

FACT SHEET

December 2019

Successful Hay Crops Start with Quality Seed

Sowing quality seed is always important but sourcing quality seed can be harder following challenging growing seasons.

Key Points

Seed is a living organism, once it is mature, it will begin to deteriorate.

Seed quality predominately relates to seed: **germination, vigour, purity, size and weight**

The rate of deterioration and quality at sowing depends on:
species, initial seed quality, harvest & handling, and storage conditions.

Attention to detail will help optimise seed quality and productivity at each stage.

Understanding the quality of a seed lot prior to sowing retained seed or purchasing seed off-farm enables proactive management.

Laboratory testing a representative seed sample is highly recommended.

Test to sow the best

It costs approximately \$225 per hectare to sow an oat hay crop, that includes pre-emergent sprays, seed, fertilizer and operating costs. Seed only represents about 25% of these costs.

Seed that does not germinate or thrive is basically wasting all your seeding costs and will result in reduced production. A laboratory seed test for germination and vigour will cost about \$65.

Laboratory test for germination and seed vigour is recommended but an on-farm germination test is detailed on page 2.

Germination tests quantify the potential for a seed to grow into a healthy plant, while vigour testing provides an indication of seed performance under field conditions.

If either germination percentage or vigour are low seeding rates need to be increased to compensate. See Oat Seeding Rates and Hay Yield/Quality fact sheet on [AEXCO website](http://www.aexco.com.au).

Crops sown with seed that has low germination and vigour rates will achieve below optimum plant populations. This results in hay crops that are likely to have thicker, darker stems and are less competitive with weeds resulting in contamination in the hay crop.

Seed containing impurities, such as weed seeds results oat seed being substituted for weed seed at sowing, reducing production and increasing potential for hay contamination.

All of these factors are undesirable and will result in hay being downgraded and in a lower hay price.

Steps to minimise losses from poor seed quality

Pre-harvest	Select paddocks or areas within a paddock where grain will be harvested for seed. Aim for locations with plump grains that are free from weeds. Avoid areas that have been frosted.
Post-harvest	<p>Test seed for germination and vigour before treating with seed dressing; just in case you decide to sell for seed if germination percentage is very low.</p> <p>At this stage a germination percentage of 90% should be achieved. Small light grains will be less vigorous.</p> <p>If germination is low more seed may need to be sourced or area sown reduced.</p>
Storage	<p>Keep seed cool and pest free. Grain harvested in hot conditions needs to be cooled by aerations. Aim for a storage temperature of 15°C and moisture of 8%.</p> <p>Poor storage conditions can cause germination to drop from 95% at harvest to 24% at seeding.</p>
Pre-seeding	<p>Re test seed, either at a recognised laboratory or follow these steps.</p> <ol style="list-style-type: none"> 1. Collect 100 (or 50) seeds from each lot to be planted. 2. Lay four sheets of paper towel on top of each other and moisten (do not drench). 3. Place 100 seeds on the paper towels about 10mm apart. 4. Roll up, sandwiching the seeds between the moist paper towels. 5. Soak a hand towel in water, wring out, then wrap around the rolled-up paper towel and loosely secure with the rubber bands. 6. Put into a plastic bag, seal and place in a warm place (such as the kitchen bench near a window) and leave for 5-7 days. 7. Unwrap and count the number of seeds that have not germinated. 8. Do your calculation as follows: Germination % = [(number of seeds tested – number of seeds that did not germinate) (multiply by two if you started with 50 seeds)]. 9. Ideally, repeat with several samples.
Seeding	Accurate seeding depth is especially important with seed that has poorer vigour. The recommended seeding depth for oats is 3 to 6cm; oats can germinate from a greater depth than wheat and barley.

Seed testing companies by state

NEW SOUTH WALES – Futari Grain Technology Services, www.futari.com.au/wp-content/uploads/2013/12/Seed-Test-Fees-2018-website-1.pdf

QUEENSLAND - Agetel, www.agetel.com.au

SOUTH AUSTRALIA – PIRSA, https://pir.sa.gov.au/consultancy/Seed_services/contact_details

VICTORIA - DTS Food Assurance, www.dtsfoodassurance.com.au/seeds/

WESTERN AUSTRALIA – DPIRD, DDLS Seed Testing, www.agric.wa.gov.au/plant-biosecurity/seed-testing