



AGRONOMY NEWS

INDEPENDENT, HIGH QUALITY INFORMATION FOR THE PROGRESSIVE PRODUCER

KEY FARM INPUTS LIKELY TO BE IN SHORT SUPPLY !

Industry contacts are advising that key farm inputs such as fertiliser, ag chemicals and some seed lines are likely to become short in supply, when there is a general break across eastern and southern Australia.

I know that some companies *play this card* often to generate sales, but I think this time there is some basis to their warnings .

I am advising clients to secure supplies of key inputs such as *planting fertiliser like Granulock 15 Granulock Z, Urea and ag chemicals like Ripper 480 / Roundup /Glyphosate, 24 DB, MCPA , Broadstrike and insecticides*, as once the main seasonal break comes high demand from cropping areas throughout Australia will stretch supplies and delays are likely to occur.

Some lines may even run out as many companies have deliberately limited the production of products and stocks on hand as they are trying to minimise their risk of being caught with excess stocks after this financial year.

Pasture Seed is under control. I have arranged coverage of key pasture seed lines for all clients pasture sowing programs to occur in the coming months. That's one less worry !

Because timing is everything when it comes to sowing, having the key inputs to allow you to proceed on time is always critical. A few days to few weeks delay, due to waiting on new product supplies to arrive in store, or delays with trucks trying to get fertiliser out the works can have major implications for timing and yields/results.

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- **KEY FARM INPUTS IN SHORT SUPPLY.**
 - **RYEGRASS SEEDING RATE CRITICAL FOR WINTER FEED.**
 - **SOWING DEPTH OF RYEGRASS.**
 - **NOZZLE SELECTION IMPORTANT TO REDUCE SPRAY DRIFT.**
 - **KIKUYU UNDERRATED GRASS & PASTURE.**
 - **FERTILISER PRICE DROPS.**
 - **LEAST COST P+S**
 - **OATS FOLIAR DISEASES.**
 - **SPRAYING YOUNG OATS.**
 - **SF45 / PASTURE SF- NO LONGER AVAILABLE !!**
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So be in control NOW. Any purchases now in April to use in April or May, will not have to be paid for until end of May, so there would be no penalty in getting your order secured and on farm NOW.

Also, I see more risk of prices going up under these conditions than going down. Although some products have come down in recent months to stimulate sales, once sales start happening, I am sure many companies will lift prices. Supply and demand in play.

There is already talk of Glyphosate products and many fertilisers going up again in price, soon.

Take action on the things you have control of . Be ahead of the pack.

If you need assistance in determining your main requirements contact me.



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RYEGRASS SEEDING RATES INFLUENCE WINTER FEED

Forage ryegrasses have become a very reliable and productive option for winter + spring grazing, especially under irrigation.

Ryegrasses are generally sown at 25-45 kg/ha .

Perennial ryegrasses are a slightly smaller seed than the Tetraploid and Diploid Italian ryegrasses, which have larger more plump seed, due to their genetics.

Ryegrass type	Seeds/kg
Perennial	450,000- 500,000
Diploid	350,000-400,000
Tetraploid	250,000-280,000

Using high seeding rates,

Seeding rates should be adjusted for ryegrass type , sowing method, sowing conditions, growing conditions and feed demands. In my opinion for high density stands we want to sow around **1000-1200 seeds/sq metre to achieve, around 700-800 seedlings/sq metre, assuming 60% establishment.**

In the field , my guide is that I want to see around **100-120 seedling/metre of drill row or in old terms 35-40 seedlings/foot of row or at least 1 seedling every cm..**

