Mungbean and Soybean Seed

VARIETY AND GROWING INFORMATION

2020/2021
PLANTING SEASON

Comments on soybeans

Soybean factsheet using Sempra on HB1 soybeans

Info on lucerne crown borers

pbAgrifood

Leaders in Seed, Pulse and Grain Trading

2020 / 2021

Mungbean Wholesale Price List

VARIETY	
Satin 11	PBR
Celera 11 AU	PBR
Crystal	PBR
Jade - AU	PBR
Onyx AU *(limited supply)*	PBR
Opal AU *(limited supply)*	PBR

PBR indicates **Plant Breeders Rights** apply to all varieties listed above.

INOCULANTS

(Group I inoculant suited to all mungbean varieties)

- **250g; 1 packet per 100 kg of seed**
- **Jumbo pack treats 500kg of seed**
- **Mega packs treats 1mt of seed**
- **Freeze dried**

Order and Dispatch Policy

- All orders are firm in writing with order numbers.
- Order numbers need to be quoted before trucks are loaded.

Payment Term

- 30 days from date of dispatch.

Prices

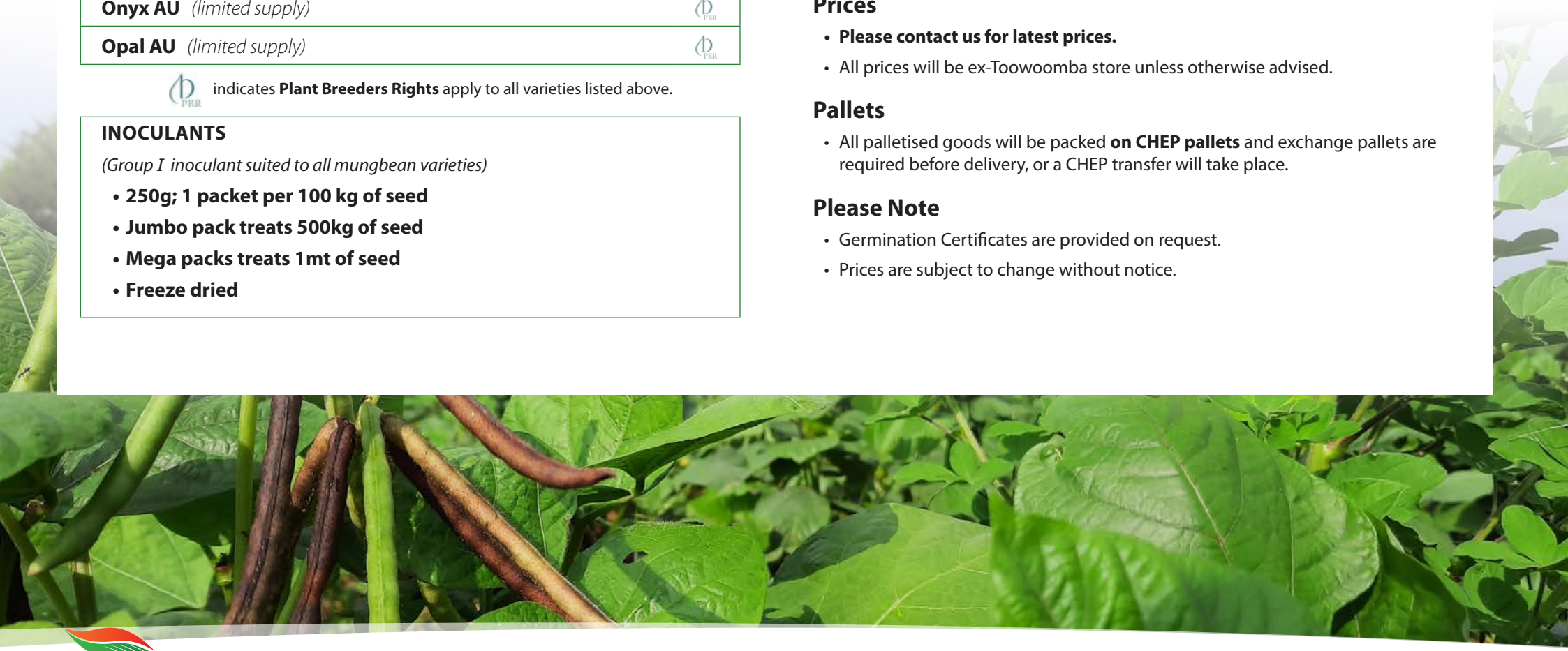
- **Please contact us for latest prices.**
- All prices will be ex-Toowoomba store unless otherwise advised.

