown on all areas subject to winter waterlogging, alone or in a mixture with Woogenellup. Esperance should be sown with Trikkala where clover scorch is a problem, such as in the Mt Barker district. Dimmulup can be used in pastures on deep sand with Pitman serradella and more widely if sheep breeding is not practised. Zone 3 also includes a dry coastal limestone belt for which Tornafield is well suited.

Zone 4
Zone 4 comprises most of the older sheep and wheat growing areas in Western Australia and is dominated by Dwalganup based pastures. Northam is recommended for general sowing and is preferred to Seaton Park or Daliak because it produces more hard seed and therefore recovers better after cropping. However Seaton Park and Daliak are better where grazing is predominant and particularly on the wetter western margins. Nungarin may be used instead of Northam in frequently cropped areas on the drier eastern section of the zone. The zone includes the Tenindewa yellow sands to which Harbinger and Tornafield medic are best suited. Cyprus medic should be confined to heavy red soils.

Zone 5
Zone 5 is the traditional eastern and north-eastern wheatbelt. Nungarin has better seed yield and produces more hard seed than other cultivars in this zone. It is therefore recommended on all light soils. Northam should be an alternative to Nungarin south of Merredin, and Cyprus is recommended for heavier red soils.

Zone 6
Zone 6 includes the Esperance and South Stirling sandplains. The cultivar, Esperance is recommended as the basis of new pasture sowings. If seed production is not to be part of the farm enterprise, Trikkala should be used in the mixture to compensate for the fairly slow winter growth of Esperance. Woogenellup can be sown with Esperance where clover scorch has occurred only occasionally, and Pitman serradella is recommended on the deeper sands.

The Esperance region includes some shallow reddish clay soils suited to Jemalong medic, and sandy soils (Circle Valley sands) where Harbinger or Tornafield is better suited. Cyprus is recommended on the red loams of the Salmon Gums area.

Zone 7
The south-eastern wheatbelt is characterised by an erratic but often prolonged spring so that later varieties like Daliak are well suited in some years but not in others. Because of these problems and the increasingly frequent cropping, Northam (with higher content of hard seed), should be included in the mixture with Daliak in the western area. In the drier eastern margin of the zone, Nungarin should be mixed with Daliak.

The area includes soils such as the grey, acid, heavy-textured type in the Lakes districts on which pasture establishment even with the new cultivars, remains a problem.

Seed availability
Some varieties, such as Larisa and Northam, may be in short supply initially. Mt Barker can then be substituted for Larisa and Nungarin substituted for Northam. The wide distribution of Nungarin and Esperance to seed producers should ensure reliable supplies. Some shortage of Trikkala is possible and more seed producers are required to meet anticipated demands for Larisa.