

PASTURE & FORAGE

AUTUMN

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COCKSFOOT

DANA

EARLY

MEDIUM

LATE

WINTER ACTIVE

DANA is a late-maturing, highly palatable cocksfoot grass that produces a dense, leafy sward, without the bunching of traditional cocksfoot. This variety is more winter active, promoting earlier production in spring and later production in autumn. Being winter active, DANA is less winter hardy than varieties that are dormant during winter. DANA is an excellent choice as it is drought tolerant and produces forage later into the summer. DANA exhibits exceptional rust resistance and is well-suited for grazing as well as hay production.

With its excellent palatability and growth pattern, DANA is well-suited to grazing systems. It can also be conserved as silage or hay. DANA performs well in a pure stand, and in mixed plantings with legumes.

DANA is highly adaptable but prefers light textured, well-drained soils. This variety excels in drier conditions. DANA can be established in early spring or late summer, depending on soil texture. Fine-textured soils may be too wet to plant in spring, therefore a late summer seeding is required. Coarser, drier soils may be planted in spring or late summer. DANA may be established through full cultivation, no-till or broadcasting seed. As establishment of cocksfoot grass is slower than other species, suppression of competitors is critical to sward establishment. At planting, apply 38 to 43kg of nitrogen per hectare. Plant no deeper than 0.6cm below the surface.

- Dense, leafy sward
- Drought tolerant
- Extended growing season
- High yields
- High palatability and nutritive value
- Exceptional rust resistance
- Seeding rate 20 - 35kg/ha

Once established, DANA is persistent. To maintain stand density. It cannot be grazed as frequently or as low as other cool season grasses. DANA stores its energy higher in the sward than other cool season grasses, therefore it should be grazed or cut no shorter than 8 to 10cm to assist in rapid regrowth





TALL FESCUE

BOSCHHOEK

SOFT LEAFED FOR QUALITY WINTER PRODUCTION

BOSCHHOEK is ideally suited for South African conditions. Whereas most Fescues have fairly coarse leaves, resulting in lower palatability, Boschhoek, with its relatively soft leaves, is more acceptable to the grazing animal and therefore of wider use. It is also useful for sowing in heavy bottom-land soils as a permanent pasture. BOSCHHOEK can be grown under irrigation or where the annual rainfall exceeds about 900mm and summer temperatures are not too high.

BOSCHHOEK has high dry matter production and is bred in S.A. for S.A conditions using dairy cows to select palatable plants. It is a tufted perennial with dense tillers and is used for grazing, silage and hay. It should be held over early autumn for good growth and is a variety that is protected by Plant Breeders Rights.

- Good rust resistance
- Forage production peaks in late spring/early summer and in autumn
- Quality winter forage (standing hay)



TALL FESCUE

CALLINA

EARLY

MEDIUM

LATE

VERY HIGH QUALITY

Tall fescue soft leafiness is essential to get a good forage palatability and grazing animal productivity. Because tall fescue had originally very tough leaves and was not very well consumed by animals, our breeders have been working for many years to obtain incredibly soft fescues. CALLINA has emerged from this breeding program to offer very soft leaves resulting in excellent palatability and digestibility, in turn giving us a high quality forage.

CALLINA adapts very well in tough conditions, in both very dry or very humid situations. CALLINA starts to growth early in spring, but its late maturity date helps to harvest it at the right time to obtain the highest forage quality. CALLINA is also very well adapted to autumn grazing thanks to an exceptional autumn growth.

CALLINA can be grown pure or mixed with other grasses (perennial ryegrass, cocksfoot...) and also with legumes such as white clover or lucerne.

- Late heading date
- Very soft leaves
- Results in high palatability
- High digestibility
- High quality forage
- Persistence greater than 5 years
- Used for cutting, silage, hay and grazing
- Seeding rate- 25kg/ha (pure)

Trial Results

	CALLINA*
Soft leafiness	6,9
Yield (mean year 1 & year 2)	11,4 Tons
Persistence	7,7
Autumn grow	6
Diseases resistance	7,1

(1 = Bad; 9 = Excellent)





PERENNIAL RYEGRASS

FIFTY 50 (DIPLOID)

LATE FLOWERING

FIFTY 50 is bred from the top breeders in New Zealand. It is a diploid perennial which adds exceptional value to the basket of perennials already been distributed by Capstone Seeds, by producing high Autumn production.

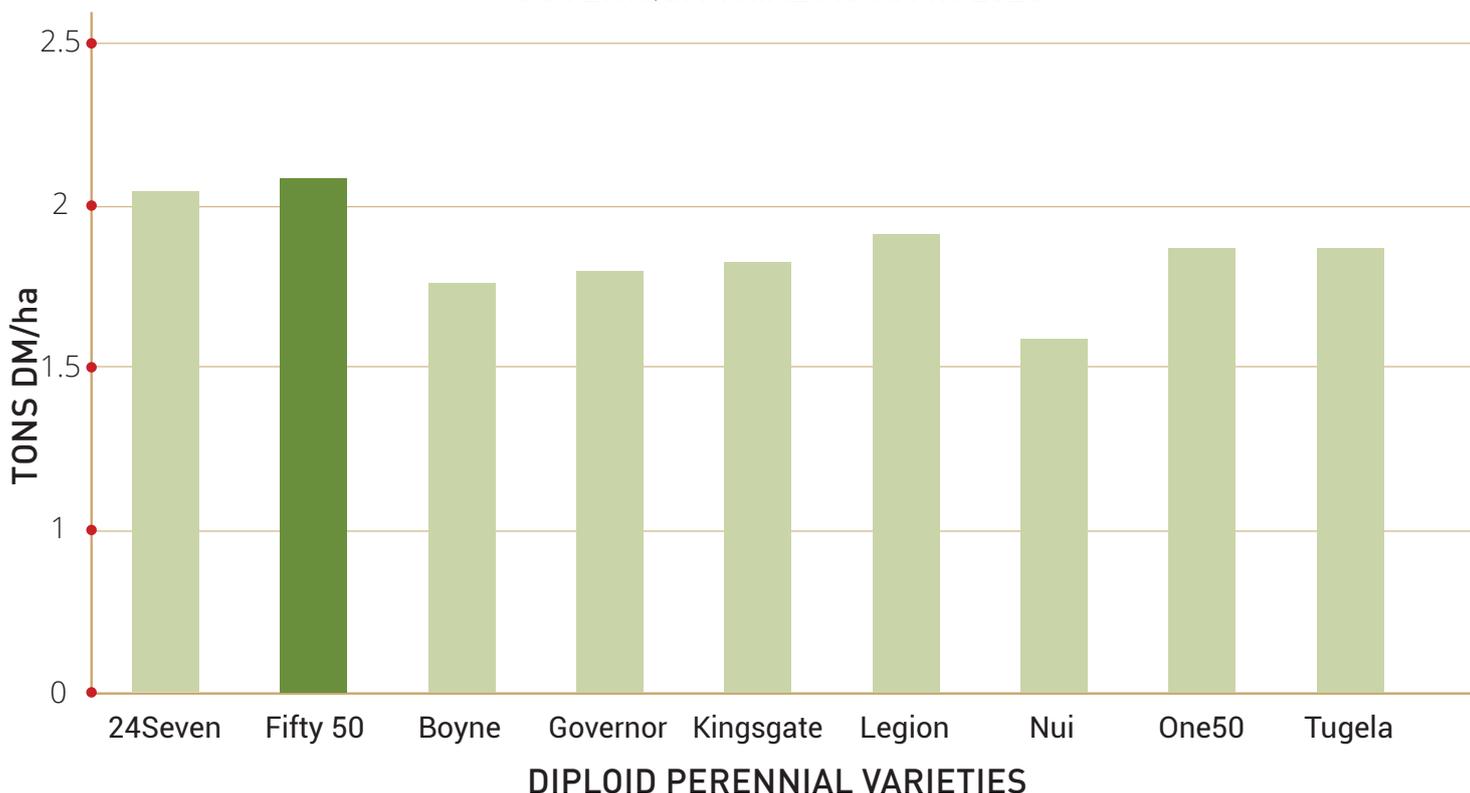
FIFTY 50, as a cool season, late heading, temperate variety, is very strong going into Autumn Winter and being a dense compact variety that tillers aggressively can compete against those medium heading varieties coming into spring. Due to the late heading, FIFTY 50 maintains vegetative leaf production throughout the year.

FIFTY 50 is ideal for producing high quality feed for grazing or grass silage and in difficult spring environments for hay

- Good Persistence & Drymatter Production
- Strong Autumn and Summer Production
- Heading date is late around +23days
- Good resilience to hard grazing & dry periods



OUTENIQUA TRIAL AUTUMN 2020





PERENNIAL RYEGRASS

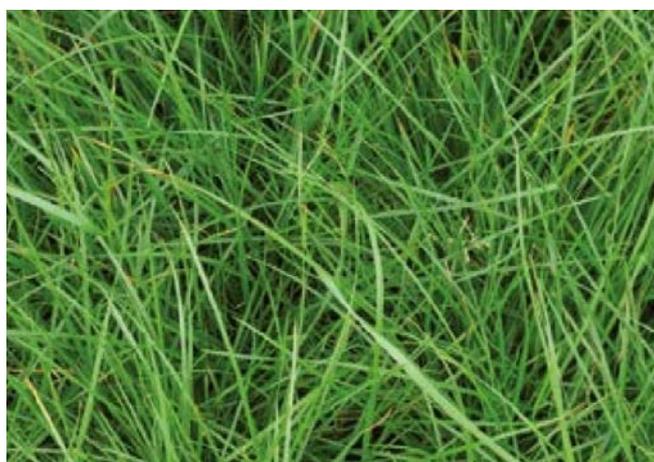
TACTIC (DIPLOID)

OVERVIEW

TACTIC is a hardy dense tillering diploid Perennial Ryegrass. TACTIC gets up and going early giving enhanced dry matter (DM) production early in the season, with great winter and early spring dry matter yields. TACTIC is very resilient and performs well under hard grazing. The attributes of TACTIC give superior animal performance and stagger free grazing of this variety as well as a hardy plant that will withstand hard grazing and persist very well.

