Why grow a mixture of forage shrubs and pasture species?

Key messages

- Perennial forage shrubs combined with annual or perennial pasture species provide a highly productive, complementary grazing resource for mixed farms.
- A mixture of plant species provides a varied diet for livestock, with each species having its own unique combination of nutrients and minerals for livestock, helping to provide a balanced feed ration.
- Mixtures of annual legumes and grasses are worth considering, helping to provide feed bulk.
- Avoid overgrazing so that adequate seed survives to regenerate pasture the following season.
- Cereals are worth considering in a shrub-pasture mix to provide early feed.
- Perennial pasture species such as lucerne or even native grasses are also worth considering. It can be a case of "trial and error" to work out the most suitable pasture species.

Benefits of a mixed shrub and pasture species planting

Forage shrubs are just one part of a shrub-based grazing system – other feed sources are also needed. The combination of forage shrubs and inter-row pasture and/or forage crops provides optimal productivity.

Shrubs grow vertically and inter-row pasture can grow productively right up to the base of the shrub, so the total amount of feed being grown increases in a shrub-based system.

Shrubs have a significant effect on the surrounding microclimate by reducing evaporation, leading to more pasture growth. This is particularly noticeable late in the growing season or after small rainfall events. Shrubs also aid pasture growth and nutrition by recycling nutrients from deep in the soil profile and making them available for shallow-rooted pastures.



Planting a mix of species results in a more stable and productive feedbase than planting areas to a single species

The nutritional needs of grazing livestock vary significantly over time, both between years and within the year. Providing livestock with a forage mix comprised of different plants, each with their own unique combination of nutrients and minerals, increases the chance of fulfilling the requirements of animals, and potentially reduces the need to feed supplements.

Growing more than one species of forage shrub and pasture also decreases the risk of total plant failure due to pests and diseases. Selecting companion pasture species and cultivars for use in a shrub-based system varies little from selecting a stand-alone pasture suitability to soil type and rainfall are critical factors.

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Annual legumes and grasses

Annual legumes are particularly suited to growing alongside forage shrubs and include species such as strand medics on lighter alkaline soils and barrel medics on heavy alkaline soils. Other pasture legumes, such as subterranean clover or serradella, are suited to acidic soils. On saline sites, annual pastures such as burr medic and balansa clover are likely to be the best options. Using cultivars with lower levels of hard seed will help ensure good pasture regeneration every year.

Annual grasses such as ryegrass and wild oats may be cropping weeds, but produce valuable feed in a shrub-based system, especially early in the season. Though productivity does decrease when grown close to forage shrubs, annual grasses persist and grow well in wider alleys. Even with a slight reduction in grass productivity, the volume of grass and shrubs combined exceeds what annual grasses produce alone.

Grazing cereals a worthy option

Where machinery access is possible (i.e. in alleys), grazing cereals can be sown to provide early bulk to the inter-row pasture. Self-regeneration of oats after hay production during the previous year also can drive winter bulk. Livestock are usually keen to consume shrubs when the inter- row pasture is fresh and green with high moisture content.

On more productive soils, it can be possible to crop the alley and graze the stubbles. This is a particularly effective way to receive a return from the paddock in the first year when the shrubs are too small to graze.

Perennial pastures

Perennial pastures, such as lucerne and cocksfoot, are strongly competitive and will reduce shrub productivity if grown alongside, particularly during establishment. Over time this situation reverses, reducing longevity of the perennial pasture. Temperate perennial pastures are most productive during spring and often produce little feed during autumn. If the rationale for growing shrubs is primarily for autumn feed, companion temperate perennial pastures may provide little quality feed at this time. In saline environments, tall wheat grass has been shown to be particularly competitive and can reduce old man saltbush production. Perennial native grasses are well suited to the short-duration intensive grazing used in forage shrub systems and will often naturally appear once cultivation stops. When considering native grass species as a companion option, keep in mind whether they are mainly winter active (e.g. wallaby grass) or summer active (e.g. windmill grass).











This project is supported by the Mallee Catchment Management Authority, through funding from the Australian Government's Future Drought Fund.