

PASTURE & FORAGE

AUTUMN

CONTENTS

COCKSFOOT	3	SPRING RYE	25	CANOLA	40
DONATA		SOUTHERN GREEN		AKELA	
AMBA		SITO 70			
		SSR 1		WHITE CLOVER	40
TALL FESCUE	4	SSR727		HAIFA	
BOSCHHOEK			TRITICALE	TABOR	
JESSUP			27		
BARIANE			TUCKERBOX		
				RED CLOVER	42
FESTULOLIUM	6	BLACK OATS	28	OREGON	
FELINA (FESCUE TYPE)		SAIA		KENLAND	
PERENNIAL RYEGRASS	7	RED OATS	29	LUCERNE	43
BILLABONG (D)		RED DAWN		CAPFIVE5	
TANKER (T)				SA STANDARD	
GENESIS (D)				AURORA	
50FIFTY (D)				CAPSIX6	
BOWIE (D)				CAPNINE9	
24SEVEN (D)				SIRIVER	
				CAPTEN10	
GRAZING BROME GRASS	13	WHITE OATS	30		
MATUA		TARGA		BIRDSFOOT TREFOIL	48
		SWK 001		BIRDSFOOT TREFOIL	
		CEDARBERG			
		WITTEBERG			
		KOMPASBERG			
		SSH423			
		BRUNSWICK			
WESTERWOLD RYEGRASS	14	BARLEY	34	PLANTAIN	48
PASSEREL PLUS (D)		6 ROW BARLEY		TONIC	
CAPTAIN (T)					
PASSEREL PLUS ER7				CHICORY	49
				SPADA	
ITALIAN RYEGRASS	16	FODDER RADISH	35		
CAVERSHAM (D)		NOOITGEDACHT		SERADELLA PINK -	
SUPREME Q (D)		SAMURAI		FRENCH	49
SUSTAINER (D)		GEISHA		EMENA	
ICON (D)					
SUPERCHARGER (T)				VETCH	50
TURGO (T)		LONG ROOTED RADISH	37	NAMOI	
JACKPOT(D)		SOIL BUSTER		BLANCHEFLEUR	
STOOLING RYE	23	CATTLE TURNIP	38	FORAGE PEAS	51
SOUTHERN BLUE		MAMMOTH PURPLE TOP		JUPITER	
SSR 729					
LEBA					
		RAPE	39		
		GIANT ENGLISH RAPE			
		BLACK MUSTARD	39		
		NEMAFIX			



COCKSFOOT DONATA

BRED FOR A SPECIAL PURPOSE

Breeding goal was not a high yielding aggressive cocksfoot, which out competes other grasses after two to three years in the mixture. No, the goal was to find a cocksfoot that fits perfect into mixtures with perennial ryegrass where it is competitive, but not aggressive, and by the way to be more digestible than old cocksfoot types.

With DONATA we are able to present the very good result of the breeding work. DONATA is a high digestible and non-aggressive cocksfoot variety. As a late type it fits perfect into mixtures with perennial ryegrass, hybrid ryegrass, white clover and even with lucerne.

DONATA is adapted to low input conditions and definitely will be the first choice for many mixtures with an even production right from spring to autumn!

- Late type with high feeding quality
- Improved digestibility
- Ideal partner in mixtures
- Good rust resistance



RATINGS

PERSISTENCY



GRAZING TOLERANCE



MIXTURE ADAPTION




COCKSFOOT AMBA

QUICK ESTABLISHMENT AND EARLY PRODUCTION

Amba establishes well and has a strong growth right from the start. Amba has proved to have a digestibility on the level of the more late varieties. This is unique for an early variety.

Amba has been proven to be a winter hardy variety, which is tolerant to late night frost in spring. Amba is tall growing and fits well in with mixtures with early tall growing grasses as well as red clover. When the first cut is taken at the right time before heading, no stems will be produced in the aftermath.

- Early variety
- High yields of dry matter
- Very winter hardy
- High digestibility compared to other early varieties
- Early production
- High mixture adaption



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

JESSUP

WIDELY ADAPTED TO WET SOILS

JESSUP is best adapted to clay or clay loam soils. It is tolerant to acid soils and poor drainage, but not well suited to sandy soils.

JESSUP is widely adapted and well suited to reclamation and erosion control. The sowing rate for JESSUP is 25kg/ha.

The seed should be planted at least 10 weeks before the first frosts are expected.

When Jessup is fed to cattle, average daily gains

- Crude protein level of 15-16%
- Best use for grazing, but when cut before head emergence will also provide good quality hay
- Quality winter forage (standing hay)
- Total digestible nutrients of 60-62%
- Jessup can be used for cutting and baling



of 1kg/day are possible and it is widely adapted and can survive light grazing with little management. Jessup will produce large quantities of highly palatable grass.



TALL FESCUE

BARIANE

SOFT-LEAFED TALL FESCUE

This fescue is a widely adapted cool season grass. Tall fescues are used extensively due to their superior summer production. New generation of tall fescue which is the soft-leafed tall fescues.

BARIANE is a fine-leafed tall fescue. It is later maturing than other varieties and in palatability studies, it ranks number one. BARIANE is listed in many European countries that test tall fescue for intensive grazing practices. It combines late maturity, feed quality and palatability.

PALATABILITY

Palatability is hard to measure, but we do know a few things. In a sheep grazing trial conducted in France, BARIANE and Barolex were the only two varieties that animals preferred. Sheep would eat the BARIANE and Barolex into the ground and waited for hours before starting to graze 'rough-leafed' varieties.



- Late maturing
- Softer leaves
- Very palatable
- Better rust resistance
- Winter-hardy



LATER HEADING DATE

Varieties with later heading dates are much easier to manage. They will produce less and later seed heads in spring, allowing for a longer grazing / harvest window. Later maturing varieties also show less re-heading in the season. BARIANE is one of the latest maturing tall fescues available on the market. BARIANE produces seed heads more than 10 days later than most other varieties.

SYSTEM FIT

beef-multipurpose-pasture,
 beef-permanent-pasture,
 beef-rotational-pasture,
 dairy-growing-pasture,
 dairy-lactating-cows,
 sheep-high-quality-pasture,
 sheep-multi-purpose

FESTULOLIUM FELINA

STRONG PERSISTENCE

Main traits of FELINA are a high yield potential, persistence, drought resistance and tolerance to high level of subsoil water, meaning it can take "wet feet or vlei areas". FELINA can be used as substitute for meadow fescue and tall fescue, these festulolium varieties have better feeding value - measured by higher content of sugar and energy. FELINA has a good early spring growth as well as a high production in late summer.

Compared to meadow fescue and tall fescue, festulolium varieties have better feeding value - measured by higher content of sugar and energy. FELINA has a good early spring growth as well as a high production late summer.