- Resilient under hard grazing
- Great winter and early spring dry matter (DM) production
- Adaptable to low-moderate ranges of soil fertility
- Dense tillering
- Sowing rate : 25 - 30 Kg/ha
- Heading date: Early - Med

Sample Name	TACTIC	Other
DM%	22.0	20.1
Ash%	2.3	2.6
Protein%	6.2	5.3



TACTIC TRIAL DATA

Yield Assessment of several perennial ryegrasses

Types	Perennial Diploid Ryegrass		Hybrid Diploid Ryegrass
	Tactic	One 50	Marsden
Jun-17	1623	1695	1367
Aug-17	815	779	751
Oct-17	1671	1655	1669
Nov-17	3822	3792	3484
Dec-17	1096	947	1172
Jan-18	2344	2239	2400
Total	11371	11107	10843

Trials conducted independently. Sown in March 2017

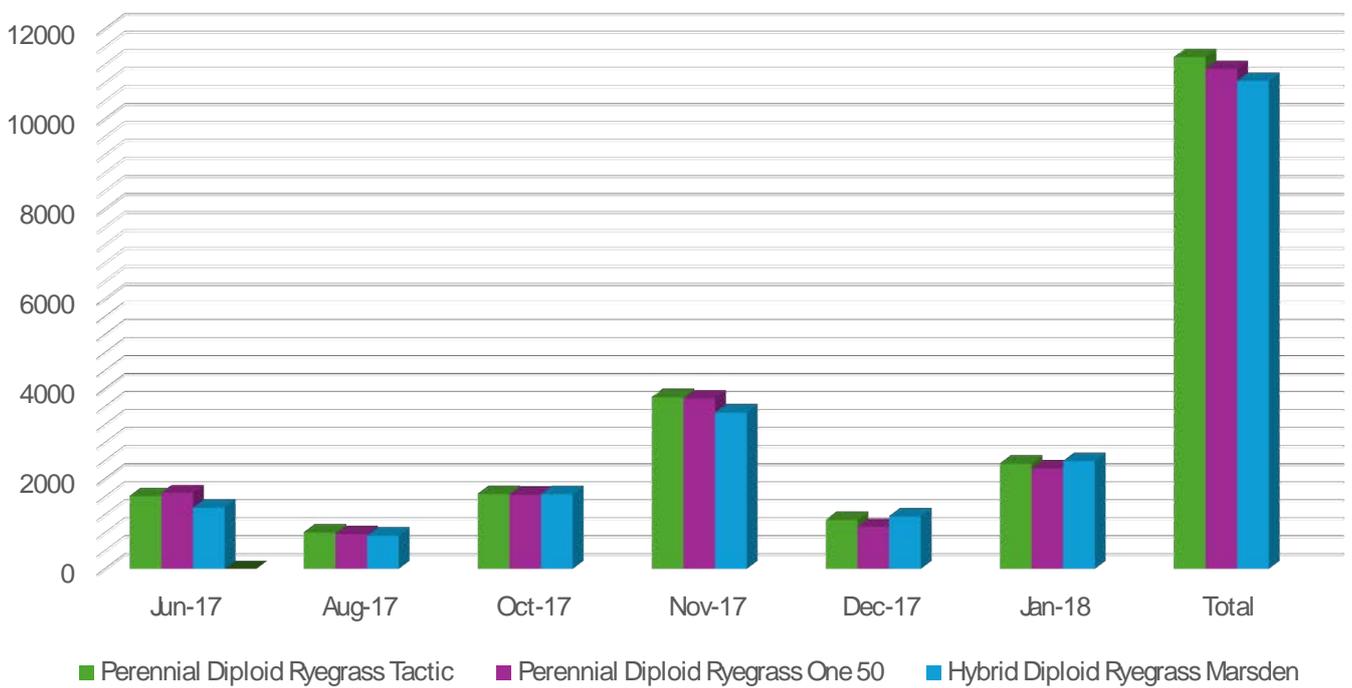


PERENNIAL RYEGRASS

TACTIC (DIPLOID)

Trial Yield Analysis (kgDM/ha).

Sown March 2017



PERENNIAL RYEGRASS

MELROMI (TETRAPLOID)

OVERVIEW

MELROMI is a tetraploid perennial ryegrass with a medium early heading date. It is ideal for farmers wanting to achieve high livestock performance with high stocking rates, as it produces very high dry matter yields compared to other varieties.

MELROMI has tall and firm plants with broad leaves and a high tiller density for a tetraploid. This makes it versatile for both cutting and grazing pastures. MELROMI has a good overall disease tolerance and an excellent rust tolerance. MELROMI is suitable in most areas with high persistence.

- Very high dry matter yield
- Mid early variety
- Excellent rust resistance
- High figures in persistence
- Tall and firm plants with broad leaves
- For both cutting and grazing pastures
- Suitable in many areas



Variety	Year of registration	Heading date	Spring development (1-9)	Rust-resistance (1-9)	Persistence (1-9)	Dry matter in 3 rd year	Total Dry-matter yield (year 1+2+3)
GIANT	2013	14 May	8,0	6,2	7,1	97	98
DEXTER 1	2008	16 May	8,0	6,6	7,0	102	100
MERLINDA	1985	17 May	8,0	5,7	7,1	96	97
MELROMI	2017	19 May	7,5	7,5	7,3	102	104

WESTERWOLD RYEGRASS

PASSEREL PLUS (DIPLOID)

EXCEPTIONALLY QUICK ESTABLISHMENT

PASSEREL PLUS tolerates poorly drained soils, but thrives on well-drained soils with good water holding capacity. It is cold tolerant and rust resistant.

PASSEREL PLUS is mainly used as grazing forage for light rotational grazing starting in late autumn. It is highly productive in late spring and early summer. Passerel plus can be cut for high quality hay. It is very good for late autumn and spring growth. Under favorable conditions it will germinate in 7 to 10 days.

PASSEREL PLUS has a crude protein value of 15% and total digestible nutrients of 60%

- Cool season diploid Westerwold Ryegrass
- Highly productive in late spring and early summer
- Rapid re-growth after cutting or grazing
- Good rust tolerance
- Long growing season
- Produces high quality forage
- Consistently high yields in trials



WESTERWOLD RYEGRASS

CAPTAIN (TETRAPLOID)

RAPID GROWTH

As a tetraploid, CAPTAIN has larger seeds than the average ryegrass variety. A tetraploid plant has 4 sets of chromosomes per cell, compared with a normal diploid plant that has two sets. The cells are therefore bigger and have a higher ratio of cell contents (soluble carbohydrates) to cell wall (fiber). This means CAPTAIN has a higher palatability and digestibility. Excellent mid- winter production and rapid growth. Due to large seed is also recommended for over-sowing Kikuyu after first frost. Can still produce good grazing in winter when planted late, due to cold tolerance.

It is higher in sugars with good Rust resistance, particularly when compared to imported varieties. It handles drought better than a Diploid ryegrass. CAPTAIN was bred by the ARC- Range and Forage Institute at Cedara Centre.

- Excellent grazing for winter
- High in sugar content
- Very palatable
- Outstanding re-growth
- Suitable for cattle, sheep and horses



WESTERWOLD RYEGRASS

PASSEREL PLUS ER7

HIGH QUALITY FORAGE

PASSEREL PLUS ER7 can be drilled into a well-prepared seedbed or a no-till drill can be used to over-seed it into closely mowed or grazed dormant or semi-dormant warm season perennial pastures. Seed may also be broadcast over a prepared seedbed and pressed in with a roller or covered by a shallow disking. Plant no deeper than 2.5cm deep. Planting too deep can result in poor stand emergence.

PASSEREL PLUS ER7 ryegrass responds well to high rates of nitrogen fertilizer. Highest yields are obtained with split applications over the growing season totaling 115-170 kg. nitrogen per hectare.

Begin grazing when forage growth reaches 15-20cm in height and roots are fully anchored in the ground. Do not graze below a height of 8cm in the autumn and winter. Allow re-growth to reach a height of 15-25cm before grazing again. Use light rotational grazing in the autumn and winter with heavier rotational or continuous grazing in the spring and early summer. For hay or silage, harvest at 30cm for highest quality.



NEXGEN RESEARCH: EVALUATION OF INCREASED FORAGE YIELD IN ANNUAL RYEGRASS ALBANY (2 TRIAL AVERAGE)	
Variety	Number of Tillers
Passerel Plus ER7	31.15
Gulf	21.80
Marshal	16.03

DM YIELD(T/HA) OF SELECTED RYEGRASS VARIETIES	
UT AG RESEARCH AND EDUCATION CENTER SPRINGFIELD, TN 2020	
VARIETY	YIELD
PASSEREL PLUS ER7	8,800
MARSHALL	8,752
FROSTPROOF	8,345
JACKSON	7,870
NELSON	7,825
PASSEREL PLUS	7,393
JUMBO	6,215



ITALIAN RYEGRASS

CAVERSHAM (DIPLOID)

QUICK WINTER PRODUCTION

Bred by ARC - Range and Forage Institute at Cedara CAVERSHAM provides an excellent Diploid Italian Ryegrass that is perfect for local conditions.

CAVERSHAM is resistant to leaf and stem rust. It has a European pedigree but has the advantage of being bred over 10 years under local conditions. In trials at Cedara, CAVERSHAM out-yielded Midmar by 2.97 tonnes DM/ha.

Along with that it is also quick to germinate and very palatable. CAVERSHAM has been on the market for more than 15 years, and still surprises farmers by being number one in July and August in trials throughout the country.

CAVERSHAM was last trialled by the MPO in 2006 in Boston, and CAVERSHAM came second overall! More importantly, CAVERSHAM came first in the July cut! Planting rates 25 to 35 kg/ha on clean land.

NOTE: Your Italian type rye grasses should fill the gap in October/November and Dec as Italian types normally persist till Dec and even Jan!

- It has been bred under local conditions for high yields
- It can outlast Midmar in the summer months
- It out yields Midmar in Spring and early summer
- It has been bred for leaf and stem rust



ITALIAN RYEGRASS

SUPREME Q (DIPLOID)

HIGH SUGAR

SUPREME Q is one of the new generation high quality Italian Ryegrass (*Lolium multiflorum*) Varieties bred at Cedara by the ARC-API group and licensed to Capstone Seed for the production and marketing of the variety.

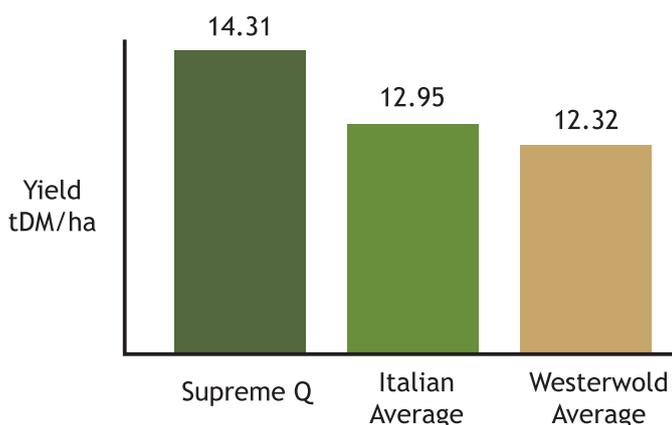
SUPREME Q was released with higher drymatter and TNC (total non structural carbohydrates) content than conventional varieties. The original improved TNC variety bred by the ARC, Enhancer, was tested extensively under dairy conditions and showed an unequivocal improvement in cow milk yield both in the Eastern Cape and Kwa-Zulu Natal.

