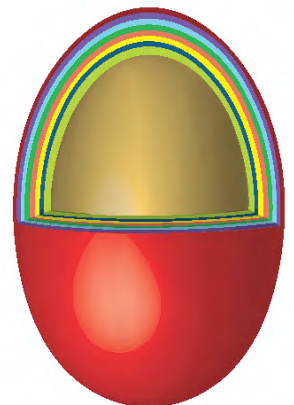


# Temperate AgriCote

## What is AgriCote?

AgriCote is a tailored seed coating treatment that conveniently combines vital technologies into the one high performing coat. Starting with quality seed, Barenbrug add advanced binding and protective polymers with lime to pelletise the seed, building shape and creating a medium for the inclusion of other important components. The polymer formulation enables the seed to be coated evenly, which makes it easier to work with on farm and promotes a more even seed distribution in the paddock.

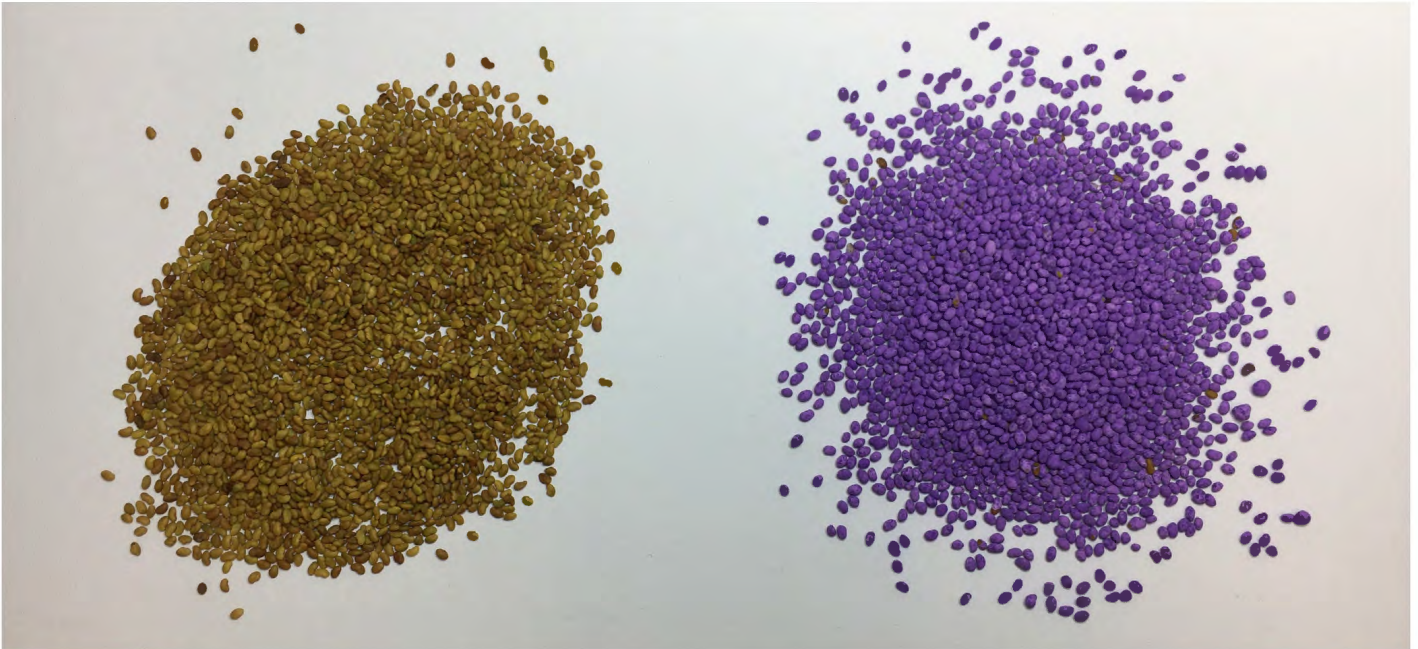
AgriCote treatments include nutrients designed to be immediately available to the seedling, protection against fungal diseases through a fungicide treatment and insecticidal treatments to provide protection from biting and sucking insects. AgriCote is designed to enhance seedling establishment by delivering improved early seedling vigour and root development. In addition, AgriCote legumes contain rhizobia which ensures effective nodulation in the paddock, maximising your investment, while reducing the need to inoculate at sowing. Not only easy to use on farm, AgriCote offers farmers and graziers improved germination, enhancing the overall health and well-being of your seedlings.



## Benefis of AgriCote?

AgriCote offers many advantages over bare seed. The features of AgriCote is detailed below.

