

## The Simplified Equation to Predict Storability of Mayze and Soybean Seeds<sup>1</sup>

Claudinei Andreoli<sup>2</sup>

The improved equation Ellis and Roberts (1980) for predicting seed longevity relied on experiments of seed aging under controlled conditions of seed moisture and temperature. Generally, these conditions are not found in an opened warehouse of the seed producers. In addition, the calculation of the constants  $K_e$ ,  $C_w$ ,  $C_H$  and  $C_O$  are difficult and labour. The objective of this paper was to test the simplified equation for predicting the changes in seed viability on uncontrollable environment conditions. The simplified model is given by the following equation:  $V_t = V_i - tgb.p$ , where  $V_t$  is the percentage viability in probit for a period  $p$ ,  $V_i$  is the initial seed quality and  $tgb$  is the rate of seed deterioration of seed lot expressed as an angular coefficient of the line. Seeds of hybrid corn BR 201 and BR 206 and soybean var. IAC-8 were stored for 12 months in multiwall paper bags in an opened

warehouse at two locations, Sete Lagoas, MG and Brasilia, DF. The seed water content and germination test were determined at month interval. The germination % was transformed in probit and the slope of the viability line, the coefficient  $tgb$  was calculated. Soybean seed germination declined more rapidly than corn seed at those conditions, as it was predicted by the  $tgb$ . The rate of seed deterioration ( $tgb$ ) ranged from  $1,476.10^{-3}$  for corn to  $3,6167.10^{-3}$  for soybean. The model accurately predicted germination after 360 days at opened storage for soybean (4 per cent points) and for corn (2 percent points) compared across two locations ( $R^2 > 0.97$ ). The simplified equation model seems to be simple, efficient and promising in predicting storability of corn and soybean seeds in an opened storage conditions, being of great value to seed producers and seedsmen.

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2 Embrapa, Milho e Sorgo, Cx. Postal 151, CEP 35.701-970, Sete Lagoas, MG, Brazil.