There is no reason why SUPREME Q should not deliver higher animal performance as well. As expected TNC content was higher in winter and peaked again in late spring / early summer as varieties went to seed.

- Higher weight gains for beef and sheep
- Average increase of 1.5 liters/day/cow (Holsteins)
- Average increase of 0.9 liters/day/cow (Jerseys)
- Higher in DM content and TNC (Sugars)



Cedara Trail 2018 Data



ITALIAN RYEGRASS

SUPREME Q (DIPLOID)



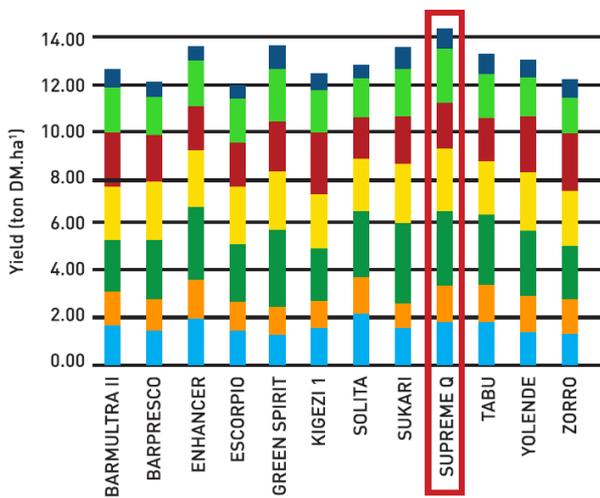
Lolium multiflorum (Italian ryegrass) cultivar trial
 Cedara Research Station, KwaZulu-Natal, South Africa: Planted 09/04/2018 | Mean DM yield: tonnes/ha

Seasonal dry matter yields (t DM/ha) of Italian ryegrass (*Lolium multiflorum*) cultivars planted 2018

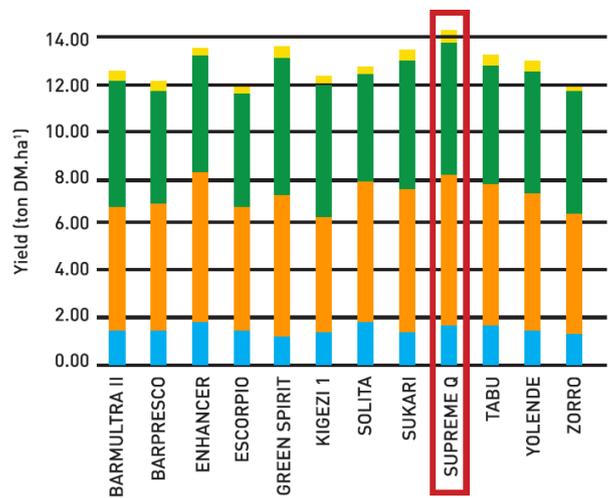
Cultivar	Type	Autumn 2018		Winter 2018		Spring 2018		Summer 2018/19		Total yield						
		ton DM.ha ⁻¹	Rank	ton DM.ha ⁻¹	Rank	ton DM.ha ⁻¹	Rank	ton DM.ha ⁻¹	Rank	ton DM.ha ⁻¹	Rank					
Barmultra II	Italian	1.47	12	abcde	5.28	17	efg	5.46	6	abc	0.41	8	bcde	12.62	10	bcde
Barpresco	Italian	1.45	13	bcde	5.44	16	defg	4.90	13	cdef	0.30	12	defg	12.09	14	de
Enhancer	Italian	1.82	4	abcd	6.44	2	a	5.04	10	abcdef	0.34	10	cdef	13.64	3	abc
Escorpio	Italian	1.41	16	cde	5.28	18	efg	4.91	12	cdef	0.32	11	cdefg	11.91	18	de
Green Spirit	Italian	1.14	20	e	6.10	7	abcd	5.87	1	a	0.56	2	ab	13.68	2	ab
Kigezi 1	Italian	1.34	19	de	5.04	20	g	5.67	3	abc	0.41	7	bcde	12.46	11	bcde
Solita	Italian	1.96	1	a	5.98	8	abcd	4.56	14	defg	0.29	14	defg	12.78	9	bcde
Sukari	Italian	1.43	15	cde	6.17	4	abc	5.46	5	abc	0.50	3	abc	13.56	5	abc
Supreme Q	Italian	1.65	7	abcd	6.46	1	a	5.79	2	ab	0.41	6	bcde	14.31	1	a
Tabu	Italian	1.64	9	abcd	6.15	5	abc	4.99	11	bcdef	0.47	4	abcd	13.24	6	abcd
Yolende	Italian	1.49	10	abcde	5.82	11	abcde	5.31	7	abcd	0.43	5	abcde	13.05	8	abcd
Zorro	Italian	1.38	17	de	5.14	19	fg	5.20	8	abcde	0.36	9	cdef	12.08	15	de

DP = Diploid Perenne | DI = Diploid Italian | TI = Tetraploid Italian | C = Control | TP= Tetraploid Perenne

Yield of Italian ryegrass (*Lolium multiflorum*) cultivars by cut of (Lm YT1) 2018



Yield of Italian ryegrass (*Lolium multiflorum*) cultivars by season of (Lm YT1) 2018



ITALIAN RYEGRASS

SUSTAINER (DIPLOID)

VERY LATE HEADING

SUSTAINER has exceptional, High Dry Matter Production and, under correct management, can be a biennial.

Italian ryegrass is one of the fastest growing grasses available to farmers. Italian ryegrass establishes well, has early spring growth, rapid regrowth after cutting and offers good digestibility.

Because Italian ryegrass thrives in all kinds of soils, it is used extensively for pasture purposes and often in mixtures with red clover. SUSTAINER is a diploid Italian variety.



- Reproductive later than other ryegrass varieties
- Exceptionally high dry matter production
- Very good late spring/early summer grazing
- Vigorous seedling
- Rapid growth
- Excellent palatability
- Good response to irrigation and rainfall
- Ideal short term pasture mix with annual clovers



ITALIAN RYEGRASS

SUPERCARGE (TETRAPLOID)

HIGH SUGAR CONTENT

SUPERCARGE has been a long time in the making, resulting in, an exceptional, high sugar tetraploid italian ryegrass.

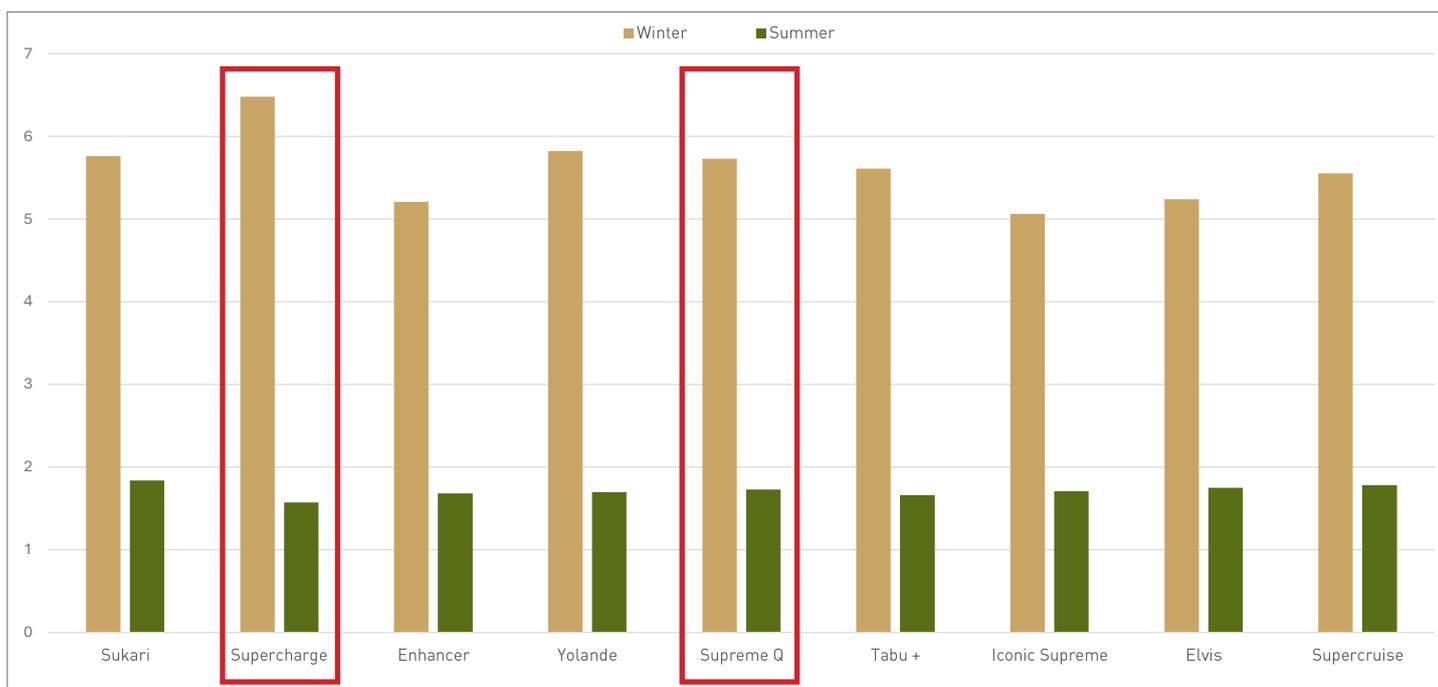
SUPERCARGE exhibits excellent vigour at establishment and produces very high quality, leafy, palatable forage suitable for high producing dairy cows.



- Good persistence and rust tolerance
- Great ground cover
- Excellent palatability
- 5% higher milk energy than average



Seasonal dry matter (tDM/ha) yields of Italian Ryegrass Cultivars planted at Cedara in March 2021
 Top 9 Varieties out of 29 in order of overall rank



Total of 29 Varieties	Winter	Summer	Total
Mean	5.17	6.21	15.71

ITALIAN RYEGRASS

NANA (TETRAPLOID)

TOP YIELDS

NANA is a new tetraploid italian ryegrass variety in South Africa, and was registered in 2019 in Europe.

