

Managing Tropical Pasture Seed

Purchasing and storing pasture seeds for effective sowing



When planting pasture seeds, there are two critical aspects to consider for long term success:

1. Select the right grasses and legumes for your rainfall, land type and grazing strategy.
2. Purchase high quality seeds and manage them correctly to optimise establishment.

Seed quality directly affects the success of pasture establishment!

While there are no minimum quality standards required for the production and sale of commercial seed, suppliers and resellers must provide an analysis report of the seed lot upon request. This includes information on:

(1) Viability and Germination: Viability indicates the percentage of the pure seed that is alive. Seed viability is highest after seed is harvested and can reduce quickly with time in storage, depending on conditions. Germination percentage estimates the number of seeds that will immediately germinate under favourable conditions at the time of the test. A proportion of the viable seed will be dormant (alive but not germinable) which means it can germinate in the future under favourable conditions.

(2) Purity: A seed lot contains the desired seed species plus contaminants. The purity percentage describes the percentage of 'pure seed' in the lot. Pure seed is the labelled species and variety. A high-quality seed lot has above 95% pure seed. The analysis report will also show the level of contaminants (straw, soil etc), weed seeds, or coating, if present.

Did you know?
Seed starts dying from
the day its harvested!

Good quality seed should
readily germinate with
good rainfall and does not
contain any weed seed.



How to do a germination test at home

1. Select 100 seeds at random.
2. Place them on absorbent paper in a takeaway food container, lid on, keeping the seeds moist but not waterlogged by spraying with water for 7-10 days.
3. Keep the seeds at room temperature in a naturally lit area.
4. Record the number of germinated seeds every few days.

For grasses: The number of healthy germinated seeds after 7 days is a good guide to the overall germination percentage of the tested seed.

For legumes: The immediate germination percentage will be lower due to hardseeded dormancy. Check for hard seeds by pressing with a small hard item like a pen or small screwdriver. Seeds that are hard will germinate at a later date. Add the number of hardseeds to the number of germinated seeds for the overall germination percentage.



Fig 1. Katambora Rhodes grass germination test (92% germination) that you can replicate at home

You should request a "seed analysis" prior to purchasing seed. This provides purity and germination percentages that help you determine the cost-effectiveness of various seed lots and help you set the right sowing rates.



ASL207016

INFORMATION SUPPLIED BY APPLICANT

Name of Applicant		Markings	T22445
Kind of Seed	<i>Cenchrus ciliaris</i> Buffel grass AG Gayndah	No. of Containers	400
		Weight	10,000kg

Date of test

Date of Sampling 24/11/2020 Date Sample Received 26/11/2020 Date Test Completed 23/12/2020 Date of Issue 23/12/2020

PURITY(% weight)

PURE SEED %	INERT MATTER %	OTHER SEED %
98.3	1.7	TRACE

FOUND IN WORKING SAMPLE

Uncoated *Cenchrus ciliaris*

GERMINATION(% number)

INTERIM COUNT	FINAL COUNT	HARD SEED %	FRESH SEED %	ABNORMAL GROWTHS %	DEAD SEED %
24 % in 7 days	33 % in 28 days	0	17	0	50

FOUND IN BULK

Germinable seeds

Dormant seeds

Fig 2. An example of a seed analysis report on moderate quality uncoated Gayndah buffel seed

Seed Dormancy. This is an evolved survival mechanism whereby seed is alive, but remains dormant, until seasonal conditions favour germination. In legumes it is due to a 'hardseed' coat which is a tough waterproof layer that breaks down over time. Mechanical scarification is an effective method to overcome this and increase germination. Dormancy in grasses is due to a range of mechanisms but usually declines over time (by 100 days after harvesting). The 'Tetrazolium test' is included in some analyses to indicate how many seeds are alive but dormant.

Seed Coating. Coating can aid in handling and broadcasting of light and fluffy seeds. Contrary to some claims, seed coating (and other additives) don't necessarily improve germination or establishment. Coating also adds weight. Seed is sold on weight, therefore much of the purchase cost is for coating, not seed. Coated seed needs to be sown at 2-4 times higher rates (kg/ha) than equivalent bare seed to achieve the desired plant population.



Fig 3. 100g of coated (left) vs uncoated (right) Callide Rhodes grass seed

Seed purchase and storage checklist:

- Buy good quality seed based on *recent* test results
- Store in a cool, dry place (air conditioned preferable) away from direct sunlight and hot walls
- Protect from pests and vermin
- Do your own germination test to check seed viability before sowing
- Use seed within 12 months of storage for legumes and 6 months of storage for grasses
- If you cannot sow the seeds, get them into suitable storage as soon as possible