Methodology of Soybean Seed Hardness Testing. (C04-berger094835-Poster)

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Abstract:

When determining soybean suitability for natto manufacturing, seed hardness testing must be conducted. Usually, a professional natto taster does this subjective test on a finished natto line. However, because of the large number of soybean lines that a breeder has to screen in a breeding program, there must be a faster, more objective method of determining seed hardness. The ultimate goal of this research is to develop such a method. In this project, an Instron force testing instrument was used to measure seed hardness in Newtons required to shear soaked and cooked soybean seeds of eight varieties varying in seed size. In addition, a TA-XT2I Texture Analyzer was equipped with a 2mm probe and then a blade to measure compression and shear force required to penetrate the soaked and cooked seeds. Seed hardness, dimension change, swell ratio in weight and volume, water absorption, and seed size data will be presented.

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