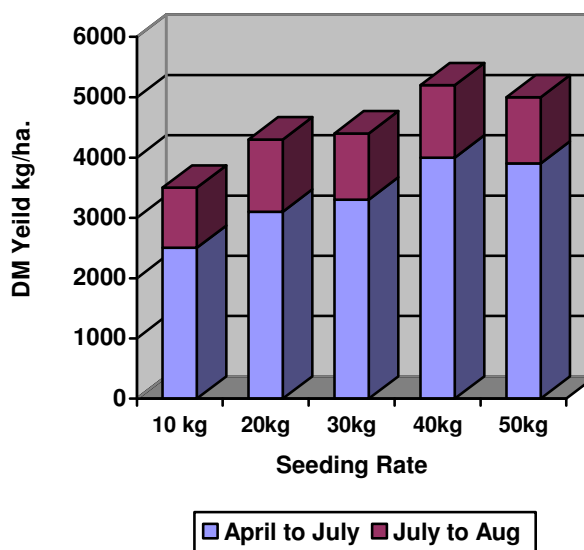
Ryegrass Type	Seeding Rate kg/ha to achieve 1000 seeds / sq metre.
Perennial	20-22
Diploid Italian	25-28
Tetraploid Italian	35-40

The above seeding rates are my basis for advice.

Recent research looked at the impact of seeding rates of Winterstar Ryegrass on winter feed production.

Results clearly show a positive and economic response to increasing seed rates.

Winter Ryegrass Production from Early April Sowing.



What this means to you.

- With every extra 10 kg/ha seeding rate you gain an extra 1300 kg /ha DM of winter grazing.
- In other words an extra 1 tonne/ha of pasture DM cost around \$30 in extra seed. Cheap feed source.
- Winterstar is one of the many large seeded tetraploid ryegrasses, and hence needs these higher seeding rates.
- There is a major response to seeding rate in the first grazing. It should be remembered that winter feed supply is the more critical.
- The extra feed advantage is reduced with each subsequent grazing or cutting, as ryegrass plants quickly compensate , by extra tillering in thinner stands. The advantage of the high seeding rate was lost by spring time. The higher annual yield was still held by the 40 kg seeding rate, due to its early production advantage.

RYEGRASS SOWING DEPTH RESEARCH.

In 2007 , my son **Benn Watson**, undertook a detailed research project for his Year 12 Agriculture HSC, where **he investigated the effect of 5 sowing depths on 4 varieties of forage ryegrasses.**

There was little work available on this simple topic in Australia or the world.

His *sowing depth treatments were 0, 1, 2.5, 5 and 7.5 cm.*

The ryegrass varieties were

- **Winterstar**, short season tetraploid annual
- **Feast 2** –long season tetraploid Italian ryegrass
- **Banquet 2** –tetraploid perennial ryegrass and
- **Fitzroy**-diploid perennial ryegrass

Ryegrass was sown into medium alluvial clay loam soil in Autumn 2007. The trial was fully replicated and conducted to a high standard.

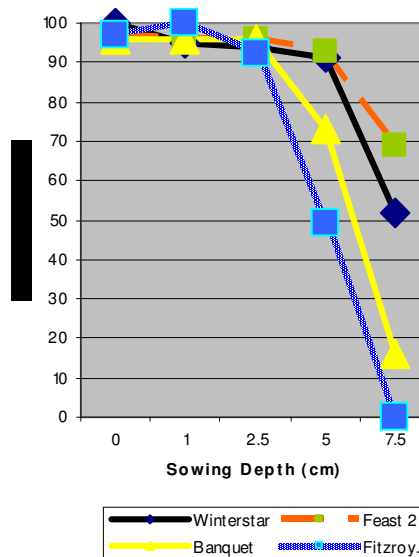
Key findings.

- Sowing depth does have a significant effect on the percentage establishment of forage ryegrasses.
- Different ryegrass types respond differently to increasing sowing depth.
- The preferred sowing depth for ALL ryegrass seed, should be between 1.0-2.5 cm, as it results in high establishment levels, as well as more uniform and rapid emergence, than deeper or shallower sowings. Tetraploid ryegrasses can be successfully established at a sowing depth of 5 cm or less
- Surface sowing (0 cm) can also be successful, when surface moisture is consistent to commence and maintain the germination process, eg high rainfall areas or under frequent irrigation, but can be unreliable for dryland sown paddocks.
- Only the large seeded, tetraploid ryegrass types such as Winterstar and Feast 2 can be successfully established at 5 cm. This a very useful finding as in some paddock conditions sowing depth can be variable , so you have a much better chance

of achieving good establishment levels with tetraploid ryegrass types due to their bigger seed and greater seedling vigour under more variable sowing depths. These ryegrasses will achieve consistently 90% + establishment at a sowing depth of 5 cm or less.