Felina SA Trials

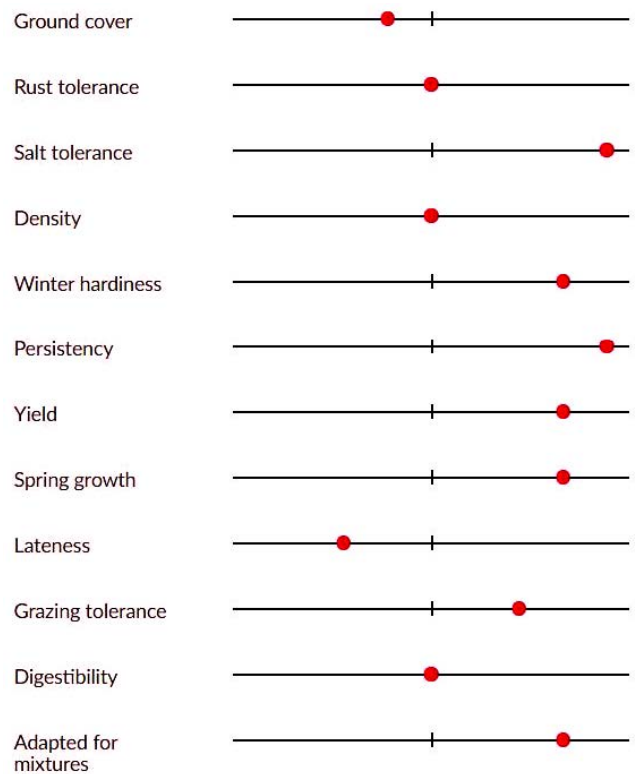
FELINA has been in South African trials for 4 years and showing extreme persistence. See results from the first 2 years of study below.



- Lateness: Intermediate
- Tall Fescue Type Festulolium
- Very early spring growth and early heading
- Increased midsummer production
- High yield potential
- Strong persistence & drought resistance
- Excellent tolerance to high level of subsoil water
- Suited to cutting and grazing

RATINGS

Scale 1-9, where 9 = best or most pronounced



ALTERNATIVE PERENNIALS 2011-12 SOUTH AFRICA

	2011 Autumn	2011 Winter	2011 Spring	2011/12 Summer	2011/12 Autumn	Total	Rank
Achilles	1.99	4.09	7.62	5.32	0.80	19.81	1
Felina	0.44	1.83	8.48	5.68	1.05	17.48	4
Matrix	2.12	4.33	7.24	3.07	0.08	16.84	5
Perseus	2.30	4.10	7.12	4.74	0.84	19.10	2
Perun	1.80	3.66	7.47	4.68	0.71	18.31	3



PERENNIAL RYEGRASS

BILLABONG (DIPLOID)

RAPID & VIGOROUS ESTABLISHMENT

A mid season diploid perennial ryegrass bred for high input grazing systems.

BILLABONG is a forage perennial ryegrass suited to a wide range of enterprises. Billabong is a mid maturing variety with an extended grazing season into the summer before going to flower. The increased growth curve results in more even dry matter production year after year compared to earlier maturing varieties.

BILLABONG is easy to establish in the autumn and shows rapid growth in the spring. It has excellent rust tolerance and is resistant to most disease.

BILLABONG may be sown in a wide range of soil types. It performs best in areas receiving over 700mm rainfall or with irrigation.

BILLABONG can be sown on its own, (25 – 35kg/ha) or as part of a pasture mix with clovers and fescue. This “all round” ryegrass ideally suits set flocking and rotational grazing systems for cattle and sheep

- Rapid and vigorous seedling establishment
- Excellent disease resistance
- Maintains grazing into summer
- Produces outstanding live weight gains
- Ideal component of perennial pasture blends
- Sowing rate of 25-35kg/ha





PERENNIAL RYEGRASS

TANKER (TETRAPLOID)

VERY HIGH YIELDS

TANKER was the first perennial ryegrass to be released from DLF's New Zealand breeding programme. It was bred specifically for our climate and the seasonal needs of farmers.

TANKER is a tetraploid perennial with a late heading date, and is ideal for farmers wanting to achieve high animal performance and stocking rates.

TANKER has a relative fine leaf and high tiller density for a tetraploid, giving it good tolerance to intensive grazing and pugging.

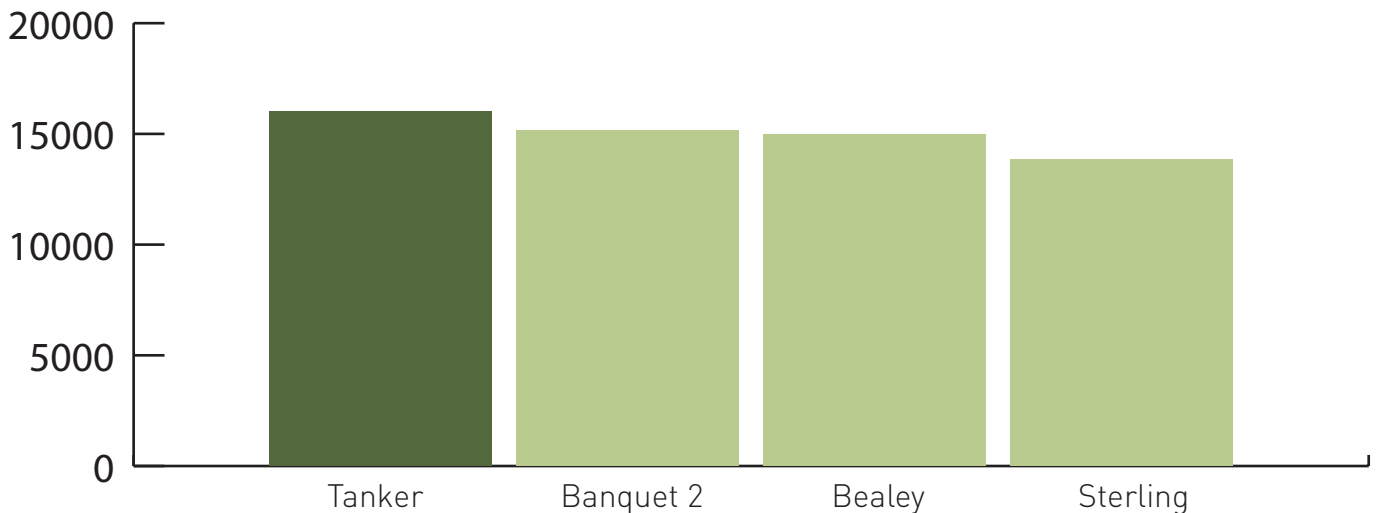
TANKER has very good total growth compared with standards, and is at least as productive in all seasons, with particularly strong growth over summer.

TANKER is only available without endophyte, so it is suited to regions where endophyte is not needed.

- Very high yields
- Palatable
- Persistent
- Strong summer growth



PERENNIAL RYEGRASSES - MEAN ANNUAL GROWTH (OUTENIQUA RESEARCH FARM 2017)



PERENNIAL RYEGRASS

GENESIS (DIPLOID)

VERY EARLY FLOWERING

GENESIS represents an improved disease resistance in combination with good ground cover and a high yield which is comparable with top yielding varieties of the same heading group.

HIGH SEASON YIELD

GENESIS in a mixture is a backup for yield in years where the first cut is low in terms of mass due to spring drought. In a dry period, GENESIS can play its card and provide quality and yield during the summer month.

GENESIS starts early in spring with top early grazing scores increases the productivity over the whole growing season and harvests a top 8 score for later cuts.

USAGE

GENESIS is specially recommended as mixture partner for early mixtures and in combination with high first cut varieties. Due to the top yields over the season, GENESIS is the very best partner for high yielding pasture mixtures for dairy farms where an early silage cut is taken.