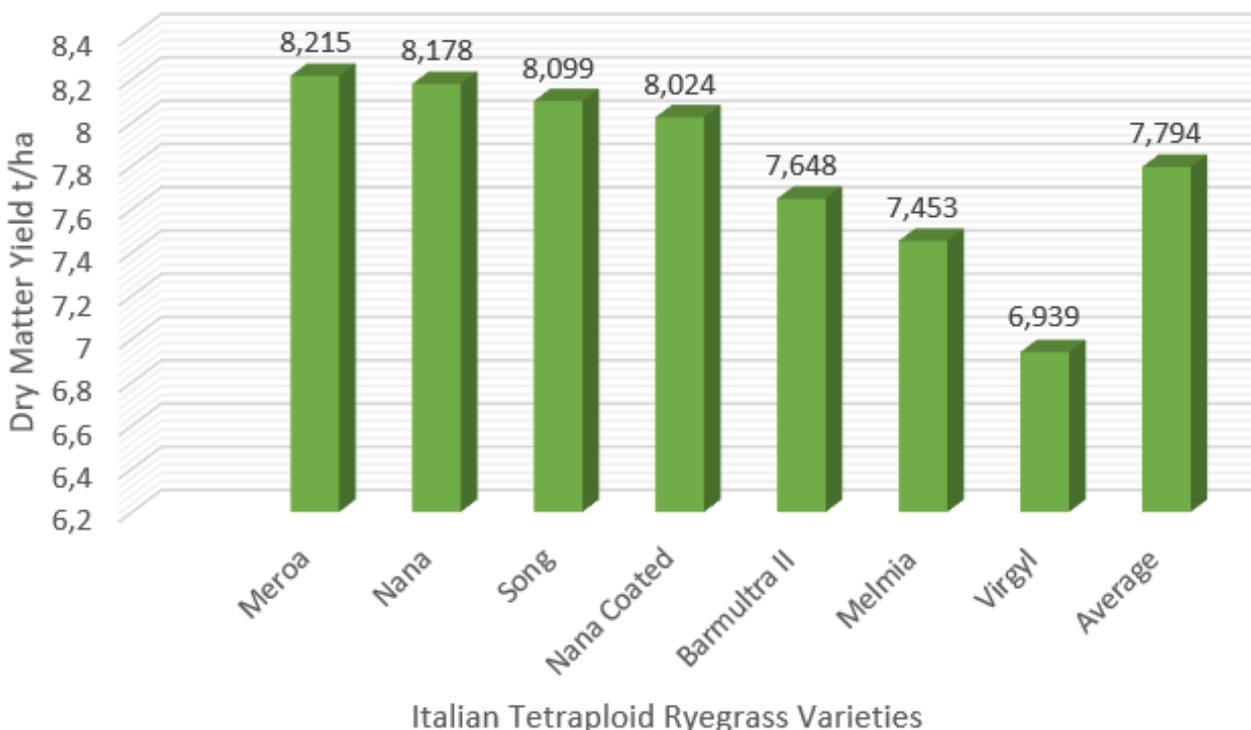
In official farm-trials NANA showed a very high dry matter and a high sugar content. NANA is suitable for both spring and autumn sowing and can be used for seasonal production or biennial forage production with multiple cuts.

It has an exceptionally good disease resistance especially against rust. This allows for a high quality grass, which has a very quick regrowth. It also retains an excellent density after the first cut, adding to its high dry matter yield.

- High green mass production
- Excellent dry matter yield
- Very quick regrowth after cutting
- Very good disease resistance, especially against rust
- High sugar content
- Good density after the first cut



Trial carried out in Claussnitz, 2022



DIPLOID AND TETRAPLOID ITALIAN VARIETIES OVER A NUMBER OF SEASONS



STOOLING RYE

SOUTHERN BLUE

BRED TO LAST

SOUTHERN BLUE was bred by the ARC - RFI at the Cedara Centre in Pietermaritzburg. It is a local cultivar. SOUTHERN BLUE offers quick feed and longevity where irrigation is not possible. SOUTHERN BLUE has been used to very good effect for over-sowing into Kikuyu in late Autumn and so is available as feed at an early stage.

Planting takes place from February onwards. SOUTHERN BLUE is adapted to our extreme temperatures and low rainfall.

SOUTHERN BLUE can be established from early February in cooler areas until late Autumn.

This variety is protected by Plant Breeders Rights.

- A local cultivar
- Offers quick feed and longevity
- Planting from February onwards
- Adapted to local, extreme climate conditions
- Used to good affect with Kikuyu



AUTUMN GRAZER

50% STOOILING RYE
50% TRITICALE

MORE WINTER FEED

Our new AUTUMN GRAZER blend offers more winter feed, while still providing great quality. Where irrigation is not possible, by combining the quick winter feed production of TRITICALE and the longevity of STOOILING RYE it results in an excellent blend of both.

TRITICALE is a medium season, tall, high tillering variety with a reduced awn head type which may be grown for forage or grain. TRITICALE has good resistance to all rusts and CCN.

STOOILING RYE is adapted for extremely cold temperatures and drought conditions and maintains a quality feed for longer. The AUTUMN GRAZER blend can be sown from February in cooler areas and in March in warmer areas.

The sowing rates will vary depending on the rainfall, but on average under dryland conditions, AUTUMN GRAZER can be sown at 50kg/ha and under more favorable or irrigated conditions one can establish at 75 - 100kg/ha.

- Quick winter feed
- Winter feed for a longer period
- Dryland sow at 50kg/ha
- Irrigated sow at 75 - 100kg/ha
- Best of both worlds





STOOLING RYE

LEBA

LATE HEADING

LEBA is a later flowering Stooling. LEBA is fairly drought and cold tolerant and can handle cold, but tends to go into Stooling mode when it gets too cold. Leba has good regenerative properties after a grazing.

LEBA needs a cold spell to vernalize and can therefore be planted fairly early in autumn (February / March)

LEBA has good dry matter production.

Recommended sowing rate 35-50kg / ha dry land, planted in rows. 75 – 100kg/ha broadcast or irrigated.

- Later flowering stooling
- Fairly drought and cold tolerant
- Planted early in Autumn (Feb/Mar)
- Good dry matter production





SPRING RYE

SOUTHERN GREEN

OVERVIEW

SOUTHERN GREEN is a quick and short duration rye. It has excellent cold tolerance with an upright growth pattern, unlike Stooling Rye. It is a spring type variety with late planting - March/April/May. This allows for quick grazing, it is also highly palatable.

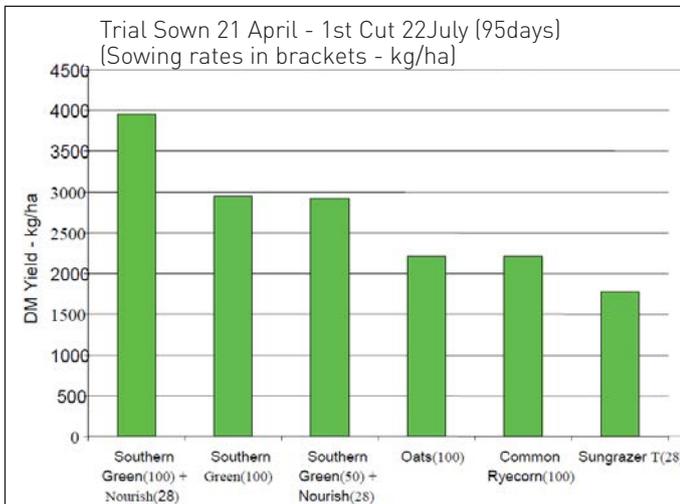
It is recommended that you drill at 35kg/ha and broadcast at 75kg/ha. It can even be used over Kikuyu when broadcast. It is important to avoid planting too early or it may go to seed before winter.

KEY POINTS: Southern Green forage rye is for quick winter feed. Some brassicas may be quicker with a March break but Southern Green grows quickly even if the break is late.

It can produce twice the dry matter of oats, 45 days after sowing (see photos 1 & 2)

By late July (90-100 days after sowing) oat growth rates have increased but rye is still 30% ahead in DM yield (see graph 1)

Graph 1: Data from Ballarat Australia Winter Feed Trial (2008) showing total growth in 95 days from planting.



- Quick duration rye
- Excellent cold tolerance
- Upright grower - not like Stooling Rye
- Late planting - March/April/May - quick grazing
- Ready to graze in 30 - 55 days
- Excellent yield when blended with annual ryegrass
- Can be sown with Italian ryegrass to extend spring growth



Photo 1: Ballarat Winter Feed Trial (sown 21st April 08). Southern Green forage rye on left, Winter Oats on right. (Photo taken 45 days after planting). Southern Green is ready for a graze where Winter Oats would be damaged by grazing at this early development stage.



Photo 2: Ballarat Winter Feed Trial (sown 21st April 08). - Fresh cuts taken from 1m rows of Southern Green (left) and Winter Oats (right) at same time as photo 1 - 45 days after planting.



SPRING RYE

SSR 1

GROWS FAST

SSR1 Rye possesses superb qualities of drought resistance with the ability to actively grow under extreme winter temperatures.

Another benefit is that when over sown on legume crops it has a much higher protein level.

SSR1 grows fast under cold conditions and will become stalky when weather conditions warm up in spring and thus will not set the Kikuyu back. It is recommended for later plantings – April through to June as its quicker to first grazing, and will produce more bulk in the June/July months especially if supplementary irrigation is available. Because of this, rye is recommended for planting after maize silage has been removed. SSR1 is not a stooling rye.

- Superb qualities of drought resistance
- SSR1 grows fast under cold conditions
- Upright grower - not like Stooling Rye
- Late planting - April through to June - quick grazing



SPRING RYE

SSR-727

OVERVIEW

SSR-727 is referred to as a spring type in that they need an increase in day length and rising temperature to get them to seed. Unlike the stooling rye, SSR-727 has a straight upgrowth habit. Early plantings can be grazed within 42 - 49 days. Strip and rotational grazing practices optimise yield. The grain has a crude protein of 13%, which occurs upon flowering.

SSR-727 is well adapted to extreme climate conditions, which includes both cold and drought tolerances. Minimum rainfall of 300 mm/year is recommended. Best time to sow is March - May. Adapted to most soil types but prefers well drained sandy soils.

- Quick duration rye
- Excellent cold and drought tolerance
- With early planting, graze in 49 days
- Rye can be used for grazing, hay and silage.
- Excellent Kikuyu companion grass over autumn/ winter
- Recommended sowing rate is 50 - 75kg/ha.
- Height of plants can exceed 2m.





TRITICALE

TUCKERBOX

HIGH TILLERING ABILITY

TUCKERBOX is a late-medium season, tall, high tillering variety with reduced awn head type, which may be grown for forage or grain. TUCKERBOX has good resistance to all rusts and CCN.