- The smaller seeded Diploid Perennial ryegrasses are more sensitive to sowing depth and should not be sown deeper than 2.5 cm.
- Sowing at 7.5 cm should be avoided for all varieties, as it results in low plant establishment levels and hence poor pasture density. However it should be noted that only the tetraploid ryegrasses emerged from 7.5 cm. Surprisingly , 50-60% of the Feast and Winterstar ryegrass emerged from 7.5 cm (3 inch) sowing depth. They are very strong seedlings. The small seeded diploid perennial ryegrass Fitzroy failed to emerge from 7.5 cm.
- Check seed depth during sowing !!!!

Graph 3. The Effect of Sowing Depth on the Establishment of Four Forage Ryegrass Varieties.



NB: Benn is now studying a Bachelor of Equine Science through Charles Sturt University at Wagga by distance education due to his deep and real passion for horses. He works for me operating our Pastures Services /Farm Contracting business here at Scone. He gained a high distinction in his HSC Agriculture and for this project.

NOZZLE SELECTION IMPORTANT TO REDUCE SPRAY DRIFT.

I see the risk of spray drift as an issue of increasing concern , especially within

- highly developed thoroughbred studs
- areas with increasing amounts of rural residential development surrounding farms,
- an increasing diversity of tree, vine, horticultural, field and agricultural crops being grown, which are usually highly sensitive to most herbicides used on farms.
- And the greater risk of litigation these days.

There are many factors that influence spray drift, such as wind speed, climatic conditions, spraying height and chemical type etc. *However, one of the factors readily in our control is nozzle selection. Most basic boomspray units such as your Hardi and Silvan spray units are sold or set up with the standard flat fan nozzles.*

These standard flat fan nozzles produce a wide range of droplet sizes, with a high percentage of fine droplets less than 200-250 microns. These nozzles do a good job in a wide range of situations.

The problem with your standard flat fan nozzle tip is that, the higher percentage of fine and very fine droplets can be the source of spray drift problems, resulting in off target herbicide damage or potential litigation from spray drift

However, in recent years, spray nozzle technology has come a long way. The major development , is the production of Low Drift and Air Induction Nozzles. These nozzle tips , by design , produce a uniform spectrum of medium to coarse droplets of the 300-500 micron size, reducing the drift risk

One of the initial concerns from agronomists when these nozzles were developed ,was that these coarse droplet nozzles would result in poorer weed control, especially when spraying small fine annual grasses such as ryegrass. However, extensive research in the field and laboratory with products like Roundup, Surpass

and even the contact herbicide Sprayseed, have shown that these low drift , coarse droplet nozzles types produce equal weed control results as the standard flat fan nozzles, even on two leaf ryegrass and small broadleaf weeds.

The majority of agricultural nozzles can be classified as producing either *fine, medium, coarse, or very coarse droplets*. **Droplets below 200 microns are considered potential drift contributors.** The table below shows several nozzles and their percentage of driftable fines.

Nozzle Type / 1.16 l/min Flow Rate	Approximate Percent of Spray Volume Less Than 200 Microns - Driftable Droplets.	
	1.5 bar	3 bar
Standard Flat Fan XR TeeJet 110°	14%	34%
DriftGuard TeeJet 110°	<1%	20%
TT - Turbo TeeJet 110°	<1%	12%
Air Induction AI XR TeeJet 110°	N/A	<1%



Examples of Low drift , Air Induction nozzles(example above) for replacing standard flat fans. Include *Hardi "Mini Drift" and for Silvan, Croplands, Uniboom* and many other sprayers *Tee Jet AI XRs*. ***I use air induction XR nozzles on our Uni boom spray unit for contracting work, I am so impressed with their performance and dramatic reduction in spray drift. Air induction nozzles are highly recommended.***

KIKUYU – AN UNDERRATED GRASS & PASTURE.