- Good ground cover
- Very early heading group
- Very high seasonal yield
- Improvement in disease resistance



RATINGS

PERSISTENCY



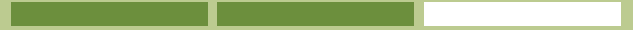
RUST TOLERANCE



WINTER HARDINESS



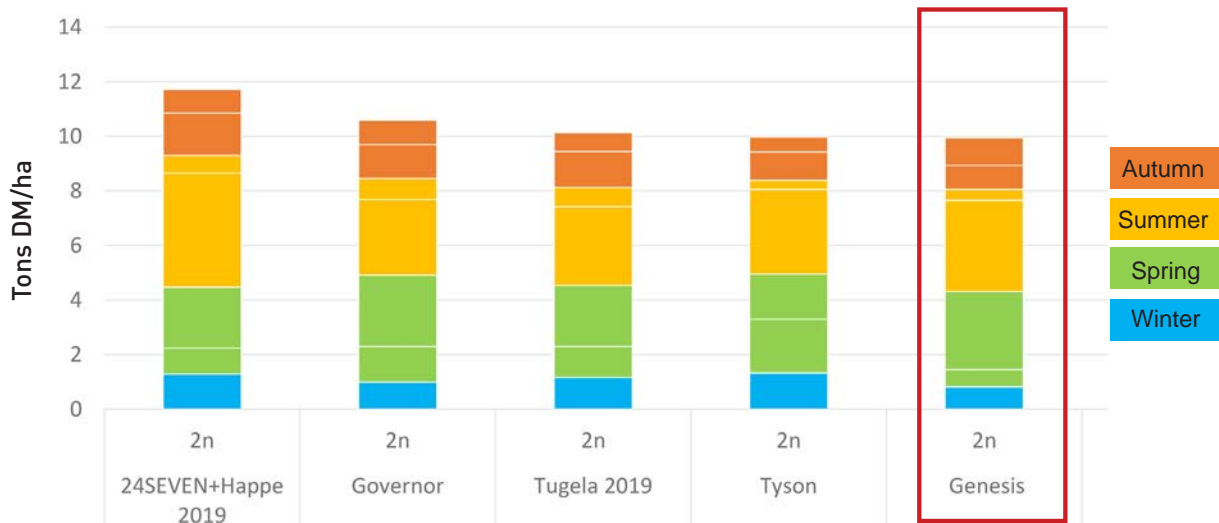
SPRING GROWTH (EARLY)



GROUND COVER



Perennials @George 2020





PERENNIAL RYEGRASS

50FIFTY (DIPLOID)

LATE FLOWERING

50FIFTY is the newest release from Capstone Seeds. It 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.

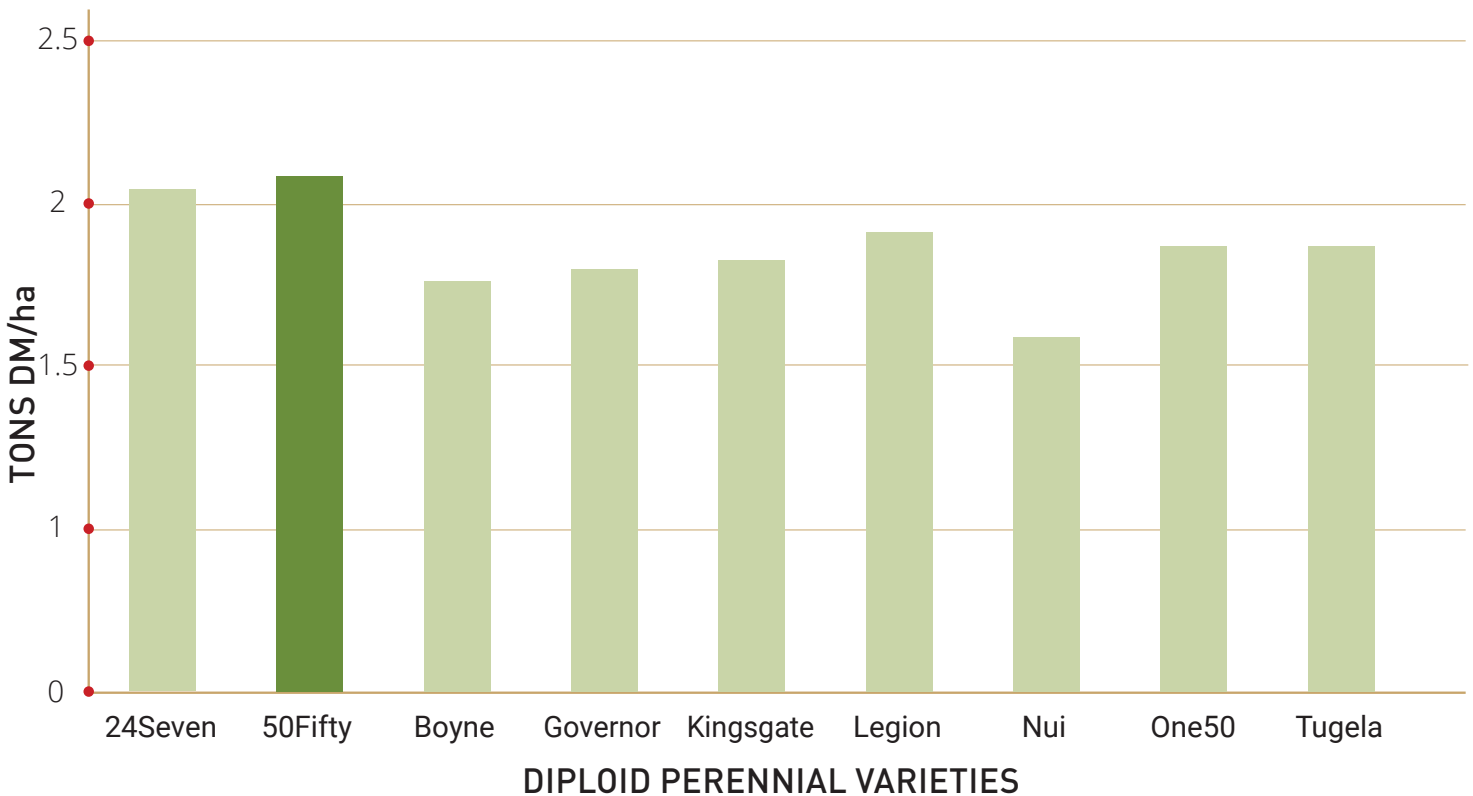
50FIFTY, as a cool season, late heading, temperate variety, is very strong going into Autumn Winter and being a dense compact variety that tillers aggressively can compete against those medium heading varieties coming into spring. Due to the late heading, 50FIFTY maintains vegetative leaf production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

50FIFTY 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

BOWIE (DIPLOID)