Features of <b>AgriCote</b>	So what?
Fungicide reduces impacts of 'damping off' diseases	Improved establishment, reliability and 'peace of mind' when sowing
Systemic insecticide for protection from some insect pests	
Provides immediate nutrition for young seedlings	
Pre-inoculation of rhizobia for effective nodulation and N fixation in legumes	Saves time and reduces the need to inoculate legumes at sowing
Easy to calibrate	Easier to use and handle
Even application and distribution with sowing equipment	
Wider array of sowing options suitable (ballistics)	
Ant and bird protection	Reduces seed theft



**Figure 1:** An example of bare lucerne (left hand side) and AgriCote lucerne (right hand side).

**Major benefits that AgriCote demonstrates over bare seed:**

**1. AgriCote is a carrier for rhizobia ensuring effective legume nodulation**

For legumes, forming a symbiotic relationship with rhizobia (rhizobacteria) is important as the rhizobia helps fix atmospheric nitrogen (N), benefiting plant growth. In agriculture we exploit this 'free' nitrogen source by including legumes in our pastures, as N fixed by these legumes provides a valuable N source, driving forage production. Nitrogen fixation by clovers and lucerne can develop in excess of 100–150 kg N/ha/yr if effectively nodulated.

AgriCote provides a pre-inoculated polymer coated seed that delivers the correct rhizobia strain with a high inoculation count, helping protect the rhizobia for an extended period post coating. This saves time in pre-inoculation at sowing with a peat slurry. While rhizobia survival on the AgriCote seed is still impacted over time, under good storage conditions the rhizobia can survive for months on the coated seed. Traditional peat slurry and freeze dried inoculants applied to bare seed have a limited timeframe between treatment and sowing.



**Figure 2:** Image of nodules present on 8 week old seedling grown in N-deficient sterile agar medium. Testing was conducted 10 months after seed was coated when stored in ambient temperature away from sunlight.

**2. AgriCote provides a systemic fungicide and insecticide package aiding in protection against insect pests and diseases in the establishment phase**

AgriCote contains systemic fungicide and insecticides that improve establishment of young seedlings by maintaining the active ingredients at useful levels within the growing plant for a period after sowing (circa 4 weeks). These insecticide levels then reduce the impact of sucking and biting insects (insecticide) and root diseases that cause 'damping off' in emerging seedlings. This strategy aims to minimise damage to plants during the sensitive establishment phase, improving plant count and establishment yield, especially under typical insect pressure levels.

The active ingredients also act as an integrated pest management (IPM) tool, by targeting only the pest insects (i.e. red legged earthmite, lucerne flea, blue oat mite, adult african black beetle) and not predatory and beneficial species. Furthermore, while the systemic insecticide does not provide complete protection, especially under high insect pressure, it does help provide an insurance against insects and allows you more time for monitoring and control of outbreaks before a failure occurs.



**Figure 3:** Typical Evidence of RLEM damage in clover.



**Figure 4:** Lucerne flea is often a pest in young legumes.

### 3. AgriCote seed increases plant establishment and vigour, therefore improving the reliability and survival of seedlings

AgriCote seed comes with a trace mineral and nutrient package, systemic fungicide and insecticide and lime which provides an environment conducive for plant establishment. These ingredients result in reduced seedling mortality when compared with bare seed, and stronger more robust plants that can compete in adverse conditions.

In addition to the benefits of systemic insecticide described above, the insecticides also assist with abiotic stress tolerance in the plant helping it perform in moisture/heat stressed environments. The trace mineral and nutrient package provides young seedlings with available nutrients that aid establishment vigour. The lime that is also used to help encapsulate the rhizobia, can be beneficial in providing a more pH neutral environment around the emerging seed and can assist in imbibing water at emergence.

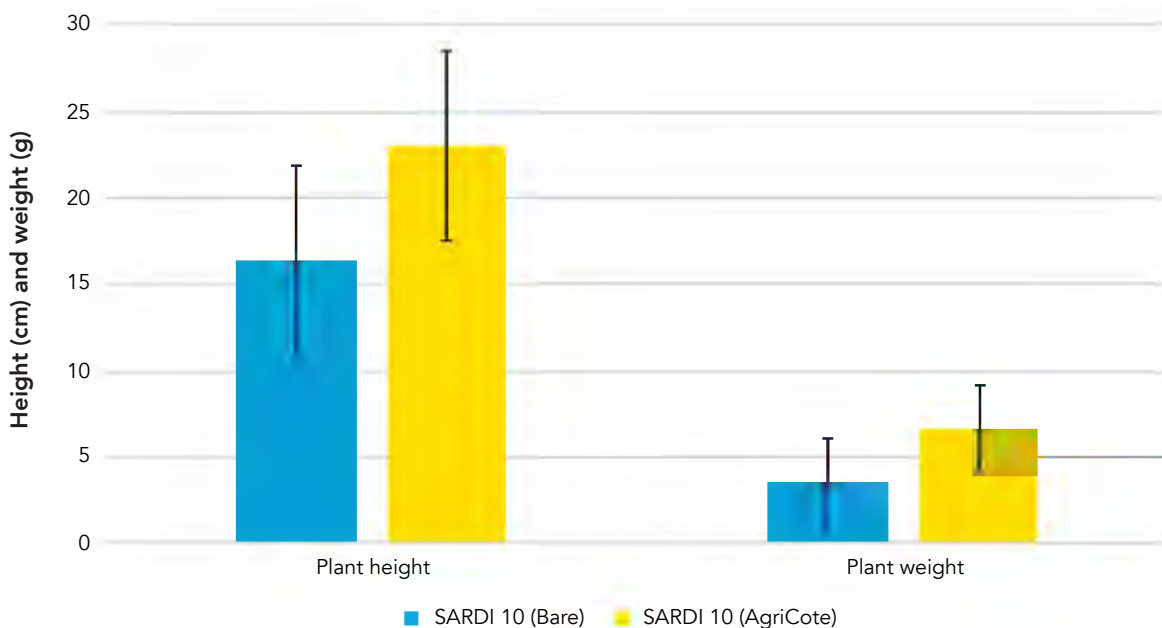


**Figure 5:** AgriCote (right) dissolves much quicker in water than other coating formulations built with Talc, instead of lime. This results in quicker establishment. Photo taken 3 hrs post coating in water suspension.