From my experience Kikuyu is often underrated or overlooked as a pasture. In my opinion, Kikuyu is an outstanding grass if understood and managed well.

In the Hunter Region, Kikuyu works well as an irrigated or dryland pasture. Kikuyu is a dominant pasture in the coastal zone of Qld, NSW and Vic. In recent years landholders in Western Australia, King Island Tasmania and Kangaroo Island SA as well as many other locations, are having great success with Kikuyu based pastures.

Kikuyu is a pasture which will grow on many sites where traditional pastures repeatedly fail. It can carry 25-30 DSE/ha during summer. Under irrigation and high nitrogen fertiliser, it is outstanding, and is now being seen as a productive and easy care pasture system for high production dairying.

I have personally been working with Kikuyu on my farm for 10 years and have several clients now sowing Kikuyu based pastures for beef, dairy cattle and horses, all with great success. I, along with several clients have turned once gravelly Ironbark country battling to feed anything, prone to weed invasion into prolific pastures running cows & calves or growing out steers and horses.

Kikuyu is easy to establish from seed, where all the correct paddock management programs are put in place. **Other things I have learnt about Kikuyu,**

- *It is easy to establish by seed or runners*
- *It will grow on a range of soil types from sands, gravels, loams, alluvials to medium clays.*
- *Soil nutrition, especially Nitrogen Phosphorus, Sulphur and Potassium inputs are critical*
- *It is highly responsive to fertiliser, especially Nitrogen. It can produce around 50-100kg DM /kg of N. Cheap extra feed.*
- *It will grow for almost 9-10 months of the year.*
- *Its drought tolerant.*
- *Regular fertiliser inputs are essential to maintain productivity and pasture quality.*
- *Daily growth rates can be 100-200kg/ha/day under ideal summer conditions such as recent rains.*
- *Pasture management, grazing timing and intensity are important to get the best out of it.*
- *Occasional slashing after grazing is required to tidy up and bring back into a productive phase, especially under prolific growth conditions.*
- *Annual grasses like ryegrass and prairie grass can be established for winter feed.*
- *Once established, you have it for life, No resowing costs. Seed cost should never deter you from sowing it, even if it was \$50-\$100 /kg.*
- *Weed invasion and spraying for weeds are rarely ever a problem again.*
- *Nutritionally it has some short comings, it is low in sodium and calcium. It contains oxalates which can be a problem in horses, as it bind up calcium leading to Big Head disease and poor bone development. This generally more a problem where horses graze kikuyu dominant pastures consistently for much of the year. In our situation where it is used for special high stocking paddocks where horses grazing for a few weeks at a time before moving onto other paddocks and pastures the problem is avoided. Problems can be overcome by rotating horses through other non kikuyu pastures, providing suitable mineral lick blocks at all times, feeding lucerne hay or feeding a balanced supplement pellet.*
- *Pasture management is critical to getting the best out of it.*
- *Kikuyu poisoning in cattle can occur, but is rare. Does not affect horses.*
- *Kikuyu could be part of a diversified pasture system. However, in some situations I see, it is the only grass to consider given limitations of the site.*
- *Kikuyu is more than a lawn grass.*

FERTILISER PRICES DROPPING-AT LAST!

Fertiliser prices, for most high analysis fertilisers have dropped by 30-40% since the peak levels of spring 2008.

Single Supers has also finally started eased in price, in recent weeks as Incitec get nervous about the stockpile they have and the the lack of sales occurring, with prices now around \$400/t + GST delivered on farm in bulk. Prices could continue to ease further.

Fertiliser is essential to allow us to grow food and graze livestock. We can not feed the world without it.