LATE FLOWERING

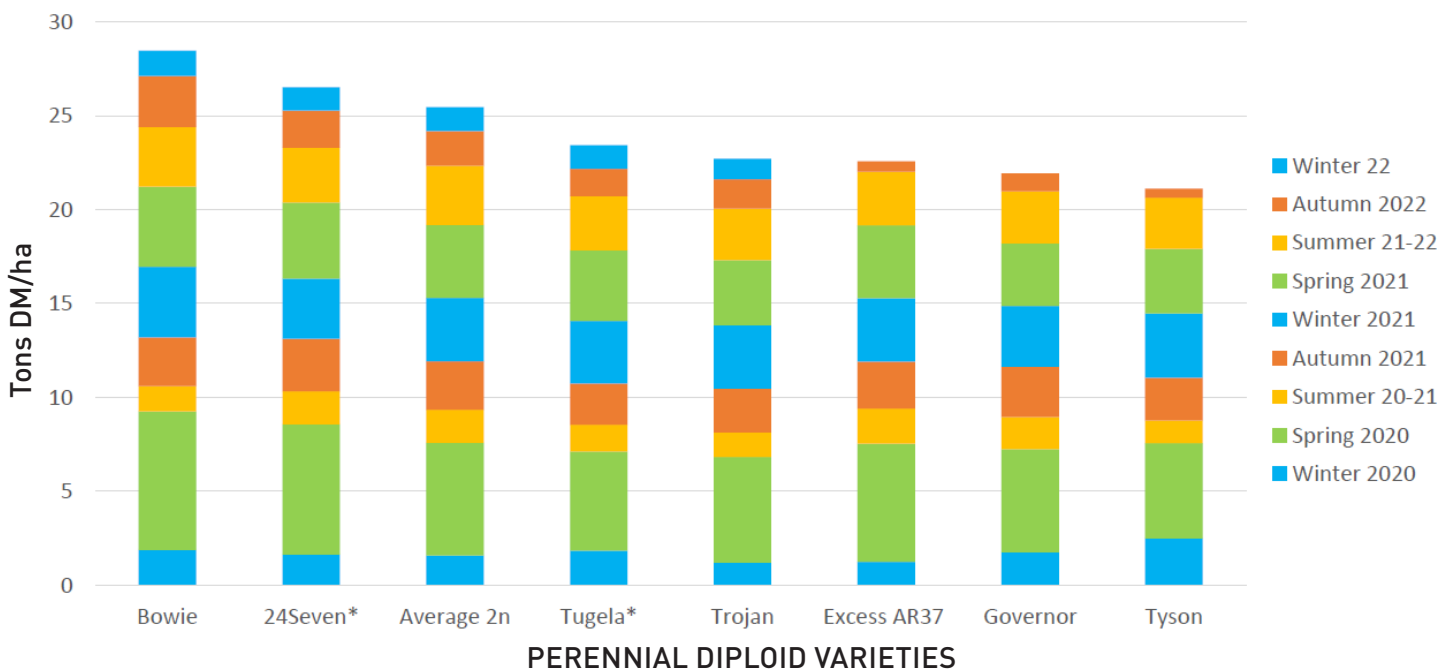
Very similar to 24 Seven.

BOWIE'S feeding quality is so good that it has been awarded the Fiber Energy badge. Fiber Energy varieties are highly digestible with better animal health, producing more meat and milk from grazing.

BOWIE has a very late heading date, which can extend the grazing season into the late summer and autumn.

BOWIE has a high ground cover rating with medium winter hardiness.

- Highly palatable
- Bred for high production and tiller density
- Medium rust tolerance
- High yield



PERENNIAL RYEGRASS

24SEVEN (DIPLOID)

EXCEPTIONAL SUMMER PRODUCTION

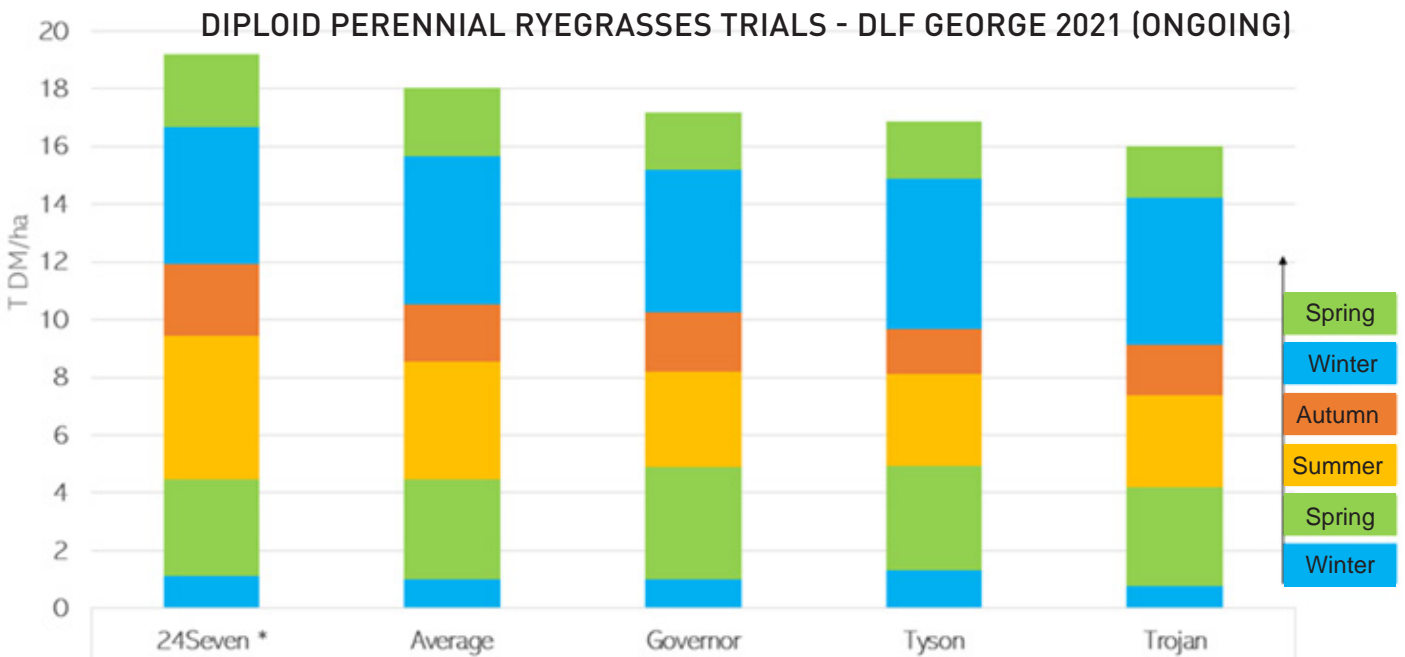
24SEVEN is a new release from DLF Seeds New Zealand plant breeders, and is suited to a vast amount of regions. The production of 24SEVEN has been tested in several trials across New Zealand, in which 24SEVEN has never been beaten by other commercial cultivars.

It also has unusually strong cool-season growth for such a late heading date. 24SEVEN therefore breaks the old dilemma created from late heading ryegrass having less early-spring growth than mid-heading cultivars.

24SEVEN has very high NDF, which is the most useful measure of feeding value. NDF is a predictor of voluntary intake because it provides bulk or fill.

24SEVEN also produces stems and flower heads 24 days later than standard data cultivars, so it extends the period of high energy and protein pasture in late spring by almost one month. Farmers (and their animals) can now “have their cake, and eat it too”!

- Bred for high production and tiller density
- Very late heading date maximises seasonal production and feed quality
- Robust tuft with strong persistence
- Increased feed production throughout the year
- Good resilience to hard grazing and dry periods
- Heading date +24 days





GRAZING BROME GRASS

MATUA

QUICK RECOVERY

MATUA is a relative of smooth brome grass, but differs as it does not have rhizomes and also produces seed heads each growth period, especially during the summer. It is best described as a short lived perennial, living two to three years, but because of its unusual seeding habit, its dropped seed will perpetuate and give long stand life. It is a highly palatable, high quality, cool season grass that will survive in even the warmer areas.

MATUA extends the grazing season by producing earlier, growing later and staying palatable even in the hot summer months. It can easily rival the feed value of alfalfa and out-produce ryegrass and cocksfoot grass by as much as 40 percent. When grazed, clover can be added to the stand.

More recently, its role in wastewater management has been proven. Matua seed is treated to prevent headsmut and processed to ensure free flowing seed at time of planting. Certified Matua is easily recognized by its pink color.