TUCKERBOX is ideal for planting after maize silage has been harvested or as a quick Winter feed production. These varieties can be grazed or left to go into seed and be harvested for silage giving a combination of green material and grain (up to 5 mts of grain per ha has been achieved).

- Medium to late season
- Tall, high tillering variety
- Can be grown for forage and grain
- Good resistance to all rust and CCN



BLACK OATS

SAIA

OVERVIEW

Black Oats or Saia Oats is one of the worlds oldest cover crops. Planted specifically for its high production of biomass both above and below the soil, it is vitally important in increasing the organic and carbon content of your soil.

Best planted April/May and inter-planting of vetch will produce some of the largest volumes of biomass that can be used as a green manure, mulch or as feedstock.

Due to its high tillering ability it also serves as an excellent weed suppressor. It has a long growing season with very good disease resistance. Saia is a hardy oats that is well adapted to sandy soils.

SAIA is a double purpose Black Oats for both animal grazing and a cover crop. The variety has a very good phytosanitary effect in terms of soil health and nematode suppression.

The flowering period is usually by the end of October in most conditions, if planted in April.

Oats has the characteristics of germinating very quickly and to beat the weed species growing in the same area. In addition to this, oats releases an allelopathic compound (plant made chemicals) that hinders the germination and growth of weeds for several weeks.

Black oats are a separate oat species with a different nutritional composition than the usual white oats. There is about 50 percent more unsaturated fat and 15 percent less carbohydrates in black oats than in regular white oats.

Oats provide quick, weed-suppressing biomass, take up excess soil nutrients and can improve the productivity of legumes when planted in mixtures.

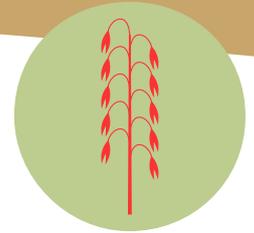
- Sowing rates should not exceed 60kg /ha.
- Long growing cycle gives longer grazing period
- Cover crop: 30 - 40 Kg/Ha
- Average plant height: 1.55m
- Forage production: 7 - 9 tons DM/Ha



The cover's fibrous root system also holds soil during cool-weather gaps in rotations, and the ground cover provides a mellow mulch before low-till or no-till crops

RED OATS

RED DAWN



LATE HEADING

Red oats is an annual grass cultivated for grain and fodder. Red oats adapts to warmer weather more than common oats and are more resistant to drought and make for palatable grazing.

RED DAWN is particularly suitable for grazing. It has a high tilling capacity and good disease resistance.

Planting dates are from mid-February to July. In early plantings, when the temperatures have dropped a little and there is good availability of water in the soil, initial development is done in autumn reaching the cold of winter with good growth and better resistance to frost. We recommend 100-125kg/ha in pure sowing conditions and 70-80kg/ha when in a mixture with ryegrass.

Red oats produce forage before ryegrass, and when it begins to decline the ryegrass gives grazing until November or December. To further accelerate grazing it is recommended that you include a few kilos of black oats or barley into the mixture.

- Adapt to warmer weather more than common
- Suitable for grazing
- Planting dates from mid-February to July
- Recommended 100-120kg



WHITE OATS

TARGA



EXCELLENT EARLY GROWTH

TARGA has exhibited excellent early growth in trials producing an average 25% more dry matter than other standard varieties.

Tests indicate that TARGA will have a higher metabolism energy than the other three varieties when grazed late in the season.

Only certified seed of TARGA Oats is sold and the variety is covered by Plant Breeder Rights in Australia and South Africa.

Unauthorized multiplication is prohibited.

- High forage yield
- Good re-growth
- Excellent quality hay
- Strong straw
- Heavy bright coloured grain



WHITE OATS

SWK001



ADAPTABLE

Oat grain is widely used by horse owners and other producers in feed mixtures. Well fertilized oats produce high quality hay and grain with a high nutritional value. Oat grain that do not qualify for suitable grades due to low hectolitre mass values, is also utilized in the animal feed market. Oats play a significant part in a balanced grazing availability program, with several cultivars suited for this purpose. The wide adaptability, nutritional value and regrowth characteristics of oats create the situation of available grazing over a long period. Planting for this purpose can start in February and continue up to July.

For hay production under irrigation, the cultivar SWK001 can be planted from March to June at a seeding density of 40 - 50 kg seed/ha.

Grain Yield:	Average
Hectolitremass:	Average
Lodging Tolerance:	Average
Plant Height (cm):	1.5-2m
Crownrust Resistance:	Good
Stemrust Resistance:	Moderate
Feeding Value:	70% digestibility
Dry Matter Production:	5-9t/ha/annum
Seeding rate dryland:	40-50kg/ha
Seeding rate irrigation:	75-100kg/ha

- Temperate, Forage cereal
- Used for hay, silage, winter cover crops and graving
- Production period: annual, winter and spring
- Widely adapted to most soil conditions



WHITE OATS

AVENA SATIVA

CEDARBERG

Oat grain is widely used by horse owners and other producers in feed mixtures. Well fertilized oats produces high quality hay and grain with a high nutritional value. Oat grain that does not qualify for suitable grades due to low hectolitre mass values is used in the animal feed market.



WITTEBERG

Long cycle/late oats ideally suited to longer production cycles. When planted early to mid-autumn peak production is expected in late winter. Suited for dryland or irrigation. Witteberg is adapted to a variety of climates and conditions. It is well suited to grazing, hay or silage and has a high quality yield. Ideal to use as an alternative to other forage cereals.



WHITE OATS

KOMPASBERG

OVERVIEW

KOMPASBERG is an annual temperate grass suitable for grain production, hay, silage, grazing and a companion crop. Ideal planting time ranges during January to May. Seeding rate of 40 – 65 kg/ha dryland and 75 – 100 kg/ha irrigated.

Morphological description: Erect, tufted grass, 0.75 - 1.5m tall. The leaf blade is flat, narrow and veined and tapers to a fine point; rolled in bud; 15 – 30cm x 0.6 – 1.2cm. Long, narrow yellow, brown seeds; 0.6 – 1cm.

Feeding value: Crude protein: 10 – 16 %,
Digestibility: 55 - 65 %.

Botanical name: *Avena sativa*.

Type: Temperate, Forage cereal

- High forage production
- Widely adapted to most soil conditions
- pH range of 5.5 - 7.0
- Avoid waterlogged soils
- Smother crop for weed suppression
- Dry matter production: 3 - 9 t/ha/annum



WHITE OATS

BRUNSWICK

LATE FLOWERING

Brunswick is our newest white oat (*AVENA sativa*). Targa is and will likely remain our stalwart variety, for sometime. Nevertheless we have identified Brunswick as our new champion. Brunswick has a very late heading date producing very high quality hay and grazing.

The leaves are wide maximising production. The plant is a moderate tall variety especially under irrigation. When a number of other varieties on trial got rust, the leaves of Brunswick remained clean. This results in a high tolerance to leaf diseases.

BRUNSWICK is better suited to high rainfall areas or under irrigation, where it exhibits excellent early vigour. Under dryland conditions it is slower to establish.

- Very late heading means an extended production period
- Very prolific tillering variety with extremely strong regrowth
- Excellent leaf & stem thickness
- Strong recovery
- Excellent leaf rust tolerance



BARLEY

6 ROW BARLEY

OVERVIEW

While the plants are grown for their grain harvest, barley is also commonly grown for livestock or as a cover crop. Whether wishing to make their farm more sustainable or hoping to grow barley for its use in beer making, 6-row barley plants, are specifically debated for their use.

Farmers should first select varieties suitable for their region. Although barley shows some cold tolerance, it is important to carefully determine the best planting time for your region.

These 6 row barley plants are easy to distinguish because of the size and shape of their seed heads. Seed heads of 6-row barley plants retain a somewhat disorganized appearance with kernels of varying sizes. These different kernels make the process of milling the barley more difficult, as the smallest seeds must be sifted and sifted. Even the largest of the 6-row barley kernels will be smaller than those produced by 2-row barley types.

- Shows some cold tolerance
- Kernels will be smaller than those produced by 2-row barley types
- Grown for harvest and cover crop
- Needs at least 6-8 hours of direct sunlight each day.





BARLEY

JOSEFINA

OVERVIEW

JOSEFINA is a new barley variety that was released by INTA in Argentina. It is a multipurpose, malting barley grain that performs very well as a wet or dry grain. It is also ideal for whole plant silage due to its high grain production. It adapts as well to grazing purposes, yielding forage at a very early stage.

Due to its short growth cycle, the land is free to be used for a second crop 15 days earlier than with other cultivars. This results in an earlier fallow and planting of soybeans. This allows the variety to fit in tight crop rotations.

JOSEFINA is an excellent choice for silage due to the fact that it has a very high grain and total biomass production, and it has a very high silage dry matter content.

This variety has a very good tolerance to cold temperatures. It is also noted as having good drought resistance.

JOSEFINA has big kernels that are ideal for animal feed. It more than meets the grain standards of feed barley.

- Excellent variety for silage
- Very early variety
- Very good tolerance to cold temperatures
- Great for grain

All in all it has a great balance between biomass and production time allowing for a very good yield in a short period of time. The recommended sowing density is of 250 to 300 plants per m² in humid areas. For grain production, recommended planting dates are between the end of June to mid July.



Whole Plant Silage

Cultivar	Heading	Cut	Phenol. State	Green Matter (Kg/ha)	Dry Matter (%)	DM (Kg/ha)	DM % Mean
Josefina	22/10	10/11	Milk/ Dough grain	16.751	43	7.207	124

Forage Production

Cultivar	Forage Yield (Kg/ha)	% mean
Josefina	6.028	99

Grain

Cultivar	Heading	Plant	Yield (Kg/ha)	Yield % of the mean
Josefina	21/10	Erect	5.966	100

FODDER RADISH

NOOITGEDACHT

RELIABLE

Useful as a late autumn/early winter feed in the cooler eastern areas of South Africa, depending on planting date. It may be used in the drier western areas, but would require supplementary irrigation. It can be effectively used as a fodder bank or strategic fodder source to supplement temperate grass pastures or foraged tropicals.

Sowing Rate: 5-7 kg/ha (pure)
1-3 kg/ha (mixture)
Planting Time: December to February



FODDER RADISH

SAMURAI

EXCESSIVE LEAF PRODUCTION

It is well known that Japanese Radish is a proven frost tolerant winter forage which has the ability to bulk up a large quantity of highly nutritious forage per hectare. This feed can be utilised if need be in a single day or held for relatively long periods until required without a serious deterioration in quality.

Radish is far less expensive than many other commonly used winter feeds in terms of costs per ton of DM because of its yield potential, the seed and fertilizer costs are relatively low.