Main stream fertilisers such as urea, DAP and Granulock have all come back dramatically, but Single Super and Pasture SF have been slow to be changed and although they are dropping them slowly.

Fertiliser Price Trends \$/t on farm

Fertiliser	Mar 07	Mar 08	Aug 08	Mar 09
Urea	600	800	\$1200	\$700
DAP	750	1300	\$1850	\$950
Single Super	260	390	540	\$400
Pasture SF	380	420	670	\$600
Granulock 15	780	1100	1350	\$860

LEAST COST PASTURE FERTILISER FOR PHOSPHORUS.

There are a range of P+S fertilisers on the market. Single Super is the benchmark fertiliser for pastures as it supplies a desirable ratio of P to S, it contains both P&S in a plant available form and has a good spectrum of granule sizes for ground coverage.

There are many High Analysis P fertilisers, some with Sulphur some with little sulphur. We need to only use those with good sulphur levels.

Comparison Table: alternative fertilisers that will supply 11kg/ha P - the equivalent amount of P supplied in 125kg/ha Super.

Fertiliser	Kg/ha	Cost \$ / kg P	Kg S/ha	Cost \$/ ha
Super	125	4.50	13.75	50
Granulock 15	92	7.87	10	80
DAP	55	6.07	1	55

From this analysis , Single Super is still the lowest cost source of P with a desirable amount of readily available Sulphur. Granulock is too expensive as a broadcast product. DAP is a cheap source of P but has no worthwhile sulphur. The nitrogen will be of some value. So despite its prices staying up, it is ,in comparison to many of the Higher Analysis fertilisers, Super is still your cheapest source of P+S. Super remains king !!!

LEAF DISEASES IN OATS.

Oats can suffer from three key leaf diseases, which include,

- *Septoria Leaf Blotch* (Black spots)
- *Crown or Leaf Rust* (Yellow)
- *Stem Rust* (Brown/Red).

Clients are advised to closely monitor all new oat crops for symptoms of foliar disease.

Many crops are being sown into 2008 oat stubble areas, some with volunteer oat seedlings present prior to planting, which were likely to be carry some foliar disease. Warm, moist conditions will be a recipe for such diseases to impact on young crops.

Foliar diseases can be treated with a range of foliar fungicides at relatively low cost.

There a wide range of foliar fungicides on the market but only a few are registered for use on oats. Grazing withholding periods vary from 1-4 weeks. The cost is around \$10/ha/application. Most products can be mixed with herbicides. Contact for paddock inspection and advice.

SPRAYING WEEDS in YOUNG FORAGE OATS.

Over recent weeks many clients have completed sowing oats.

Crop emergence has varied from rapid and even to light, patchy and uneven. Soil/fallow moisture in the seedbed zone is the main factor influencing crop emergence.

Following the recent rain, there is likely to be many crops with two crop emergence phases. This will have implication for early post emergent spray timing.

For crops that have emerged well and evenly, spraying for broadleaf weeds can be considered from the 2-3 leaf stage onwards however most products are best applied at the 4-5 leaf/early tillering stage.

For those crops which will show two crop establishment phases, (ie early emerged plants which were sown onto moisture plus some late emerging plants which were caught in dry soil or sown shallow and germinate on recent rain), it will be necessary to delay spraying until the late plants emerge and develop at least 2-3 leaves before considering spraying for weeds.

In these situations it will be necessary to way up the relative importance of the early vs the late crop if weed pressure is increasing. There are a

Seedling Oat plants from 1 leaf , 2 Leaf, 3 leaf, 4 leaf, 5 leaf/ early tiller to Mid tillering .



range of herbicide products suitable for use on oats. Identification of crop growth stage is critical to chemical selection and timing. Seek advice.

The early post emergent products most likely to be needed are *Glean, Lontrel, MCPA, Starane Advance or Hotshot* . *Ally/Metsulfuron* has been tested on oats, although not registered for such use.