GRAZING

In a rotational or intensive grazing program, Matua can be expected to provide some of the highest quality grass forage available. One key advantage of Matua is the fact that it keeps its palatability and quality even as it approaches maturity. Unlike other grasses it does not produce a lot of lignin, which makes plants unpalatable and indigestible.

Grazing management is the key to maximum production, quality, and stand life. For optimum gain per hectare, regrowth and persistence, Matua should be grazed in a strict rotation

- High palatable
- Heat tolerance
- Hay or Silage
- Excellent regrowth potential



and harvested only after the plant reaches an early seed stage. A rest period of 25 -35 days is required between harvests depending on the time of year

CUTTING FOR HAY OR SILAGE

MATUA can fit well into any operation as a hay crop or as silage. Because of its high digestibility, protein and energy.

MATUA makes excellent feed either in a pure stand or in a mixture with clover or lucerne. With excellent regrowth potential it can be cut several times during each growing season.

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.

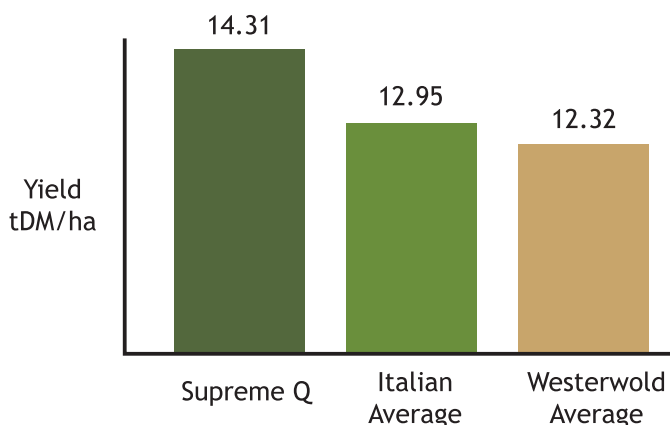
SUPREME Q was released with higher drymatter and TNC (total non structural carbohydrates) content than conventional varieties. The original improved TNC variety bred by the ARC, Enhancer, was tested extensively under dairy conditions and showed an unequivocal improvement in cow milk yield both in the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

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

ICON (DIPLOID)

LOW AFTERMATH HEADING

ICON has excellent production over winter and spring. Icon is an ideal ryegrass to sow for large amounts of winter and spring grazing, or silage production.

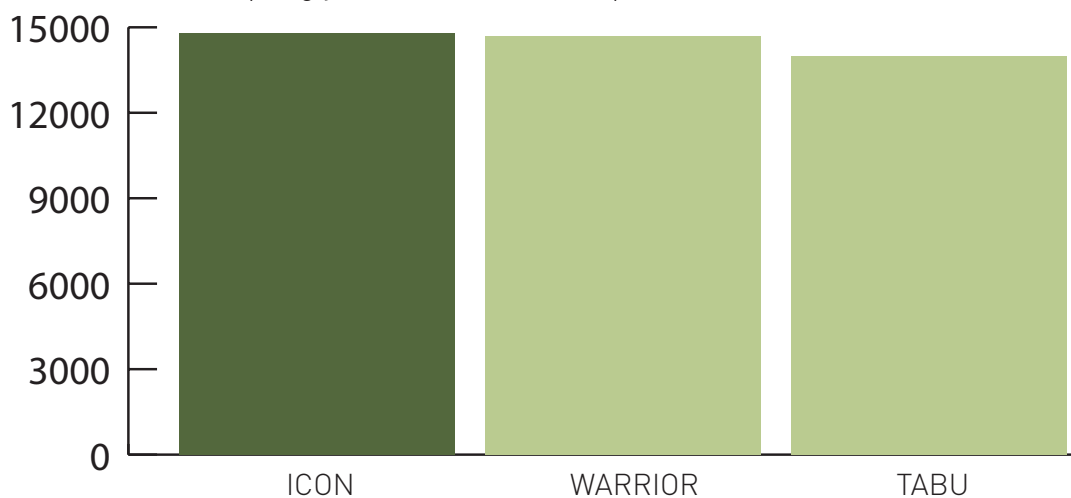
ICON is a new generation purpose bred variety from the internationally recognized DLF Seeds company. It is a mid-season maturing true Italian type that can be sown as a Biennial option where there is summer irrigation or sufficient soil moisture to sustain production through the summer period.

ICON has a heading date that is around 7 days later than Nui, with very little aftermath heading meaning that there is a limited loss of feed quality in the mid spring period.

- Vigorous establishment sown in autumn or spring
- Rust tolerance
- Quick establishment
- High summer/autumn production under irrigation
- Mid season maturity providing excellent late winter /early spring production
- Recommended Sowing rates:
High rainfall - 25kgs per/ha
Dry Land - 20 kg/ha



Winter/spring yeild of commercial diploid cultivars (Yaldhurst, 2011)





ITALIAN RYEGRASS

SUPERCHARGER (TETRAPLOID)

HIGH SUGAR CONTENT

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

SUPERCHARGER 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



* Supercharger and Supreme Q



Lm YT 84: Cedara, KwaZulu-Natal, South Africa: Planted 13/04/2015 | Mean DM yield: tonnes/ha

CULTIVAR DATE	CUT 1 09/06/15	CUT 2 28/07/15	CUT 3 07/09/15	CUT 4 30/09/15	CUT 5 28/10/15	RUST 28/10/15	CUT 6 04/12/15	RUST 04/12/15	TOTAL* CUTS 1-6	RUST 11/01/16
Alamo (DI)	1.97	2.42	2.87	2.43	2.21	1	1.33	3	13.23	4
Icon (DI)	1.68	2.53	3.40	2.48	1.95	1.5	1.21	2	13.25	2.5
Kigezi (TI)	2.03	2.23	2.90	2.47	1.89	1.5	1.40	2	12.95	3.5
Mont Blanc (TI)	1.38	2.14	2.61	2.25	1.65	2.5	1.10	3.5	11.13	5
Supercharge (TI)	1.49	2.90	3.04	2.02	2.16	1.5	1.53	1.5	13.14	2
Supreme Q (DI)	1.56	3.01	2.91	1.43	2.27	1	1.16	1	12.34	2.5
Dargle (DI)	1.89	2.92	2.95	0.97	2.45	1	0.58	1	11.76	3.5
Feast II (TI)	1.87	2.41	2.82	1.95	1.97	1	1.23	2.5	12.25	4

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

**Rust ratings on a scale 1 to 5 were conducted when infection was most severe with:

1 = no rust infection

5 = very severe rust infection

ITALIAN RYEGRASS

TURGO (TETRAPLOID)

VERY PRODUCTIVE

TURGO establishes well and is a high yielding tetraploid Italian ryegrass. Especially the 1st cut yield is excellent and TURGO has a very rapid regrowth after cutting.

Results from trials, show the high level of TURGO when it comes to fast development and high drymatter yield.

The forage quality in terms of digestibility and sugar content is good, and TURGO thrives very well on most types of soil.

Due to the fast growth, TURGO also does well for inter-cropping/cover crop.