Pallets

- All palletised goods will be packed **on CHEP pallets** and exchange pallets are required before delivery, or a CHEP transfer will take place.

Please Note

- Germination Certificates are provided on request.
- Prices are subject to change without notice.



pbAgrifood

60 Industrial Ave, Toowoomba QLD 4350
PO Box 9484, Wilsonton QLD 4350

Phone 07 4633 5555
Seed Order Fax 07 4633 5558

Email david@pbagrifood.com.au or barry@pbagrifood.com.au
Sales Support ian@pbagrifood.com.au

www.pbagrifood.com.au

2020 / 2021

Soybean Wholesale Price List

VARIETY	
Moonbi *(if available)*	PBR
Richmond	PBR
Fernside	PBR
Hayman	PBR
pbaMAXX *(very limited supply)*	PBR
pbaDOMINATOR *(very limited supply)*	PBR
PBA791 *(not available)*	
PBA6785	
Cowrie	
Kuranda HB1	PBR
New Bunya HB1	PBR
Mossman HB1	PBR

PBR indicates **Plant Breeders Rights** apply to Moonbi, Richmond, Fernside, Hayman, Kuranda HB1, pbaMAXX, pbaDOMINATOR & New Bunya HB1.

INOCULANTS

(Group H inoculant suited to all soybean varieties)

- **250grams; 1 packet per 100 kg of seed**
- **Jumbo pack treats 500kg of seed**
- **Mega packs treats 1mt of seed**
- **Freeze dried**

Order and Dispatch Policy

- All orders are firm in writing with order numbers.
- Order numbers need to be quoted before trucks are loaded.
- All return stock is by agreement only and must be made by 1st March 2020.
- All returns will incur a $40 per pallet fumigation /handling charge.
- Fumigation charges will be deducted from credits.

Payment Term

- 30 days from date of dispatch.

Prices

- **Please contact us for latest prices.**
- All prices will be ex-Toowoomba store unless otherwise advised.
- Any returns freight is to be paid before delivery.

Pallets

- All palletised goods will be packed on plain non-returnable pallets unless otherwise advised.

Please Note

- Germination Certificates are provided on request.
- Prices are subject to change without notice.
- EPR's on Kuranda HB1, New Bunya HB1, Moonbi, Richmond, Hayman, pbaMAXX, pbaDOMINATOR & Mossman HB1.
- No EPR's on Cowrie PBA6785, PBA791.

pbAgrifood

60 Industrial Ave, Toowoomba QLD 4350
PO Box 9484, Wilsonton QLD 4350

Phone 07 4633 5555
Seed Order Fax 07 4633 5558

Email david@pbagrifood.com.au or barry@pbagrifood.com.au
Sales Support ian@pbagrifood.com.au

www.pbagrifood.com.au

Notes on Soybean Varieties

- By now, I hope you have heard that **Kuranda HB1**, **New Bunya HB1** & **Mossman HB1** have been released with a permit to use Sempra (info sheet enclosed) on these varieties. Seed is available through normal channels from this season on. We have good supplies of high quality seed of **Kuranda HB1**, **New Bunya HB1** & **Mossman HB1**.

- Performance-wise, **Kuranda HB1** & **Hayman** are game changers, as the planting window for these varieties has meant high yielding soybeans can be planted into March in the more tropical areas. We have not tested **Kuranda HB1** in Southern QLD or Northern NSW as it is a tropical variety. However, the CSIRO breeding program has tested in the Lockyer Valley & **Kuranda HB1** has out performed all comers, so should be an alternative in the Brisbane Valley & Tweed. **Kuranda HB1** is a proven, great performer in Northern QLD in QDPI trials, evidenced by on farm results. **Hayman** has also proven itself, both in trials and on farm, when planted from Christmas on, opening a late planting window where soybeans had not been successful in the past with high yields.