Capstone Seeds South Africa (Pty) Ltd is well aware of the important role that Japanese Radish plays in filling the winter feed gap and so in conjunction with ARC – Range and Forage Institute at Cedara they have released two new varieties that have great advantage over the traditional Nooitgedacht.

- The bulbs are large, cylindrical and very prominent
- SAMURAI is the first new Japanese Radish variety bred in South Africa in over 50 years
- Frost tolerant winter forage
- Ability to bulk up a large quantity of highly nutritious forage per hectare



Samurai has bulbs that are large, cylindrical, prominent and uniform with excessive leaf production. It is also frost tolerant. In challenging weather conditions, Samurai stands out head and shoulders above the Nooitgedacht variety.

FODDER RADISH

GEISHA

EXTREMELY PALATABLE

GEISHA has a soft leaf that makes it extremely palatable. It has large cylindrical and prominent bulbs. It was bred by the ARC- RFI at the Cedar Centre in Pietermaritzburg. It is frost tolerant winter forage that has the ability to bulk up a large amount of highly nutritious forage per hectare. It has the benefit of filling the winter feed gap.

It can survive on low levels of nitrogen fertilization. It should also be noted that for dry-land cultivation it is essential to start preparing the land at the beginning of the season. GEISHA must be planted early enough to ensure bulk before winter, but not so early that it will bolt to seed before winter. One should plant GEISHA in January in areas that normally experience the first frost in mid-April and early March in areas where the first frost occurs in May.

GEISHA responds well to nitrogen fertilization. This is especially important under irrigation. Early preparation of the land at the beginning of the season ensures maximum moisture conservation and elimination of weeds.

It can be chopped and fed or grazed. It produces a large quantity of highly nutritious forage per hectare.

- Extremely palatable
- Frost tolerant
- Fills the winter feed gap
- Can be chopped and fed, or grazed



LONG ROOTED RADISH

SOIL BUSTER

DEEP TAPROOT

The crop can be grown on a wide range of soils including sandy loams, silts peat or clay loams. The desirable soil properties needed are - ease of working, good aeration, good structure and sound drainage.

These radishes offer impressive benefits to the soil and the environment including the reduction of soil compaction, improved nutrient recycling, increased organic matter, enhancement of soil tilth and suppression of weeds, to name a few.

The nutrients absorbed by the taproot are readily available to the following cash crop because the taproot is mostly water and desiccates and decays quickly, releasing those nutrients almost immediately (two to four weeks) for uptake and utilization by the following cash crop.

- Superior, deep penetrating taproot
- Reduces soil compaction
- Builds organic matter
- Improves nutrient recycling
- Excellent weed suppression
- Enhances soil tilth

- Grown in a wide range of soil types
- Sowing Rate: 3kg to 15kg/ha
- Planting Time: February to March



CATTLE TURNIP

MAMMOTH PURPLE TOP

HIGH SUGAR

The majority of turnip crops are now sown with precision drills which require a level seedbed. Drilling in spring or summer should be made with minimum cultivation passes to reduce compaction. Later drillings are often made in hot, dry conditions so try and undertake the seedbed cultivations in early spring to reduce moisture loss. Weeds can be eliminated between seedbed preparation.

There are a number of pests which attack the turnip crop from sowing through to maturity. In order to maximize crop establishment and minimize crop damage, it is advisable to sow treated seed. The major disease to watch for is clubroot which can affect the turnip root system. Attacks of mildew on the leaves will reduce yield and may affect the crops palatability during in-situ grazing.

Most fodder turnip crops are grazed in-situ, however it is important to remember to select a variety (or varieties) to cover the period you wish to graze. Due to turnips being high in sugar, the livestock must be weaned onto grazing turnips due to the possibility of acidosis. Livestock should ideally have access to grass and/or hay during the feeding. Forage turnips can be lifted and the roots stored in a clamp. The roots need to be clean and free of soil and try not to store any damaged roots as this will encourage fungal diseases.

- Livestock must be weaned onto grazing turnips
- Consult fertilizer expert
- Sow treated seed
- Can be sown with precision drills
- Sowing rate 1-2 kg/ha



RAPE

GIANT ENGLISH

- Autumn planting
- Sowing rate 1-5 kg/ha
- Used extensively in cover crops

LARGE BROAD LEAVES

The English Giant rape cultivar has dark green leaves and medium branches and has an immense growth rate. The English Giant rape has large broad leaves, with a yield potential of the cultivar of 25–40 tons/ha. The cultivar has large broad leaves and is normally preferred for its hardness.

Rape (*Brassica napus*) has a high demand for water due to extensive leaf area and thus needs regular intervals of irrigation. The critical period for rape is the stem-elongation stage when the crop builds the branching structure and strong stems, then produce high yields.



BLACK MUSTARD

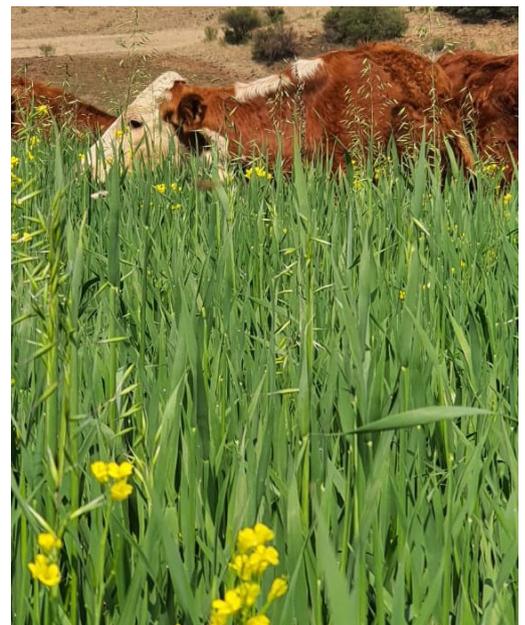
NEMAFIX

COVER CROP

Brassica nigra does not fix atmospheric nitrogen, it does sequester nitrogen from the soil, which is then returned back into the soil when plants senesce. Black mustard is allelopathic, effectively inhibiting growth of weeds when it is thickly sown.

The main use of mustard is as a cover crop in orchards, where it is known to inhibit infestations of aphids and spider mites. Where autumn-sown mustard is mowed, the plant matter that remains make a desirable mulch for growing spring crops and vegetables. Gas is released during decomposition acting as a biofumigant. Generally these levels are higher than in white mustard.

Isithiocyanate (ITC) is a natural gas released from all brassicaceous plant tissue. The gas is produced when the plant cells are damaged (by crushing/mowing or chopping) and compounds called glucosinolates (present in all brassicas) come into contact with an enzyme (myrosinase) in the presence of water.



Nemafix used in a Cover Crop mix. Speak to your sales rep about a mix specific to your needs.

WHITE CLOVER

HAIFA

WINTER ACTIVE

Haifa is a highly productive winter active variety suited to rotational grazing systems in higher rainfall areas.

As with all white clovers it is important to ensure that seed is not sown too deep and that pastures are frequently grazed to ensure light penetration to enhance plant establishment and development. White clover is generally not competitive with annual ryegrass species.

Sowing rate: 3–4kg/ha

- Highly productive in winter
- Suited to higher rainfall areas
- Ensure that seeds are not sown too deep
- Ensure frequent grazing



RED CLOVER

OREGON KENLAND

EFFECTIVE PASTURE LEGUME

Red clover is effective as a pasture legume and for hay. It can withstand more shading in the seedling stage than most other legumes, making it easy to establish together with grass.

Red clover is most productive on soils of medium to high fertility levels with a soil pH of 5.5 or higher with good internal drainage. It is better than lucerne at tolerating and growing on soils of low pH and low fertility with poor drainage.

You can seed red clover in late summer or early autumn. This usually increases total yield for red clover during its lifetime as compared with spring or winter seedlings.

KENLAND

Kenland red clover was released several years ago. It has good resistance to southern anthracnose. It has superior yielding ability over

- Effective as a pasture legume and for hay
- Massive contribution to silage yield
- High clover content in the sward
- Significant increase in total output

most other varieties and has a longer life than common red clover. It reportedly has more resistance to crown and root rots than seed originating from the northern United States.



LUCERNE

CAPFIVE5

OVERVIEW

The old reliable South African variety. Winter dormant, minimum rainfall of 350 mm required. Responds well to moisture but can also withstand drought conditions. Produces high yields in spring, summer and autumn. Can tolerate high temperatures. Dormancy group 5 - 6



- Subtropical Legume
- Semi-winter dormant, dormancy 5-6
- Can withstand severe heat and cold conditions
- Moderately tolerant to soil salinity
- Responds quickly to spring and summer rainfall/ irrigation
- Comes Pre-Innoculated

DROUGHT TOLERANCE	HIGH
PROTEIN CONTENT	HIGH
DISEASE RESISTANCE	HIGH
PRODUCTIVITY	8 – 15 t/ha/annum
SOWING PERIOD	Aug – Sept Feb – May
SEEDING RATE	8 – 12.5 kg/ha dryland
SEEDING RATE	20 – 25 kg/ha irrigated



LUCERNE

SA STANDARD

OVERVIEW

The old reliable South African variety. Winter dormant, minimum rainfall of 350mm required. Responds well to moisture but can also withstand drought conditions. Produces high yields in spring, summer and autumn. Can tolerate high temperatures. Dormancy group 5 - 6.

- Subtropical Legume
- Semi-winter dormant, dormancy 6
- Can withstand severe heat and cold conditions
- Moderately tolerant to soil salinity
- Responds quickly to spring and summer rainfall/irrigation



DROUGHT TOLERANCE	HIGH
PROTEIN CONTENT	HIGH
DISEASE RESISTANCE	HIGH
PRODUCTIVITY	8 – 15 t/ha/annum
SOWING PERIOD	Aug – Sept Feb– May
SEEDING RATE	8 – 12.5 kg/ha dryland
SEEDING RATE	20 – 25 kg/ha irrigated

LUCERNE

AURORA

DORMANCY 6

AURORA is intermediate in appearance with a growth habit that is moderately erect than that of similar varieties, with slightly thicker stems. Its flower colour is predominantly purple-mauve with a low proportion of variegation.

Aurora was bred to incorporate resistance to the spotted alfalfa aphid, the blue-green aphid, phytophthora root rot and colletotrichum crown rot into a cultivar adapted to the major lucerne growing areas. Spotted alfalfa and blue-green aphids have been shown to cause substantial yield losses in susceptible cultivars.

Aurora is a general purpose variety suited to both hay-making and grazing situations.