- High yielding tetraploid
- Intermediate heading date
- Fast regrowth after cut
- Good as catch crop

Persistence



Rust tolerance



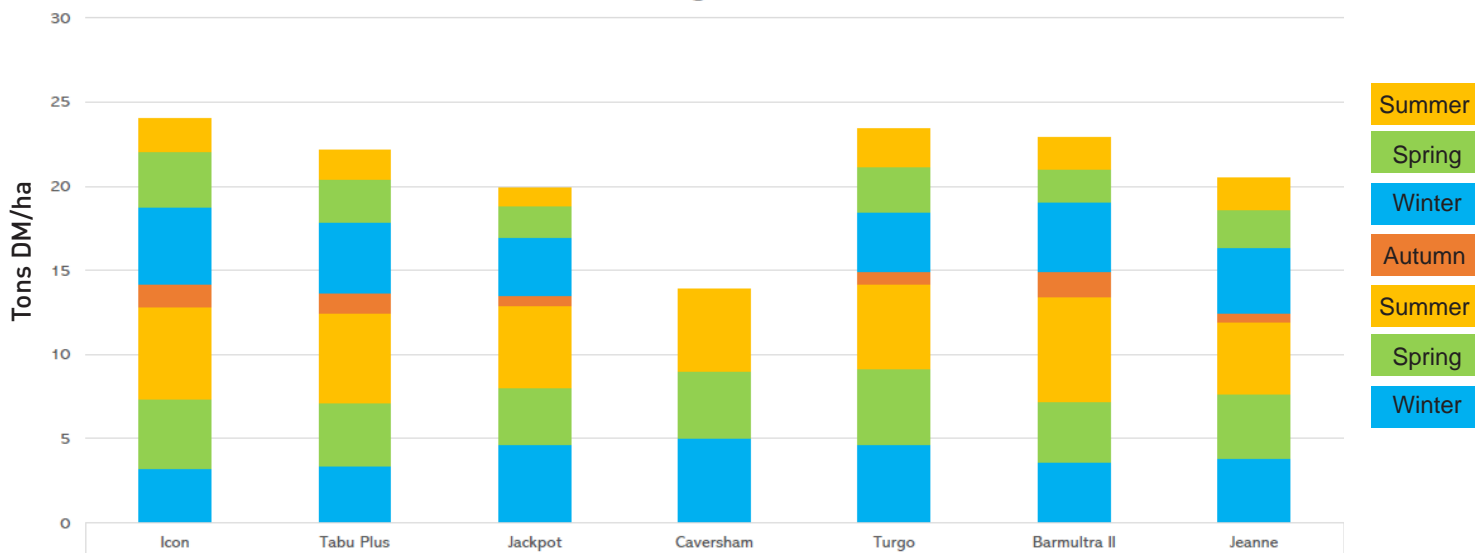
Spring growth (early)



Mixture adaptation



Italian ryegrass @ DLF George



DIPLOID AND TETRAPLOID ITALIAN VARIETIES OVER A NUMBER OF SEASONS

ITALIAN RYEGRASS

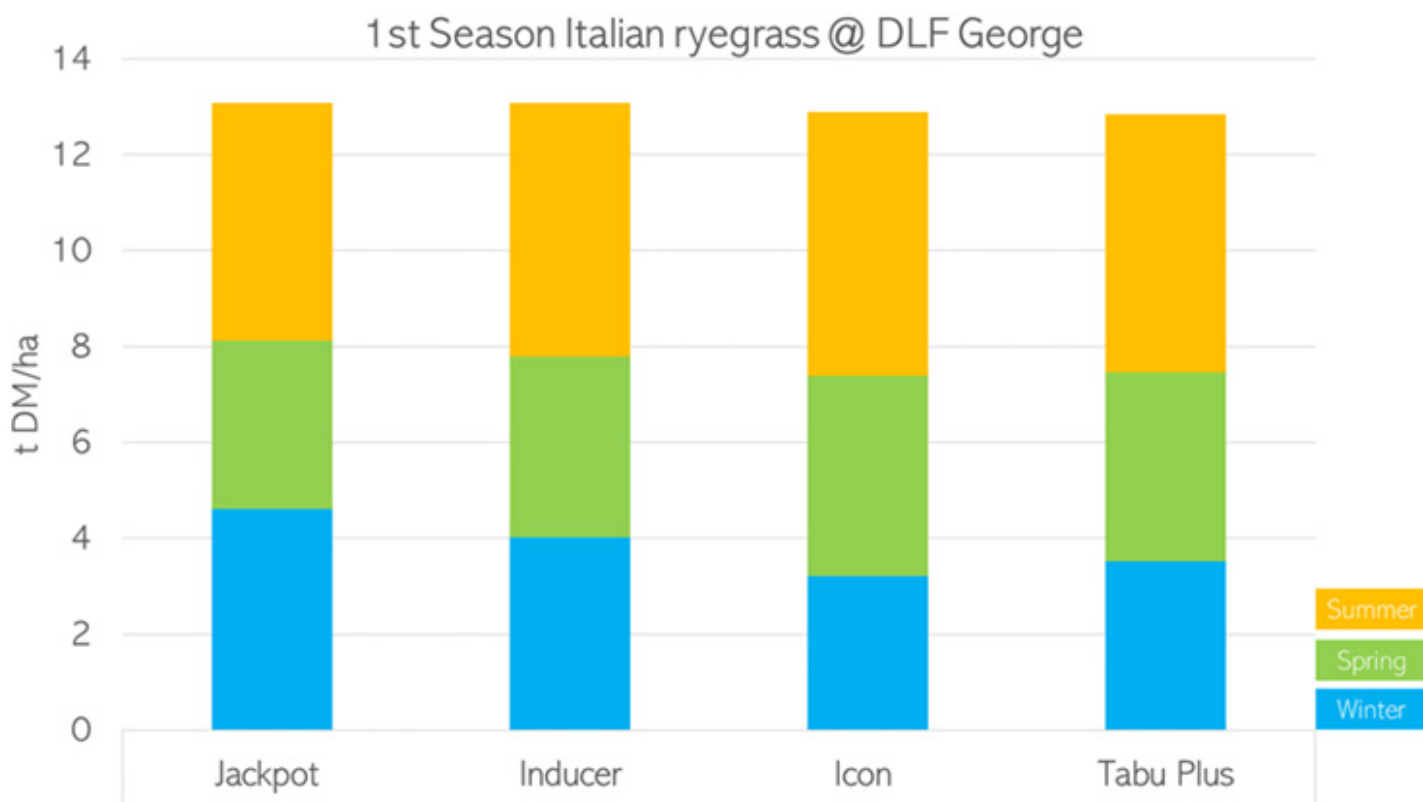
JACKPOT (DIPLOID)

LATE HEADING PROLONGED SEED QUALITY

JACKPOT is a new diploid Italian ryegrass bred by DLF Seeds in New Zealand. The breeding and testing programme was aimed to develop a new fine-leaved cultivar with improved production in all seasons. The ability to produce for two or more years in favourable climates was also a priority in selection

Testing has confirmed that JACKPOT is a leading cultivar for production and survival. Its late heading date also prolongs feed quality in spring.

- Excellent yield
- Excellent Winter growth
- Excellent early Spring growth
- Diploid Italian Ryegrass



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



STOOLING RYE

SSR 729

ADAPTABLE

- Widely adapted to most soil conditions and prefers sufficient rainfall.
- Is planted in rows (30-45cm) at 25-40 kg/ha.
- Can be broadcast at 50 kg/ha and under irrigation at 75-100 kg /ha.
- Planting time is from April to May in the Summer rainfall region.
- Suited for grazing as well as baling.



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.