- We are also releasing 2 other new varieties, **pbaMAXX** & **pbaDOMINATOR**.

- **Best planting windows and performance of New Bunya HB1**:
  - **New Bunya HB1**, like old Bunya, can be planted and works really well on all planting windows, however, New Bunya works best up till early January as Kuranda HB1 & Hayman out-yield **New Bunya HB1** from mid January on in coastal regions.
  - **New Bunya HB1** when planted in December was better than old Bunya and PBA791 & really suits the November/December planting time.
  - **New Bunya HB1** is resistant to powdery mildew and appears to handle wet harvests better than the older variety during dry down.

- **Best planting windows and performance of Hayman**:
  - **Hayman**, when planted for grain is best planted from Christmas onwards.
  - **Hayman** in our January trials was better than most other varieties and is a replacement for PBA6785 on this planting window.
  - **Hayman** (for grain) should be part of all Christmas onwards plantings from Northern Rivers NSW to North Queensland.
  - **Hayman** is a dual purpose variety, plant early for hay & silage, if that is not needed mow or graze around Christmas & Hayman will produce high yields & quality grain. Do not graze or cut to the ground leave about 2 to 3 branches with leaves on them. Do not cut or graze if flowering if recovery is needed.

- **Best planting windows and performance of Kuranda HB1**:
  - Kuranda HB1 has performed really well north of the Tweed to North Queensland and is a great planting partner to Hayman.
  - Kuranda HB1 is best planted after Christmas. Trials and grower experiences confirm this planting time.
  - Kuranda HB1, as with the 3 other varieties mentioned above, is a game changer in soybean production.

pbAgrifood

60 Industrial Ave, Toowoomba QLD 4350
PO Box 9484, Wilsonton QLD 4350

Phone 07 4633 5555
Seed Order Fax 07 4633 5558

Email david@pbagrifood.com.au or barry@pbagrifood.com.au
Sales Support ian@pbagrifood.com.au

www.pbagrifood.com.au

Notes on Soybean Varieties

- **We at PBAgrifood are also releasing new varieties that we have been testing since 2015. The release is very limited as the drought has had an affect on how much seed we've been able to harvest.**
  - » **pbaMAXX** has out yielded 6785 in a large number of trials.
  - » **pbaMAXX** is also tough and flexible like 6785
  - » **pbaMAXX** can be planted from November until early January, when Kuranda & Hayman start to out yield pbaMAXX.
  - » **pbaMAXX** is a very attractive variety & a bit quicker to dry down than 6785 with large high protein grain,
  - » **pbaMAXX** will be targeted to take 6785 out of the market.
  - » **pbaMAXX** has been trialed from Bundaberg south & further trials are need to see how it performs into the tropics
  - » **pbaDOMINATOR** has been targeted at 791 & has outfield 791 in our trials since 2016.
  - » **pbaDOMINATOR** is very forgiving like 791
  - » **pbaDOMINATOR** is can be planted in the same window as 791 from early November until Christmas.
  - » **pbaDOMINATOR** is also a very attractive variety with very quick dry down capabilities making it for easy harvest.
- Unfortunately, we do not have any 791 available this season again due to the drought
- **Other varieties available:**
  - » **Moonbi** is available in small quantities. **Moonbi** works best in the Northen NSW & South East QLD dryland
  - » **Moonbi** has always surprised us on how well it yields high quality grain when it receives rain during flowering.
  - » **Richmond** is in good supply and works best in the northern NSW region. Planting window is November to mid December.
  - » **Fernside** is in good supply and a great performer in from Bundaberg to the Brisbane Valleys from November until early January.
  - » **Cowrie** works well in the New England region & normally we do not have seed, however, with 791 being so short we have held some for that market.
  - » **PBA6785** is also in good supply & has worked well all up & down the Queensland & Northen NSW coastal regions. We are encouraging Hayman & Kuranda HB1 to be planted from Christmas on as both these varieties out-yield 6785.
  - » **Mossman HB1 is also in good supply. Mossman HB1 was bred to take over from Leichhardt with edible quality grain. Mossman HB1 works well from the Fraser Coast to North Queensland on a late plant.**

