

## Adaptation of Sub Clovers

Izmir, Urana, Riverina and Coolamon Sub Clovers are well suited to the low, medium and high rainfall, temperate pasture producing areas of Australia.

These four varieties are suited to grazing, silage & hay production in a wide range of soil types and climatic zones. They are excellent for fixing nitrogen in pasture/cropping rotations or for the grass component of a pasture.

This brochure details the attributes of each variety, comparisons to existing varieties and their potential in grazing, pasture, hay production or irrigation programs.

## Flowering Time, Maturity & Rainfall

Flowering time is usually used as an estimate of maturity. Generally the earlier maturing the variety is, the lower the rainfall required.

The table below should only be used as a guide as days to flowering can be variable. Information is based on Perth, Adelaide and Wagga data from a May sowing.

Maturity	Days to first flowering	Rainfall
Very Early	Less than 110	350 – 500mm
Early	80 to 125	400 – 550mm
Early/Mid	91 to 130	500 – 700mm
Mid	106 to 140	550 – 700mm
Mid/Late	121 to 145	600 – 750mm
Late	131 to 150	650 – 750mm
Very Late	140 to 155	700 – 800mm

## Sowing Rate

Alone: 5 to 15 kg/ha

Mixtures: 3 to 10 kg/ha when sown with grasses and other legumes

## Which Varieties?

Sowing sub clover varieties with different maturities together in a mix, provides a hedge against rainfall variations and natural features affecting the growing environment, such as paddock aspect, slope & soil.

### Early Finish - Grazing

An early finish favours a short season variety like Izmir, or an early season variety such as Urana. Together these varieties grow in a short season, flower and then set seed early, ensuring persistence.

### Medium Finish - Graze/Cropping

Combining Urana with Riverina, an early-mid season maturing variety, provides the best potential for using extra moisture. These varieties also provide extra autumn and winter feed due to their fast establishment and strong autumn and winter growth.

### Late Finish - Graze/Crop/Ley

In this situation, Riverina and Coolamon, a mid season maturing variety, are best suited to take advantage of extended seasonal conditions, giving longer growing seasons before setting large amounts of seed for following seasons. The extra clover burr becomes valuable summer sheep fodder. Nitrogen input is maximised due to additional dry matter production.

### Hay Production

For dryland hay crops a mix of Riverina and Coolamon is best suited while Riverina is best suited to hay crops on irrigation, due to its exceptional disease resistance.

### Irrigated Grazing

Riverina is best suited to take advantage of early sowing with its high autumn and winter growth providing feed when it's needed.

**SowEasy**  
**KickStart**

All clovers should be inoculated with group C inoculant. Refer to your local rural store regarding coating and insecticide treatment.

*SowEasy is a trademark of SPS & Auswest for the inoculation process  
KickStart is a registered trademark of SPS & Auswest for the treatment of Gaucho insecticide for Red Legged Earthmite protection*

## Izmir Short Season

### Agronomic Features

Maturity	Very early
Flowering time	Less than 110 days to flowering
Rainfall required	350 - 500 mm
Hard seed level	Very high
Oestrogen levels	Low
Insect resistance	Similar to other sub clovers
Herbage production	10% more winter & 7% more spring production than Nungarin 4% more winter production than Dalkeith
Seed production	Better than Nungarin
Mix partners	Urana



Sub Clover seed production

## Good Reasons To Grow Izmir

- High hard seed levels combined with late seed softening and improved seed production leads to better stand persistence.
- Early flowering ensures seed set in the shortest growing seasons, providing a larger seed bank.
- Low oestrogen levels protect against "sub clover disease" in sheep.
- Higher winter production provides extra herbage when it is most needed.

## Urana Early Season

### Agronomic Features

Maturity	Early
Flowering time	80 to 125 days to flowering
Rainfall required	400 - 550 mm
Hard seed level	High
Oestrogen levels	Low
Insect resistance	Improved resistance to Red Legged Earth Mite
Herbage production	High autumn and winter herbage yields with improved total production over Dalkeith
Seed production	Similar to Dalkeith
Mix partners	Izmir, Riverina

## Urana's Unique Fit

- Exceptional vigour in autumn and winter. Urana out performs Dalkeith when feed is scarce.
- Higher RLEM resistance means stronger seedling growth.
- Urana is adaptable for wide spread use in cropping/pasture rotations.
- Sow Urana in mixes with other early and early-mid season sub clovers.



## Riverina Early-Mid Season

### Agronomic Features

Maturity	Early-mid season
Flowering time	91 to 130 days to flowering
Rainfall required	500 - 700 mm Irrigation all areas
Hard seed level	Moderate
Oestrogen levels	Low
Insect resistance	Similar to other sub clovers
Herbage production	Superior to Gosse and Trikkala in autumn and winter
Disease resistance	Exceptional
Seed production	Better than Trikkala
Mix partners	Urana, Coolamon

## Riverina's Adaptability

- Large seed size ensures seedling establishment and vigour.
- Yannicum sub species type that particularly suits poorly drained, waterlogged soils.
- Most resistant of all sub clovers to all strains of Phytophthora Root Rot, which means more healthy productive stands.
- More tolerant to clover scorch than Trikkala, has greater tolerance to powdery mildew than Gosse and is highly resistant to leaf rust.
- Riverina's disease resistance is unequalled by other sub clovers.
- Equally suited to dryland or irrigated production over a wide range of soils.
- Very productive hay variety.
- "...no cultivar can match Riverina in terms of the combination of high level of resistance to Phytophthora root rot, hard seed levels, tolerance to water logging, excellent seed yield with large seed size and mid season maturity."  
Source - Commercialisation Package for Riverina

## Coolamon Mid Season

### Agronomic Features

Maturity	Mid season maturity
Flowering time	106 to 140 days to flowering
Rainfall required	550 - 700 mm
Hard seed level	Moderate
Oestrogen levels	Low
Insect resistance	Similar to other sub clovers
Herbage production	8% more winter production than Woogenelup and 22% more spring production than Seaton Park
Seed production	6% more than Junee and 17% more than Woogenelup
Mix partners	Riverina, Goulburn



## Coolamon for Productivity

- Higher seed production and hard seed levels mean a bigger seed bank for regeneration in following years.
- Improved seedling regeneration provides dense swards for higher herbage production.
- Ideally suited for sowing with Riverina in hay or grazing pasture mixes.



## Production & Marketing

Izmir, Urana, Riverina and Coolamon have been granted protection under PBR. Unauthorised commercial propagation or any sale, conditioning, export or stocking of propagation material of these varieties is an infringement under the Plant Breeders Rights Act 1994.



## Acknowledgements

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## Distributors

NSW & QLD - Auswest Seeds, 2-8 Tobias St Forbes 2871  
Ph: 1800 224 987 Fax: 02 6852 1393  
[www.auswestseeds.com.au](http://www.auswestseeds.com.au)

VIC & SA - Stephen Pasture Seeds, 27 Wiltshire Ln Ballarat 3356  
Ph: 03 5335 8055 Fax: 03 5335 8088  
[www.stephenpastureseeds.com.au](http://www.stephenpastureseeds.com.au)

WA - Irwin Hunter & Co, Unit 11/88 Forrest St Cottesloe 6011  
Ph: 08 9383 4708 Fax: 08 9384 8029  
[www.irwinhunter.com.au](http://www.irwinhunter.com.au)

# Sub Clover

*The Shape of Things to Come*