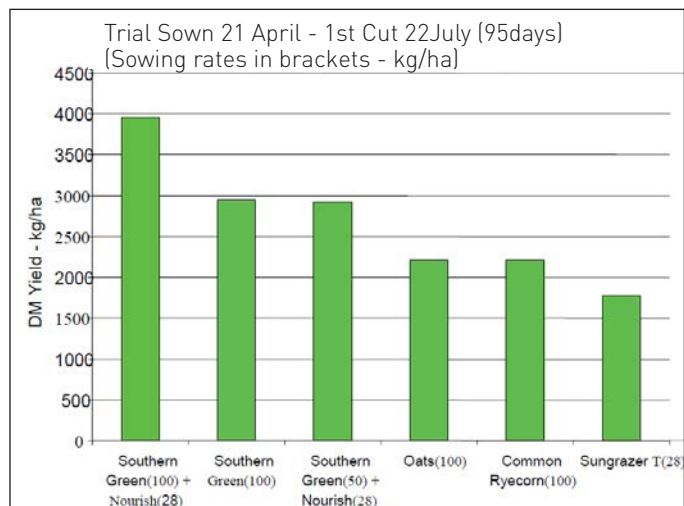
It is recommended that you drill at 35kg/ha and broadcast at 75kg/ha. It can even be used over Kikuyu when broadcast. It is important to avoid planting too early or it may go to seed before winter.

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

SITO 70

QUICK GROWER

A precocious variety with exceptional agronomic and physiological characteristics, which sets it apart from all others on the market. It is very good at growing tillers and it is over two meters tall. Good for both green foggage and silage.

- Use: Pasture, Hay, Baling
- Sowing Period: Autumn
- Sowing Rate: 200-225 Kg/Ha
- Frost Tolerant
- Quick grower
- Late planting possible (Latest mid May)
- Early maturing
- Tall plant
- Frost tolerant



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

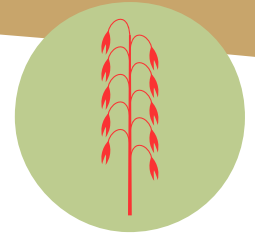


The cover's fibrous root system also holds soil during cool-weather gaps in rotations, and the ground cover provides a mellow mulch before low-till or no-till crops



RED OATS

RED DAWN



LATE HEADING

Red oats are an annual grass cultivated for grain and fodder. Red oats adapt to warmer weather more than common oat 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 produces 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 plays 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.



KOMPASBERG

Kompasberg Oats is an annual forage cereal. It can be used for grazing, hay-making, silage and as a companion crop. It is an excellent pre-summer weed suppressor. It protects the soil and prevents soil erosion.



SSH423

SSH423 has a good grain yield. It maintains a reasonable lodging tolerance. It's plant height is approximately 90cm. It is used as grain and hay. We recommend sowing rates of 25 kg/ha under dryland conditions and 75-100kg/ha under irrigation.



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.



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

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.



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

BLACK MUSTARD

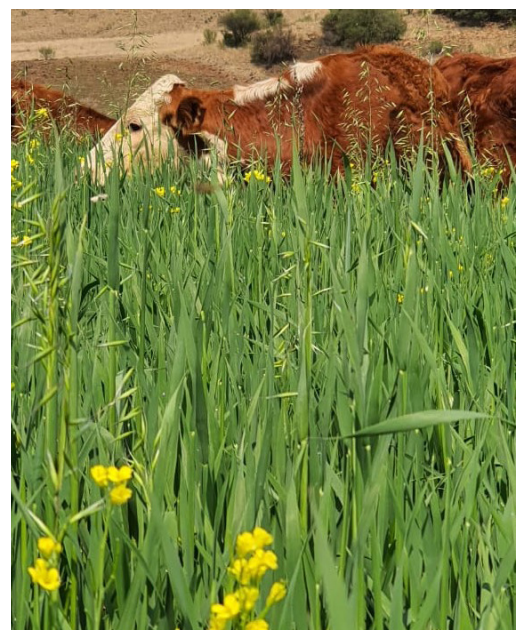
NEMAFIX

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.

CANOLA

AKELA

EXCELLENT OILSEED

Akela is a winter oilseed rape. It can provide excellent autumn feed for sheep and is also useful for finishing lambs in September.

Akela can be utilised by dairy cows especially when the grass deteriorates late in the season.

This oilseed is beneficial as a cover crop. It provides good soil cover over winter to prevent soil erosion, produces large amounts of biomass, suppresses weeds and can improve soil tilth with its root system. Oil Seed Rape helps control soil-borne diseases. It improves reliability of response to added nitrogen and increases efficiency of water and nutrient use.

Any time another crop, such as canola, is added to a rotation, research has shown that the

- Excellent autumn feed
- Great as a cover crop
- Large amounts of biomass
- Assists other crops towards a better yield



other crops in the rotation will generally yield better, and pest pressures will be reduced. Canola may offer potential for reducing soybean cyst nematode populations, since certain compounds in canola residue are believed to suppress nematode growth (more research on this is needed).

PERENNIAL LEGUMES

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



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. 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.

BENEFITS

Green manure. TABOR clover is the fertility foundation of agriculture. Tabor is less prone to possible N leaching if grown to maturity without cutting.

Smother crop. TABOR clover suppresses weeds well during establishment and regrowth after oat harvest.

Companion crop. Planted with oats, the two crops can be harvested together as silage, haylage or hay, depending on the crops development stage.

Quick growing. Clover will be ready to cut about 60 days after planting.

Legume nurse crop. Because of its quick germination (7 days), quick growth and winter-killing tendency, tabor clover can be used as a nurse crop for lucerne.

- Not as drought-tolerant as lucerne. Some cultivars can tolerate more soil moisture (but not water-logging) than lucerne or sweet clover.
- Similar in seed size to crimson clover.
- Bee-friendly because its white or ivory blossoms have no tripping mechanism.
- Because of its short roots, tabor clover does not use phosphorus to the depth that mature, perennial lucerne does.
- Winter-killed tabor allows for earlier spring planting than winter-hardy annuals. As a dead organic mulch, it poses no moisture depletion risk, but may slow soil warming and drying compared to erosion-prone bare ground.



Grazing and forage crop. At 18 to 28 percent protein, young tabor clover is comparable to, or better than crimson clover or lucerne as feed. No cases of bloat from grazing tabor clover have been reported. Forage quality remains acceptable until the onset of seed production.

MANAGEMENT

Establishment.

TABOR prefers slightly alkaline loam and silty soils but grows in all soil types except sands. Tabor tolerates saline conditions better than lucerne and red clover.

Recommended sowing rates are 10 - 15kg/ha drilled or 17 - 23kg/ha broadcast.

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.

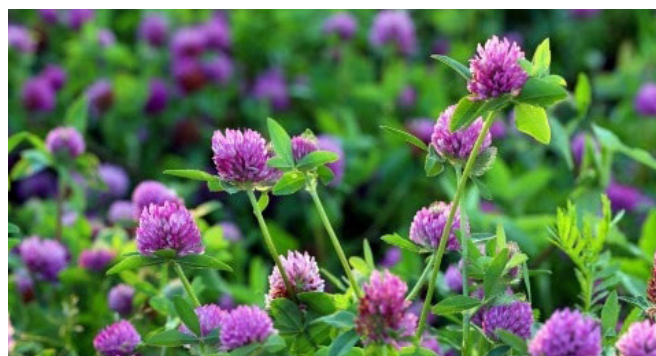
Red clover is most productive on soils of medium to high fertility levels with a soil pH of 5.5 or higher with good internal drainage. It is better than lucerne at tolerating and growing on soils of low pH and low fertility with poor drainage.

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 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.

