



Electrical conductivity test as a criterion to estimate the viability of corn seeds

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Measurement of electrical conductivity (EC) of leak water from imbibing seeds can be used as a criterion to estimate the viability of seeds. In this study, the correlation between EC and viability of the corn seeds was determined. The tests were conducted using 5-sample of corn seeds with different viability. The viability of samples determined by common germination test. For each sample with predetermined viability, the 30 seeds were soaked in a 50 ml distilled water at 25 ± 1 °C. EC was measured by a EC meter at 1 hour time intervals for 42 hours. The results showed that for the seeds with different viability, the conductivity of the seeds leachates was increased nonlinearly with increasing the soaking time. For the same time of soaking, the EC of the seeds with high viability was significantly lower than that for the seeds with low viability. Finally, a mathematical model is reported to estimate the viability of corn seeds based on the EC of leak water from imbibing seeds. Soaking the seeds in water for about 30 hour was sufficient to evaluate the differences between the viability of the seed samples.