STRENGTHS

- Perennial, year round production.
- Deep rooting, extracts water and nutrients from depth, restricts water table recharge.
- Moderate tolerance of soil salinity and sodicity.
- Responds quickly to spring and summer rainfall (or irrigation).
- Dual purpose (grazing and hay).
- Highly productive.
- High nutritive value.

PASTURE TYPE AND USE

Medium term perennial (3 - 5 years); year-round production, predominantly in the spring/summer but with varying levels of winter production (winter activity).

Used for conservation, particularly hay production; as a 'ley' legume in cropping rotations and as a medium-term legume in long term grass pastures in the subtropics. Additional uses, hay and silage for sheep, cattle and horses.

- Dormancy group: 6
- Light grazing/ hay / silage
- Good pest persistence
- Minimum rain: 350mm
- Seeding rate: 25-30 kg/ha
- Sheep, beef cattle, horse
- Perennial, year round production



DROUGHT TOLERANCE	MEDIUM
PROTEIN CONTENT	HIGH
DISEASE RESISTANCE	MEDIUM
PRODUCTIVITY	HIGH
USAGE	HAY / GRAZING
SOWING PERIOD	Feb – April
SEEDING RATE	4 - 8 kg/ha dryland
SEEDING RATE	20 – 25 kg/ha irrigated



DORMANCY 6-7

Your fields deserve the best! CAPSIX6/7 has a very fast regrowth after each cutting. This variety has a very early startup after winter and a high content of digestible proteins. CAPSIX6/7 has a dormancy of 6-7 and has a high winter hardiness. It also has good summer drought tolerance.

CAPSIX6/7 has a very high production potential. It produces high quality forage with a high leaf to stem ratio.

CCAPSIX6/7 is recommended for grazing, hay and dehydration, and is specially suited for a frequent cut management routine.

The supplying system of dehydration plants requires production along the whole growing season. This requires the variety to have good adaptability to being frequently cut and have good regrowth

- Dormancy group: 6-7
- Winter active is: Moderate
- Can be used as grazing or hay
- Sowing rate: 10-35 kg/ha
- Disease tolerance: High
- Drought tolerance: Moderate
- Consistency: Good
- Sowing period: Aug-Sept, Feb-may



TRIAL DATA: CEDARA - 2014/2015/2016/2017 with 18 cultivars

Cultivar	Total yield Year 1		Total yield Year 2		Total yield Year 3		Total yield 3 Years	
	ton/ha	Rank	ton/ha	Rank	ton/ha	Rank	Total ton/ha	Total Rank
CAPSEVEN7/8	12.42	5	17.43	6	15.16	1	45.01	2
CAPSIX6/7	13.11	2	17.96	4	13.82	7	44.89	4
SA Standard	12.11	8	17.71	5	14.8	2	44.62	5
Aurora	10.94	11	16.29	12	13.8	9	41.03	11
Super Aurora	11.02	10	16.43	9	13.33	12	40.78	12
SA Select	10.38	15	15.4	18	12.62	17	38.4	16
CV%	10.9		8.2		10.1			
LSD (0.05)	2.079		2.289		2.525			
Mean	11.51		16.81		13.67			



LUCERNE

CAPNINE9 - DORMANCY 9

OVERVIEW

CAPNINE9 was selected over a number of grow outs in order to give the variety the best tolerance to pests & disease as well as an exceptional yield.

CAPNINE9 can be utilised for hay predominantly but can take a light grazing.

Trick to it's perennality is to allow sufficient time for it to establish when planted for the first time. Under optimum conditions ph 5 -8 , 350mmt or irrigation, deep and well drained soil, it produces exceptionally well.

It still performs well without irrigation or under dryer conditions.

Produces well during dry spells due to it's deep roots.

- Very high yielding growing year round
- Autumn dormancy 9 making it winter active
- Suitable for both hay production and or grazing
- Tolerance to pests and diseases

DROUGHT TOLERANCE	MEDIUM - HIGH
PROTEIN CONTENT	HIGH
DISEASE TOLERANCE	HIGH
PRODUCTIVITY	HIGH
USAGE	HAY
SOWING PERIOD	Aug-Sep, Feb-May
SEEDING RATE	8 – 12.5 kg/ha dryland
SEEDING RATE	20 – 25 kg/ha irrigated





OVERVIEW

SIRIVER is a result of several cycles of recurrent selection for disease and pest resistance and agronomic performance within the cultivar Siriver. It has a high forage yield without irrigation or under dry conditions.

SIRIVER is best suited as hay production due to it being very winter active, therefore maintaining a year round activity. SIRIVER can also be used for grazing.

SIRIVER can be utilised for growing in mixes, but care must be taken not to over graze it.



- Very high yielding growing year round
- Autumn dormancy 9
- Deep rooted, producing during dry spells
- Tolerance to pests and diseases

DROUGHT TOLERANCE	MEDIUM
PROTEIN CONTENT	HIGH
DISEASE TOLERANCE	HIGH
PRODUCTIVITY	HIGH
USAGE	HAY / LIGHT GRAZING
SOWING PERIOD	Aug-Sep, Feb-May
SEEDING RATE	8 – 12.5 kg/ha dryland
SEEDING RATE	20 – 25 kg/ha irrigated

LUCERNE CAPTEN10

DORMANCY 10

Although lucerne is a perennial plant, its winter growth habit (or dormancy) varies between varieties, as shown in figure 1. Dormancy classes range from 3 to 10: dormant (3,4); semi-dormant (5); winter-active (6-7); and highly winter-active (8, 9, 10).

CAPTEN10 is a winter-active variety generally growing right through the winter period.

CAPTEN10 has vigorous seedlings which can be an advantage in early winter sowing. CAPTEN10 also has a longer harvesting season, fast regrowth and high overall production during the early years, so may suit shorter rotations.

The more dormant the variety, the earlier the plant growth will cease in autumn and the later it will start in spring, so this determines when the forage is available.

Note that all lucerne varieties grow well during spring and summer and that the growth pattern of a variety can change if moisture is limiting.

- Dormancy group: 10
- Highly winter active
- High hay yield
- Short-medium term winter grazing
- Good for fast rotation fodder production



Figure 1. Relative growth of winter dormant (left) and winter active (right) lucerne varieties in winter.

SOWING RATES

Sowing rates for lucerne depend mostly on available moisture (rain or irrigation):

Rain	Kg/ha	Plant counts/m ² (after 1st summer)
Marginal dryland (350–450mm)	4–6	15–40
Dryland (450–600mm)	6–8	50–70
Favourable dryland (600–800mm)	10–12	80–100
High rainfall/irrigated (800mm+ / irrigated)	15–25	130–150

Note: The sowing rate is determined by the soil type. On heavier soils use the higher end of the rate range.



WINTER-ACTIVE - PERENNIAL GRAZING HERB

TONIC® is a highly productive perennial plantain (*Plantago lanceolata*) developed for sheep and cattle pastures. It is well adapted to a wide range of soil types and climates due to its deep fibrous root system combined with a strong taproot, providing excellent drought tolerance and persistence. TONIC® is primarily active during autumn, winter, and early spring, while continuing to produce forage during summer, making it a reliable 2–3 year pasture option.

Performance, Establishment & Management

TONIC® Plantain delivers high dry matter production of more than 15 t DM/ha/year under favourable conditions and significantly improves animal performance, supporting increased milk and meat production, higher daily liveweight gains, improved ewe milk yields, heavier weaning weights, and early forage intake in lambs. Its high mineral content, particularly copper and selenium, contributes to improved animal health, while its diuretic effect helps firm dung and reduce internal parasite pressure. TONIC® enhances soil health through nutrient cycling and strong mycorrhizal associations, making it an ideal companion in multi-species pastures alongside grasses, clovers, and herbs such as chicory.

For successful establishment, TONIC® should be planted from January to March into well-drained soils with broad-leaved weeds controlled prior to sowing. Seed may be drilled to a maximum depth of 10 mm or broadcast, using 8–14 kg/ha in pure stands or 2–3 kg/ha in pasture mixtures. Fertiliser requirements are similar to grasses; while TONIC® responds well to nitrogen, it does not fix nitrogen. Grazing should commence once plants reach 100–150 mm in height and are well anchored,

- Deep-rooted with strong drought tolerance
- Highly palatable and digestible
- Suitable for sheep and cattle
- Rapid regrowth after grazing



using rotational grazing with short, light grazing spells during the establishment phase. Management should aim to prevent flowering and avoid crown damage, particularly under wet conditions. Milking cows should not exceed 25% of total dry matter intake from plantain to avoid milk taint. Grazing is preferred over topping if stands become rank, and growth rates will decline when soil temperatures fall below 10°C.

CHICORY

ESPETADA

OVERVIEW

ESPETADA is a chicory (*Cichorium intybus* L.) cultivar selected from a number of types commonly cultivated in Uruguay.

The selection process identified key traits such as growth habit, reproductive cycle and leafiness. As a result ESPETADA is a very uniform cultivar with erect, smooth, light green leaves, which clearly differentiate it from common varieties.

Plants in general, exhibit excellent persistence and regrowth, making it a reliable choice. It demonstrates a late flowering period, ensuring prolonged availability and production.

During the entire vegetative period, ESPETADA stands out for its high quality forage. In the vegetative state it has excellent digestibility with a rate of 70% OMD, while also exhibiting a high protein content at a rate of 22% CP, while low values of ADF at 24% and NDF at 35%.

Its late leafiness and flowering prolong high quality spring forage by reducing the volume of stems produced and delaying hardening of the pasture. Flowering takes place from November to March, presenting its maximum flowering in mid-December.

The plants continue to grow during the winter, highlighting their higher autumn production compared to other cultivars with a more erect habit.

- Superior forage quality due to high leaf/stem ratio
- High performance in autumn-winter
- Upright behaviour adapted to grazing
- Long period of use with late emission of the floral stem
- Ideal for pastures associated with red clover
- High animal preference
- Sow at 1kg / ha in mixes up to 8kg / ha pure





OVERVIEW

SIX POINT is a very perennial herb with a high persistency. It is a very drought tolerant option as a perennial pasture for temperate areas. SIX POINT possesses a very deep tap root which has been known to break mild hard pans and draw moisture from deep within the soil. This taproot allows it to hang on well and produce quality forage.

SIX POINT chicory is known to reduce parasites in sheep and cattle which may be attributed to the condensed tannins within the plant. Chicory contains 'lactones and lactucin' which are alkaloids and in combination with chicory's tannin content makes six point chicory an excellent inhibitor towards parasites, namely worms.

SIX POINT is known to contain between 10 – 35% crude protein and 95% digestibility. When included in a mix with lucerne has been known to alleviate cryptosporidiosis in lambs and to limit incidence of bloat in cattle.