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





LUCERNE

CAPFIVE5

DORMANCY 5-6

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

DORMANCY 5-6

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

- Dormancy group: 5-6
- Winter active is: Moderate
- Can be used as grazing or hay
- Sowing rate: 10-35 kg/ha
- Disease tolerance: Good
- Drought tolerance: Good
- Consistency: Good
- Sowing period: Aug-Sept, Feb-may



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 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/dry conditions.

- Very high yielding growing year round
- Autumn dormancy 9
- Suitable for both hay production and or grazing
- Deep rooted, producing during dry spells
- Tolerance to pests and diseases



DROUGHT TOLERANCE	MEDIUM
PROTEIN CONTENT	HIGH
DISEASE RESISTANCE	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



LUCERNE

SIRIVER

DORMANCY 9

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/dry conditions.

- Very high yielding growing year round
- Fall dormancy 9
- Suitable for both hay production and or grazing
- Deep rooted, producing during dry spells
- Tolerance to pests and diseases





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.

BIRDSFOOT TREFOIL

BIRDSFOOT TREFOIL

“GEEL BLOM LUSERN”

BIRDSFOOT is a very palatable, highly nutritious Perennial legume. It is non-bloating and can therefore be safely grazed by all classes of livestock. It is acid soil tolerant and it also is a strong self-seeder.

- Very palatable and nutritious
- Non-bloating
- Acid soil tolerant
- Strong self-seeder



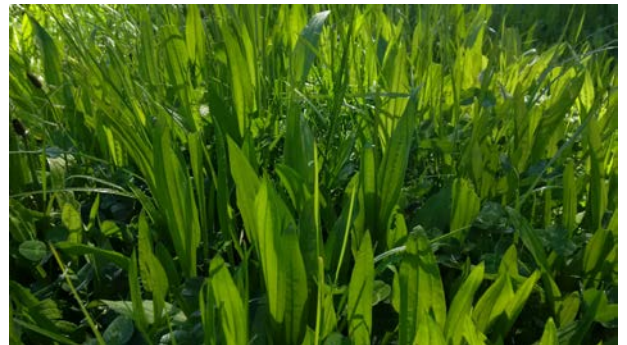
PLANTAIN

TONIC

WINTER ACTIVE HERB

TONIC is an excellent, versatile perennial herb used in pastures for sheep and cattle. TONIC is highly adaptable to different ground and climate types because of its deep, dense root system and a suitable 2-3 year crop option due to its genetic toughness, resulting in a positive impact on milk production when grass quality decreases in summer.

January to March is the best time to plant TONIC, since it is mainly active in Autumn, Winter, and early Spring, but still produces in Summer. TONIC can be planted in a pure stand (8-14 kg/ha) and also in mixtures (2-3 kg/ha) with certain other crops.





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

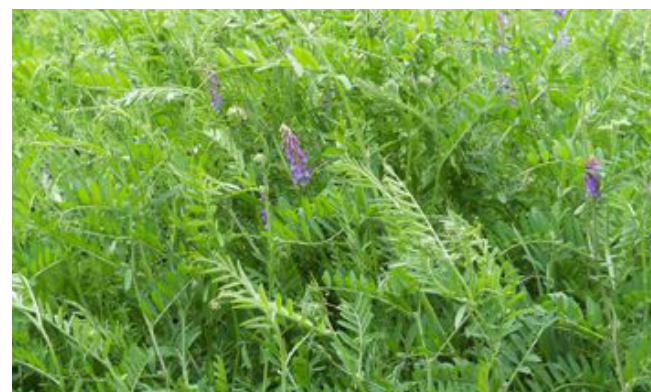
NAMOI

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)



FORAGE 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.

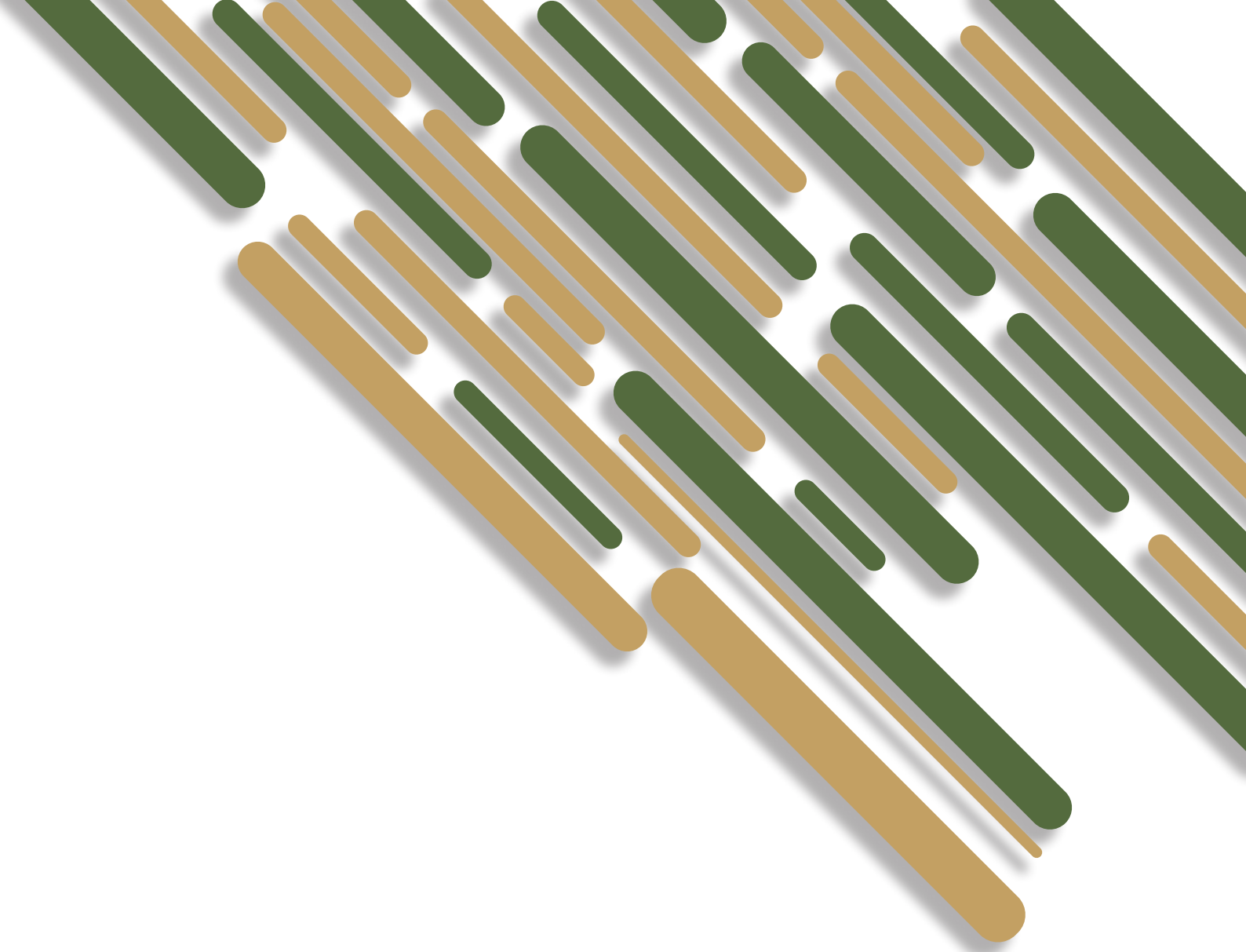
JUPITER had its first year of full commercial evaluation in 1994 and the responses from end-users proved very encouraging.

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





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PFA2023V1