pbAgrifood

60 Industrial Ave, Toowoomba QLD 4350
PO Box 9484, Wilsonton QLD 4350

Phone 07 4633 5555
Seed Order Fax 07 4633 5558

Email david@pbagrifood.com.au or barry@pbagrifood.com.au
Sales Support ian@pbagrifood.com.au

www.pbagrifood.com.au

SOY AUSTRALIA LTD
Australian Soybeans

Soybean Factsheet

JUNE 2020

Using Sempra® to control nutgrass in tolerant soybean varieties

Technical content provided by Rob Walker[1], Matthew Moyle[2], Natalie Moore[3] and Andrew James[4]

[1] Nufarm Regional Development Manager- Coastal & Central, [2] Nufarm Territory Manager- Nth NSW Coastal, [3] Research Agronomist, Northern Cropping Systems, NSW DPI, Grafton, [4] Soybean Breeder, Plant Industries, CSIRO, St Lucia

TAKE HOME MESSAGES

- The only soybean varieties with tolerance to Halosulfuron-methyl (i.e. Sempra®) are New Bunya HB1^{d}, Mossman HB1^{d} and Kuranda HB1^{d}.
- APVMA Permit number PER88483 for Sempra® (750 g/kg Halosulfuron-methyl) is for the control of nutgrass (*Cyperus rotundus*) in soybean, effective from 31 March 2020 to 31 March 2023. Note the restraints, critical use comments and withholding periods on the permit.
- Temporary maximum residue limits (TMRL) have been established to allow treated produce to be used domestically for human and animal consumption. Discuss use of Sempra® with marketers of final produce to ensure residues/limits of importing countries are not exceeded.
- Control established weeds with knockdown herbicides or land preparation prior to planting the crop.
- Ensure correct crop stage. For optimal results, apply 65–130 g/ha early post-emergence to the crop (up to 1st trifoliate leaf stage), when the majority of the nutgrass is at the 3–4 leaf stage.
- Coverage is important. Apply in a minimum 80 L water/ha utilising a COARSE spray quality.
- Always apply with adjuvant such as Supercharge® Elite (Paraffin oil 471 g/L) or Banjo® (Methyl esters of canola oil 725 g/L) at 1 L/100 L.
- Only ONE (1) application is permitted per season.
- Read and understand the conditions of the PERMIT and the Sempra® label prior to use.

CONSIDERATIONS

1. How does Halosulfuron-methyl herbicide work

Sulfonylurea (SU) herbicides inhibit the acetolactate synthase (ALS) enzyme in plants. The ALS enzyme, which is responsible for manufacture of branch-chain amino acids, subsequent protein manufacture and plant growth, is blocked at the growing point, resulting in plant death.

Sulfonylurea (SU) herbicides are taken up by the roots, shoots and foliage. Herbicides in this group differ in whether their activity is predominantly through root and shoot uptake, or foliar uptake, or both.

Sempra® (active ingredient Halosulfuron-methyl) is a Group B herbicide that is absorbed through roots, shoots and foliage, with the active ingredient being translocated through the plant to the nutgrass 'nuts' (tubers) below the soil surface. Nutgrass exhibits a complicated interconnected network of tubers through underground rhizomes (stems). Sempra® does not translocate through rhizomes to attached tubers, so subsequent germinations may require alternative control measures.

The breeding of soybean varieties tolerant to Halosulfuron-methyl herbicide by the Australian Soybean Breeding Program has enabled Sempra® to be applied as a foliar spray (under APVMA permit PER88483, expires 31 March 2023) early post-emergence (up to the 1st trifoliate leaf stage of the crop) to target nutgrass at the 3–4 leaf stage.

Symptoms of successful weed control are a gradual yellowing of foliage and seed heads followed by desiccation. Initial symptoms may take 7 to 10 days to be noticeable, with full effects occurring 4 to 6 weeks after treatment.

Based on this application timing and utilising Sempra® as a selective, post-emergence herbicide, application to optimise foliar uptake is essential.