**Figure 6:** AgriCote lucerne on right hand side, sown at Katamatite at 15 kg/ha, showing significant differences in plant size and health against bare on left hand side.

#### AgriCote lucerne seed, increases plant weight and plant height, when compared with bare lucerne seed



**Figure 7:** Lucerne coating trial, sown at Katamatite (Victoria). Sown on 30th April with assessments made on 4th of September. Sowing rate: 15 kg/ha for both treatments. LSD (0.05) 5.52 & 2.53 for plant height and plant weight respectively.

### 4. AgriCote makes sowing easy

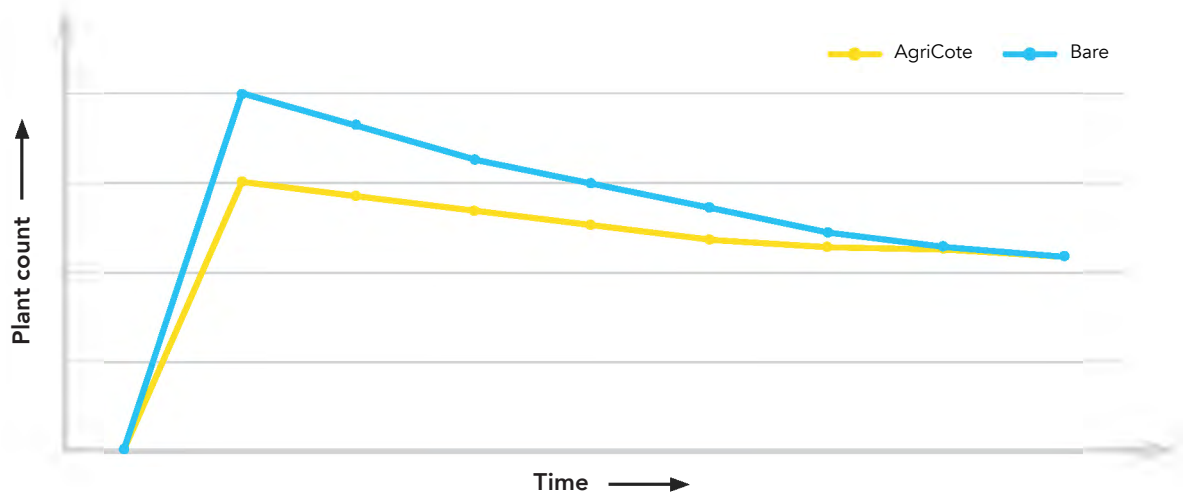
AgriCote is easy to manage, mixes well with other seeds or fertiliser and is easy to calibrate. This makes sowing an easy process, unlike pre-inoculating legume seed prior to sowing which can be time consuming and requires sowing within a short period of time following application. In addition to this AgriCote seed provides ballistic properties, which aid activities such as aerial applications or flowability and accuracy of seed drills, especially when seed is mixed with other species of different sizes and shapes.

## Does AgriCote increase the weight of the seed?

AgriCote is a lime pelletised coat that increases the size of the seed and reduces the seed count on a seeds/kg basis. AgriCote temperate products have a 45% coating (by weight), which is provided to ensure integrity of the coat and encapsulation of rhizobia. Therefore, when sowing AgriCote at the same sowing rate as bare, the initial plant count of bare seed is higher than the AgriCote. While this may initially seem counterproductive, some things to consider are:

1. The AgriCote seed has a better plant establishment (as shown above) and compensates for reduced seed count. This is especially evident when plants are stressed during the establishment phase, from either biotic or abiotic impacts.
2. The cost of coated seed is less than bare seed, due to the lime build used. This means the same variety, sold bare is more expensive than the AgriCote option. This is more evident on more expensive seed like white clover, red clover, sub clover and lucerne, where the lime build has a bigger impact on reducing the seed price.
3. The lime build encapsulates the rhizobia and other ingredients on the seed.
4. Given the points above, on a cost per hectare basis, AgriCote is comparable on price with the added benefits, as outlined above.

### Higher mortality is observed in bare seed when compared with AgriCote seed at the same sowing rate



**Figure 8:** Example of bare vs. AgriCote in terms of establishment counts post germination (days after sowing - DAS). Bare seed is characterised by an initially higher seed count/kg; however, mortality post-germination is much greater than AgriCote, where seedlings are stronger and more robust.

Grow with  
Confidence



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