Centor Oceania
seed improvement technologies

seed
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technologies

How is a new seed coating developed in 2020?

Coated sorghum seed

There are many reasons to apply a seed coating, from identification of seed lots, standing out in the field, protecting users and the environment with some seed applied actives, to improving coating rates, or plantability.

Whatever the reason there are also a myriad of testing stages that each polymer goes through during its development cycle, some of those are described here.

Appearance and Coverage

There is still nothing quite like the human eye for deciding if a particular look is correct, we can though compliment this with spectrographic analysis of colour, coverage and opacity, and we do.

Videometer using spectrographic analysis

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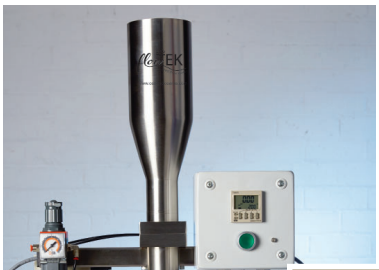
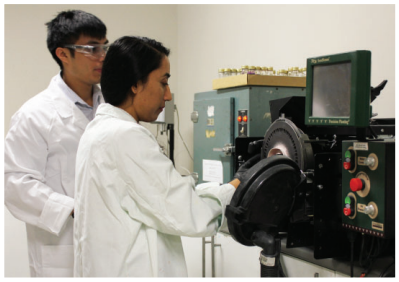
Abrasion & Dust Reduction

Once we have put our additions around the seed in our coating process we like to make sure that is where they stay.

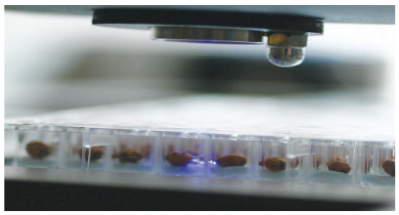
Using the internationally recognized Dustmeter for set standards and extended tests gives us a clear understanding of a coatings dust profile. Abrasion and friability are assessed for the visual impact and for chipping of coated products.

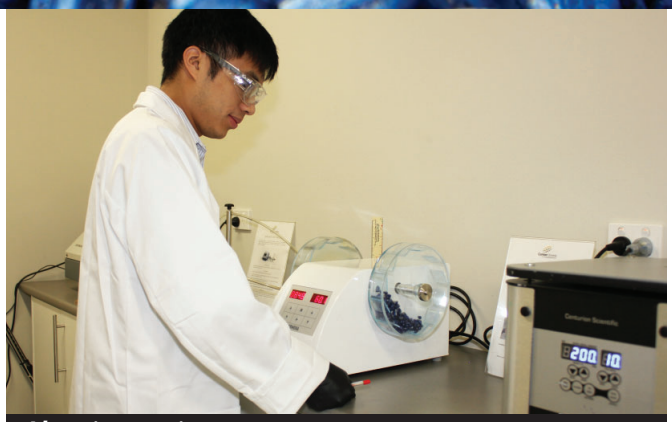
These tests simulate the handling processes that the seed has to go through before planting.



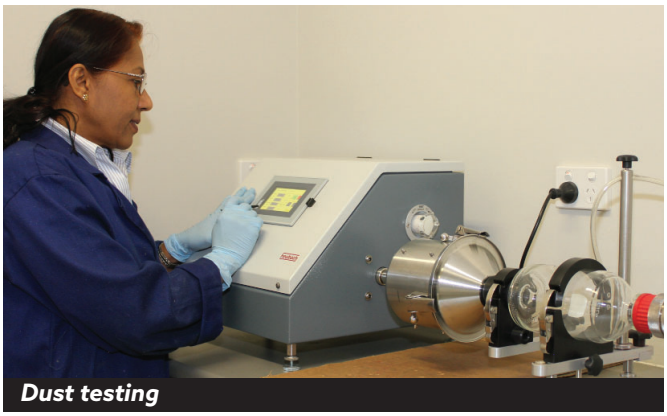


Lab FlowTek





Abrasion testing



Dust testing

Flow & Plantability

The seed flow can be used to show improvements that can be found within the treatment plant, and at the time of planting, and by using a bench mounted seed drill we can assess the successful singulation of the seed using various settings and conditions.

For the seed flow we use our specialized Lab FlowTek meter which was designed in-house by Centor Oceania for high accuracy.

Germination & Phytotoxicity

It is essential that there are no negative impacts on the seed germination due to the materials used, whether this be in terms of germination speed or final counts.

So while the standard germination tests are conducted we also look at stress tests to highlight any potential issues and assess loading beyond those normally expected for good measure.

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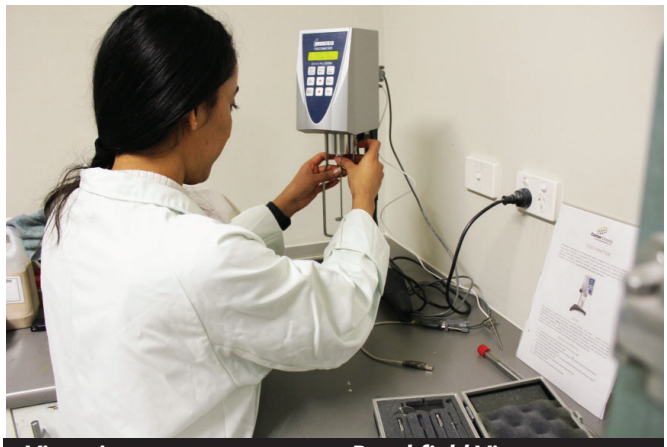
Stability & Use

The final product must have a good shelf life for storage of the product over the season, and it must also be in a form, with physical properties that make it simple to use. Materials that have good compatibility are selected for formulations, the rheology is adapted accordingly to ensure product falls between a pourable dispersion with good in-can stability.



Viscosity measurement on a Brookfield Viscometer

Growth Promotion & Microbiologicals

Our toolkit at Centor Oceania extends to the assessment of the inclusion of biologicals on to seeds, and assessment of the success and longevity of such products, included in this work are also the expanding world of biostimulants in there many forms.

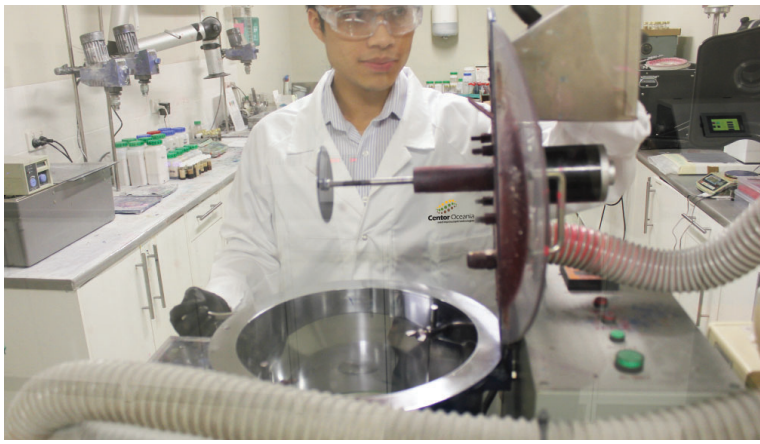
Class 1 & Class 2 Bio Cabinets

Accelerated stability and compatibility testing

Customisation

By altering the proportion of the materials in the formulations, and the careful selection of components by our skilled and experienced scientists, coating which perform well, with the desired characteristics, and for a desired seed type can be especially developed.

Other features and benefits are often part of the R&D process and can include, slurry reduction, cleaning processes, permeability of the seed coat, to mention only a few examples.



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