In Australia, there is limited data available on the efficacy of Halosulfuron-methyl on weeds other than nutgrass, Navua sedge and Mullumbimby couch. It is, therefore, recommended to discuss with your agronomist complementing Sempra® targeting nutgrass with numerous other herbicides registered for soybean production, some of which are listed below.

Pre-plant or post sowing pre-emergence*: Bouncer® 960S (S-Metolachlor 960 g/L), Broadsword® (Flumetsulam 800 g/kg), Kyte™ 700WG (Imazethapyr 700 g/kg), Rifle® 440 (Pendimethalin 440 g/L), TriflurX® (Trifluralin 480 g/L) and Tomahawk® (Metribuzin 750 g/kg).

Post-emergence*: Claw® 350SL (Imazamox 350 g/L present as the ammonium salt), Dictate® 480 (Bentazone 480 g/L present as sodium salt), Exert® 520 (Haloxyfop 520 g/L), Factor® (Butroxydim 250 g/kg), Havoc® (Clethodim 240 g/L), Kyte™ 700WG (Imazethapyr 700 g/kg).

*Refer to labels for specific use patterns.

2. Successful application

Attention to detail with application set-up is crucial to ensure desirable coverage and uptake of Sempra® applied as a selective, post-emergence foliar spray.

For successful results it is important to ensure the following:

- Spray rig is accurately calibrated.
- Apply Sempra® in a minimum of 80 L water/ha utilising a COARSE spray quality.
- Always apply with an adjuvant such as Supercharge® Elite (Paraffin oil 471 g/L) or Banjo® (Methyl esters of canola oil 725 g/L) at 1 L/100 L.
- Do not spray when crop and/or weeds are stressed due to low relative humidity, temperature extremes, waterlogging, or when severe root or foliar diseases are present.
- Do not spray if storms or heavy rain is anticipated within at least 48 hours.
- Experience suggests optimal results from application just prior to light rainfall or irrigation.
- Crop nutrition is managed to avoid nutritional deficiencies and plant stress.

Image 1 – *CSIRO field evaluation of herbicide effects on HB1 and other soybean varieties.*

3. Plant back periods

Pesticide residues need to be taken into consideration in determining plant back intervals to subsequent crops and resulting future cropping opportunities.

The crops listed in Table 1 may be planted at specific time intervals following application of approved rates of Sempra® in approved situations. Use the time intervals listed below to determine the required time interval before planting.

Table 1. Extract from the Sempra® label for plant back periods

Crop or pasture species	Plant back interval after the last application of Sempra® (months)
Corn/maize, sorghum, sugarcane	2
Wheat, pasture (*Brachiaria decumbens*, *Brachiaria humidicola*, *Setaria* spp., *Pangola* spp.)	3
Cotton	4
All other crops (except sugar beet)	24
Sugar beet	36

In the circumstance of a failed HB1 soybean crop where Halosulfuron-methyl has been applied, there are no plant back issues if re-planting with a HB1 variety (tolerant of Halosulfuron-methyl), however, this herbicide must not be re-applied to the re-planted crop. If subsequent weeds germinate, manage with conventional herbicide options registered for use in soybean production, excluding Group B herbicides (for example, Imazethapyr, Imazamox, Flumetsulam).

4. Break down in soil

The primary factor for degradation of all SU herbicides in soil is microbial activity. Maintaining desirable levels of organic matter in cropping soil is crucial as it provides a food source for soil microbes.

Other essential factors include:

- soil moisture – increased breakdown with higher soil moisture,
- soil temperature – increased breakdown with warmer soil temperature,
- soil pH – increased breakdown in acidic (low pH) soils and slower breakdown in alkaline (high pH) soils,
- time.

No one path works in isolation. A combination of the factors above results in effective breakdown of SU herbicide residues.

Always follow the product label with respect to plant back timeframes to subsequent crops and discuss your particular situation with your local agronomist.

5. Tolerance of HB1 soybean varieties to Sempra® (Halosulfuron-methyl)

The Australian Soybean Breeding Program has tested three new varieties, New Bunya HB1♂, Kuranda HB1♂ and Mossman HB1♂, and an earlier variety (Bunya♂), for their tolerance to Halosulfuron-methyl herbicide at a rate of 130 g/ha (Graph 1).