The main products uses on *early to mid tillering oat crops include Glean, Lontrel, MCPA, Starane Advance, Hotshot. 24 D Amines, 24 DB*

Some herbicides such as *Banvel M or Kamba M , Tordon 242 , Tigrex , Igran and Diuron+Dual* have been recorded to cause significant crop injury and 10-40% yield loss. Different oat varieties show differing responses to some herbicides. Seek advice and check labels.

When considering early weed spraying, under mild autumn conditions, one should consider the inclusion of a suitable insecticide to provide extended control and prevent feeding of cereal aphids which spread Barley Yellow Dwarf Virus BYDV in oats. BYDV affected crops become stunted and fail to perform. Earth mite control should also be considered.

The addition of a systemic fungicide to control fungal leaf diseases such as rust may also be considered, as part of your tank mix. **Seek advice and paddock assessment.**

SF45/PASTURE SF NO LONGER AVAILABLE.

Incitec Pivot has announced recently that it is ceasing the production SF45/Pasture SF due to the closing of their Cockle Creek plant near Newcastle, where super products were made, due to environmental contamination issues in the area, the limited market demand and safety issues in its production.

In addition, many other products which were blends containing SF45/Pasture SF have also been withdrawn from their product list, such as *Pasture Builder, Pasture P, Pasture Plus, Pasture Special SuPer Plus and SF25.*

Two new products will be introduced to the Incitec range, to replace the role of SF45/Pasture SF called

- **SuPer 40 S and**
- **Granulock 40 S.**

They are blends which technically read the same or similar analysis, but may not perform like SF45.

So how do they compare with SF45 /Pasture SF.

See Product Comparison table below.

Product	%N	%P	S% Total	S % Elemental	S % Sulphate.	Ca %
SF 45/Pasture SF	0	5.4	40	32	8	14.5
SuPer 40 S	0	5.5	40.2	33.3	6.9	12
Granulock 40 S	9	7.6	39.9	33.3	6.6	0

How are they different ?

SuPer 40 S is a blend of 63% Single Super and 37% Tiger 90 Bentonite elemental Sulphur flakes or pastilles.

Granulock 40 S is a blend of 64% Granulock 15 and 36% Tiger 90 Bentonite Elemental Sulphur flakes or pastilles.

These products are different to SF45, in that these products are both **dry blends of two fertiliser products eg Super or Granulock 15 with Tiger 90 pastilles, while SF45 was a molten compound product, which contain phosphorus, sulphate sulphur and elemental sulphur in each fertiliser granule.**

These two new products have not been tested in the field as yet, **but I undertook fertiliser research trials with similar products at Belltrees near Scone in the mid 1990s when we created similar blends with these type of granular sulphur products.** Based on my results their agronomic performance was similar to other sulphur products over the 2 year period tested.

Tiger 90- what is it.

Tiger 90 is a finely ground form of elemental sulphur, which is molten formed droplet or split pea size granules, bound with bentonite.

It is 90% elemental sulphur + 10% bentonite. This product, widely supplied and used as a sulphur source for fertiliser blending and mixing with seed at planting. Fertiliser companies throughout the world are using this and other elemental sulphur granules, due to the ease and convenience of developing infinite sulphur content products by different amount of custom blending.

Analysis of Tiger 90 indicates it has a range of elemental fine sulphur particles sizes between 150 and 2000 microns. (1000 microns = 1 mm) in the granule. Elemental sulphur needs to be less than 150 microns to be of value to pastures in the year of application, particles at 250-500 microns will be of value in the 2nd/3rd year. Particles greater than 1000-2000 microns take a long time to breakdown and release. The finer the elemental sulphur the faster its oxidation and conversion to sulphate, plant available sulphur. The Tiger 90 granules will provide good medium to longer term Sulphur supply but can be slow to correct immediate sulphur deficiency. The small amount of sulphate sulphur in the blend will kick start the sulphur supply but would not be enough to correct a severe sulphur deficiency within the year of application. **These new products super 40 S and Granulock 40S should be suitable for ongoing sulphur maintenance fertiliser programs.**