A Practical Method of Seed Selection in Cashew

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That cashew seeds of higher specific gravity germinate better and grow into more vigorous seedlings has been known for a long time (Auckland 1961, Northwood 1967, Menon, Ravindran and Nair 1979). However, this simple indicator of seed quality has failed to become an accepted routine practice mainly because solutions of sugar were employed by the forementioned workers to group seeds based on their specific gravity. If one intends to follow Northwood' s (1967) recommendation of using only such seeds as will sink in a 15 per cent (w/v) solution of sugar, one will need as much as 1.5 Kg of sugar to make 10 litres of the solution; clearly, a cheaper substitute for sugar solution is called for, and common salt can be that substitute. In fact, it is a recommended practice to use a 20 per cent solution of common salt to select heavier seeds of paddy (University of Agricultural Sciences 1981).

We set up a simple experiment to know what strength of common salt solution will be comparable to a 15 per cent sugar solution in specific gravity, in selecting cashew seeds. We made salt solutions of varying strengths and a 15 per cent sugar solution, using commercial grade sugar and coarse salt dissolved in tap water. While making the solutions, weighed quantities of salt and sugar were added to the measured volume of water, instead of adjusting the final volume of the resulting solution.

First, 100 seeds from a bulked sample were put in the sugar solution. After 5 minutes, the seeds were grouped in two lots: floating seeds and sunken seeds; the seeds were washed, wiped with a towel and were put again in the salt solutions of varying strengths. We found that a 9 per cent solution had the comparable specific gravity, i.e. the seeds which sank in the sugar solution also sank in 9 per cent salt solution and the ones that remained floating in the sugar solution, likewise floated in the salt solution.

For confirmation, the testing was repeated in the reverse order, i.e . from salt solution to sugar solution, and the results were similar; the seeds which sank in 9 per cent salt solution also sank in 15 per cent sugar solution and those which remained floating, likewise floated in the sugar solution. Actual measurements of the specific gravities of each of the solutions further substantiated these observation. The 9 percent solution had a specific gravity of 1.058 while that of the sugar solution was 1.060 ; a difference of 0.002 only.

Though slightly fewer number of seeds sank in a 10 per cent salt solution, the specific gravity of the solution being greater (1.069) the difference was negligible (0.011). Hence in conclusion, it is recommended that a 10 per cent solution of coarse salt in water (1Kg of salt for every 10 litres of water) be used to select cashew seeds of higher apecific gravity.

Lastly, in a bulked lot, what is the percentage of seeds that will meet this standard ?. Our material was drawn from

a bulk population comprising fifteen genotypes from the germ plasm collection, and came from 1981 harvest (the experiment was conducted in Jan.1982). Out of the 300 seeds tested in 8 batches 38 ± 2.6 (S.E.) per cent sank in the two solutions. But with other genotypes and with freshly harvested material, this percentage can be higher; Menon, Ravindran and Nair (1979 found it to be 55 per cent in their investigations.

References

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MARITIME NEWS

Gurrency Adjustment Factors

India/ UK - Continent Conference has amended the Currency Adjustment Factors on West bound cargoes as follows:

UK (West bound:) - : Minus 18 50% with effect from 2-8-82
Minus 21 00% with effect from 16-8-82

Continent (West bound-:) Minus 9.00% with effect from 2-8-82
Miuns 12.00% with effect from 16-8-82.