Bunya♂ was very susceptible while the three HB1 varieties showed a yield improvement in the presence of the Halosulfuron-methyl herbicide treatment.

Drone imagery (Image 2) of the trial plot shows the effect of the herbicide application on susceptible and tolerant varieties.

6. Characteristics of the HB1 varieties

New Bunya HB1♂

Regional adaptation – New Bunya HB1♂ is expected to have similar adaption as its parent variety Bunya♂. It is well-adapted to irrigated cropping across inland southern Queensland and to northern NSW.

It is adapted to planting from late November though to mid-January. It may also be grown in the Burdekin region of northern Queensland as a winter crop with a May–June planting date.

Market suitability – New Bunya HB1♂ should be suitable for crushing, full fat processing, and a wide range of human consumption markets. It is anticipated that it will be strongly sought after by tofu makers.

Breeding – New Bunya HB1♂ is largely derived from its parent variety Bunya♂ but with several resistance genes derived by backcrossing.

Kuranda HB1♂

Regional adaptation – Kuranda HB1♂ appears to be well adapted to cropping in coastal environments from Nambour north to the wet tropics of Queensland.

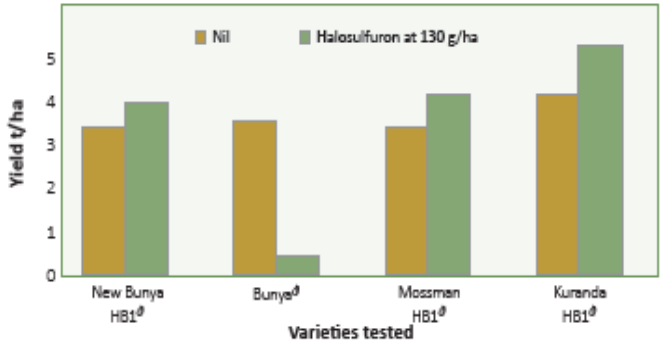
In the southern end of the cropping range it is best adapted to planting dates from late December though to early February as at earlier planting dates it may become excessivel vegetatively vigorous.

In central Queensland and more northern regions, Kuranda HB1♂ may be sown from late November through to early February.

In regions of Queensland with warm winter temperatures (average minimum monthly temperatures >15°C) Kuranda HB1♂ may also be sown in April though to early July.

Market suitability – Grain of Kuranda HB1♂ appears to be well received in many market segments including crushing, full fat processing and for human consumption such as milk and tofu

Breeding – Kuranda HB1♂ has complex breeding. The variety is largely derived from its parent line M103-22 with several resistance genes backcrossed in. M103-22 is a selection from a cross between the Fraser and Moonbi♂ varieties. Kuranda HB1 is longer crop duration and more broadly adapted than either parent.



Graph 1: Yield of soybean varieties grown at Gatton in 2018 with and without a treatment of Halosulfuron-methyl at 130 grams per hectare. Within a cultivar, all treatment effects were statistically significant (P <0.05).

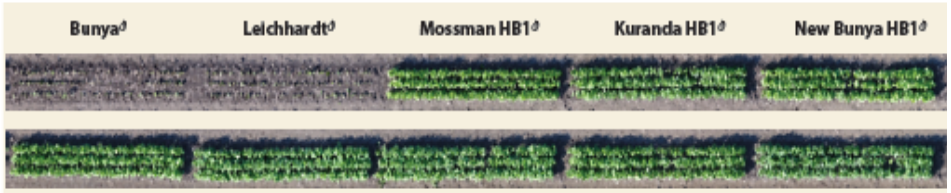


Image 2 – Drone imagery of trial plots taken 10 days after the treatments were applied, showing the effect of Halosulfuron applied at first fully expanded trifoliolate leaf stage (top), compared to the nil herbicide treatment (lower). Mossman HB1♂, New Bunya HB1♂ and Kuranda HB1♂ have 1-gene tolerance to Halosulfuron-methyl herbicides while Bunya♂ and Leichhardt♂ have no tolerance of these herbicides.