SIX POINT can be sown as a mono crop as a specialist livestock finishing crop but in most regions it is more likely to be sown in a mix with grasses and clovers. Through local trials we have found sowing rates from 2 – 5kg/ha significantly enhance production as well as long term persistence.

Chicory persists from the crown of the original plant but will also establish from seed if allowed to flower or head. The stand may need to be slashed or crash grazed in order to make the plant go from reproduction back into a vegetative phase. Chicory will not grow as aggressively through winter but more than makes up for that through spring, summer and autumn.

- 5 + year perennial option if managed correctly
- High nutrient & energy levels
- Tolerant of strong grazing pressure
- Out of season finishing option
- Tolerant of acid and alkaline soils.
- Tolerant of water logging
- Has parasite inhibiting properties.



As we have experienced it is challenging to control the weeds in a MSP, therefore it is imperative to make sure the soil is well prepared in the years prior to sowing a stand of SIX POINT.

Local agronomists have found ways to keep stands clean of broadleaf weed however most recommendations are strictly off label and farmers using these methods do so at their own risk.

CHICORY

SPADA

SUMMER ACTIVE STALWART

SPADA offer rapid establishment and excellent winter growth. It provides high quality feed for high stocking rates. It is possible to sow in both Autumn and in Spring.

It is useful as a hard grazing option in a rotational system. It has been seen to offer excellent weight gains. There is always the option to mix it into pasture.

SPADA has been noted to have a good protein to energy rating. It requires a minimum rainfall of 500mm and a life span of 2-3 years. It's seeding rate on dryland is 3kg/ha and on high rainfall or irrigated land 5kg/ha can be used. It is used extensively in mixes at 1-2 kg/ha

- High yielding, perennial forage chicory selection
- Improved establishment vigour
- Outstanding summer productivity and quality
- Deep-rooted species enhancing mineral uptake



ANNUAL LEGUMES

SERADELLA PINK - FRENCH

EMENA

NON BLOATING ANNUAL

EMENA features a high level of hard seed with continual breakdown over summer and autumn. It is a deep rooted variety that is suitable for a wide range of soil types including highly acidic and infertile sands. It is header harvestable and has a good tolerance to Red Legged Earth Mite and Aphids. It is non bloating and free of phytoestrogens.

- High level of hard seed
- Deep rooted
- Suitable for a wide range of soil types
- Header harvestable



VETCH

NAMOI

EXCELLENT GRAZING VETCH

Namoi (*Vicia villosa*) is a mid season, hard seeded, self regenerating annual with a semi erect growth habit. Namoi is suited to a wide range of soil types, performing better on lighter soil types compared to other Vetch species. It is well adapted to low rainfall situations and suited to long term cropping rotations whilst providing the added benefits of moderate drought tolerance and being a highly efficient and effective soil nitrogen producer. Mature plants form a dense canopy providing strong weed competition. Namoi is ideal as a break crop and is well suited for hay production or turned in as a green manure crop to improve soil health.

Namoi is susceptible to Red Legged Earth Mite (*Halotydeus destructor*), Cow Pea Aphid (*Aphis craccivora*), and Native Bud Worm (*Helicoverpa punctigera*) and appropriate control measures should be taken prior to or soon after germination.

- Mid maturing self regulating annual
- Indeterminate flowering
- Moderately drought tolerant
- Suitable for grazing, hay and green manure
- Excellent disease break



VETCH

BLANCHEFLEUR

ADAPTABLE

The preferred grain variety for lower rainfall areas (less than 350mm), Blanchefleur shows improved ascochyta resistance and dry matter production over Languedoc. Blanchefleur is a mid maturing variety and is one of the few *Vicia sativa* varieties to display the distinct white flowers after which the variety has been named.

Vetch, in general, is very palatable as a green feed and sheep graze it preferentially. It also has good potential as cattle feed. Vetch can be susceptible to Chocolate Spot and Rust. Re-growth is not as good as grazing Vetch under grazing, but it comes away quickly and combines well with cereals.

- Lower rainfall for average seed set is 350mm
- Mid flowering time
- Fair - Good forage production
- Less than 10% hard seed (unthreshed)

PERSIAN CLOVER

SHAFTAL

OVERVIEW

Excellent waterlogging tolerance and mildly salt tolerant. It is also highly palatable and digestible feed with high forage yield. Ideally suited to hay or silage production. SHAFTAL has a long term persistence and its seed varies in colour depending on cultivar with 820 000 – 2 million seeds / kg. It leaves trifoliolate with leaflets egg to triangular shaped with strong veins and a toothed margin; more than 10mm long; stipule tapers to a fine point. Mature plants semi-erect to erect, succulent with medium-thick hollow stems (varies between subspecies). Used in mixtures with annual ryegrasses.

- Cultivars require annual re-sowing
- Ideally suited to irrigated forage production
- Best suited to clay soils with pH 5.5 - 8.5 but adapted to most soil types except acid, sandy soils
- Tolerates mildly saline soils, varying with cultivar



CLOVER SEEDS

TABOR

FORAGE COVER AND GREEN MANURE CROPS

Tabor clover is a fast growing annual (summer) single cut plant. It's a heavy N producer.

This clover can be used in forage and green manure crops. Its highly efficient water use compares favourably to lucerne as a high-producing forage and green manure. It establishes well with an oat nurse crop, making it an excellent cover for small grain>maize>soybean rotations. It enriches the soil with Nitrogen which is an advantage to cereal and other crop rotation.

Soil conservation

Tabor covers the ground rapidly, suppresses weeds and prevents soil erosion. Adapted to most soil types and tolerates salt, it is suitable for use in coastal areas

- OECD & ISTA certified seed
- Costs reduced due to less fertilizers and herbicides being used.
- High hay yield at 400-500 mm rain fall.
- High protein content - 18-25 % dry material.
- Flowering late
- Erect growth
- Fast establishment
- Frost sensitive
- Sowing rate of 3-7kg / ha in a mix.
- Non bloating forage

Over 7 metric tons of dry matter per hectare is achievable in 90 days. Single cut varieties will yield as much as double the amount of forage when compared to multi-cut varieties.





DRY PEAS

JUPITER

PREMIUM PRODUCT

JUPITER is a large blue pea. It was bred in the United Kingdom by Cambridge Plant Breeders and after extensive trialling by Heritage Seeds it has shown very good adaptability to Australian conditions. JUPITER produces a large, smooth skinned pea with green cotyledon colour.

JUPITER had its first year of full commercial evaluation in 1994 and the responses from end-users proved very encouraging.

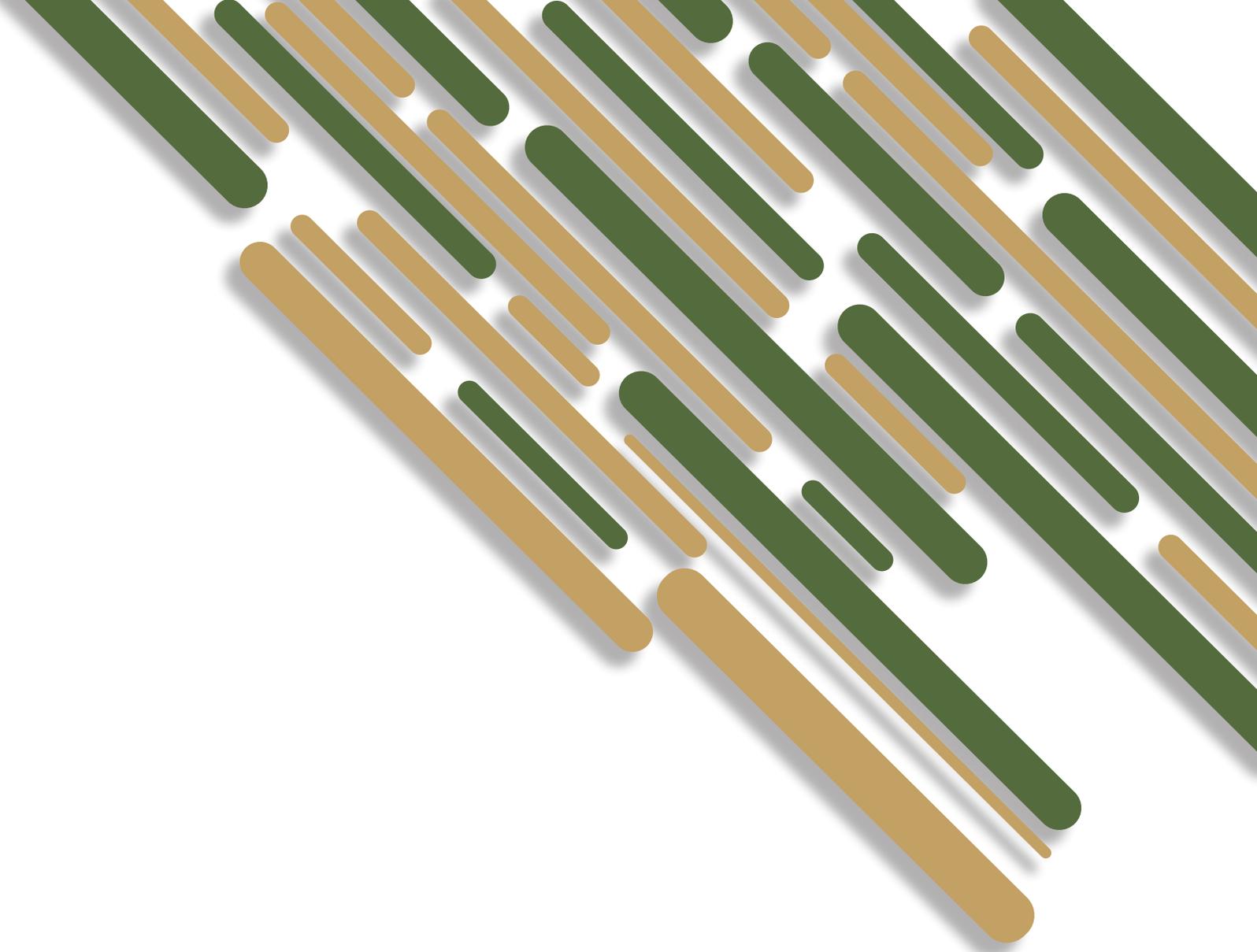
JUPITER proved itself useful for canning in trials in Australia. A trial of split JUPITER peas was also very successful and the product readily accepted by the Australian and overseas buyers. JUPITER was found to split readily and excellent recovery rates were achieved.

JUPITER is a legume therefore has the ability to fix nitrogen and release it to the next crop when terminated.

- Large even sized pea
- Smooth skinned
- Excellent green colour
- Suitable for canning
- Premium product
- Used extensively in cover crop mixes



NOTES:



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