Mossman HB1♂

Regional adaptation – Mossman HB1♂ is a green manure option in many Queensland cropping environments due to its long duration and high biomass production.

It may be considered as a grain option in the Burdekin and Atherton Tablelands regions of Queensland.

Market suitability – It is anticipated that grain of Mossman HB1♂ will be accepted into most crushing, stockfeed and human consumption markets.

Breeding – Mossman HB1♂ is closely related to its parent variety Leichhardt but with the additional inclusion of a light hilum and some resistance genes derived by backcrossing.

More information

- APVMA PERMIT PER88483 – www.permits.apvma.gov.au/PER88483.PDF
- Nufarm product information and contact details – www.nufarm.com/au/
- Soy Australia factsheets for new HB1 varieties – www.australianoilseeds.com/soy_australia/soybean_fact_sheets
- NSW DPI Summer Crop Production Guide – Soybean www.dpi.nsw.gov.au/agriculture/broadacre-crops/guides/publications/summer-crop-management-guide
- GRDC Soybean Northern Region Grow Notes – www.grdc.com.au/resources-and-publications/grownotes/crop-agronomy/soybeansgrownotesnorthern

Acknowledgements

This factsheet is an initiative of the NSW node of the Coastal and Hinterland Grower Solutions project (QDAF, NSW DPI & GRDC co-investment, project number DAQ00204).

The authors gratefully acknowledge the support of Nufarm in preparing this factsheet and advice from Gordon Cumming, GRDC.

SOY AUSTRALIA LTD
AUSTRALIAN SOYBEANS

GRDC GRAINS RESEARCH & DEVELOPMENT CORPORATION

Nufarm
Grow a better tomorrow

CSIRO

NSW GOVERNMENT Department of Primary Industries

Version June/2020

Lucerne crown borer *Zygrita diva*

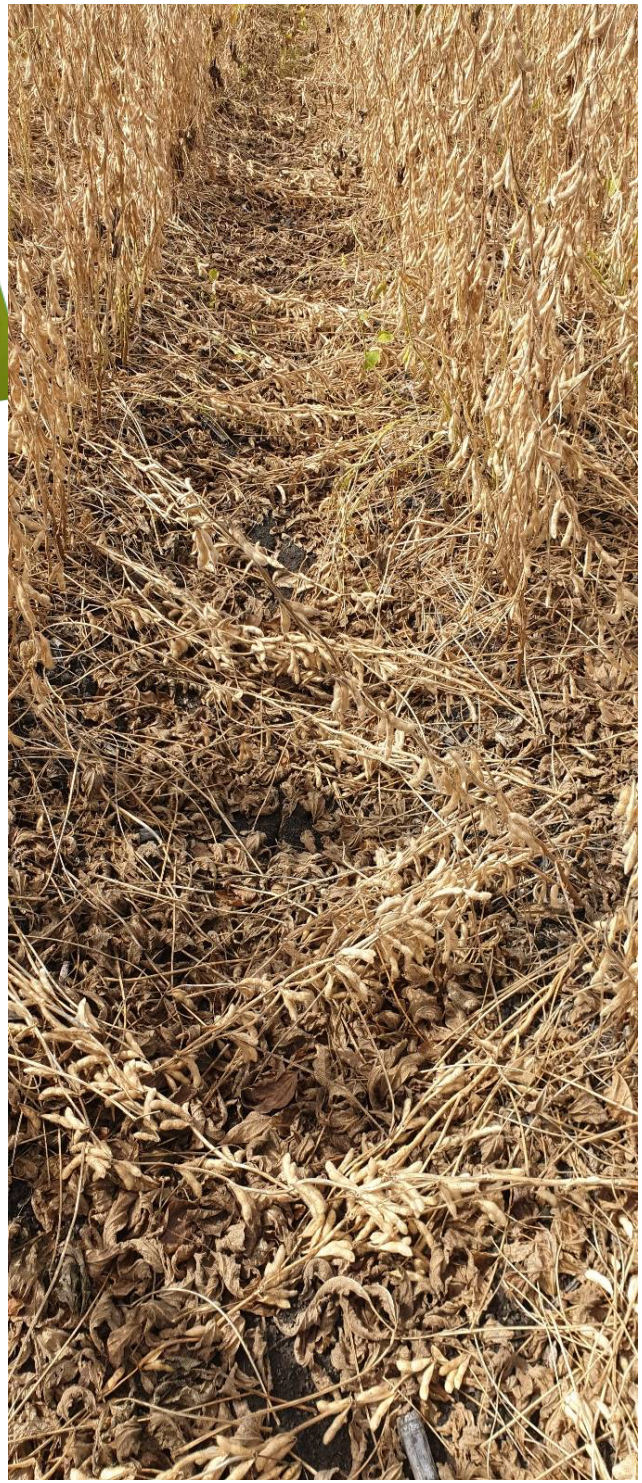
- Early infestation can give premature plant death
- Hot summers & poor rotations are high risk factors
- Seed dressings a new option#

PER 83319

Fiprinol is systemic – kills young larvae in stems

Seed treatment

- Add 200 mL of product to 800 mL of water to give a total treatment volume of 1000 mL (1 L) per 100 kg of seed.
- Treat seed prior to planting and ensure a thorough and even coating of seeds.
- Allow treated seed to dry for at least 24 hours before inoculating
- **Do not inoculate and treat seed concurrently**



New management option for lucerne crown borer in soybeans

Hugh Brier[1], Liz Williams[1], Trevor Volp[1], Natalie Moore[2] and Kathi Hertel[2]

Permit 83319

Products to be used

- **Cosmos** insecticidal seed treatment
- **Legion** insecticidal seed treatment
- **AR Emporium 500** insecticidal seed treatment
- All containing 500 g/L of fipronil
- **Only to be applied as a seed treatment, not as foliar or in-furrow sprays.**

pbAgrifood

Leaders in Seed, Pulse and Grain Trading

Distributers of corn, sorghum, forage sorghum & sunflower planting seed from:

- Pacific Seeds
- Pioneer Seeds
- Barenburg Heritage seeds
- S&W Seeds
- Radicle Seeds
- HSR Seeds

Producers & distributers for winter cereals from:

- Pacific Seeds,
- AGT seeds

Distributers & buyers of all specialty grains, including:

- All Millets
- Sunflowers
- Gritting Corn
- Linseed
- Kabuli & Desi Chick Peas
- Sesame
- Lab Lab
- Cow peas

Members & seed producers of the Mungbean Association & Soy Australia.

www.pbagrifood.com.au

Contact Details

pbAgrifood

Leaders in Seed, Pulse and Grain Trading

HEAD OFFICE

Address 60 Industrial Ave, Toowoomba Qld 4350
Post PO Box 9484, Wilsonton Qld 4350
Phone 07 4633 5555

SEED WAREHOUSE

Address Corner of Boundary Rd & Carroll St, Toowoomba Qld 4350
Post PO Box 9484, Wilsonton Qld 4350
Phone 07 4634 1118

TEAM CONTACT DETAILS

For plant populations and specific variety recommendations please contact any of the team for correct positioning of varieties.

We also recommend the use of inoculants when planting soybeans and mung beans.

David Ridgway	Seed Manager/Sales Support,	0428 717 207	david@pbagrifood.com.au
Barry Lennaen	Dispatch/Sales Support	0418 301 907	barry@pbagrifood.com.au
Andrew McDonald	Sales/Agronomy Support,	0438 169 917	amcdonald@pbagrifood.com.au
Ian Morgan	Sales Support	0488 906 407	ian@pbagrifood.com.au
Ben McIntyre	Sales/Agronomy Support,	0437 410 452	benm@pbagrifood.com.au
Peter Brodie	Director/Sales Support	0428 717 632	peter@pbagrifood.com.au
Catherine Brodie	Director/Accounts	0438 298 086	catherine@pbagrifood.com.au

SEED ORDERS

07 4634 1118 **07 4634 5960** **orders@pbagrifood.com.au**

www.pbagrifood.com.au

PB Agrifood trading as P Brodie Holdings
ACN 168 836 842 ABN 46 168 836 842