INFLUENCE OF PRIMING TECHNIQUES IN SEED BEHAVIOUR OF SOYA BEAN (*Glycine max* L)

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ABSTRACT

Oil seeds are more susceptible to deterioration due to membrane disruption, high free fatty acid level in seeds and free radical production. These factors are tended to less vigorous seed. Priming treatments have been used to accelerate the germination and seedling growth in most of the crops under normal and stress conditions. For susceptible and low vigor soybean seed, this technique would be promising method.

The experiment was conducted at Seed science laboratory, Crop farm Eastern University Sri Lanka. Soybean (PB -1) seeds were primed with four levels of Poly ethylene glycol (PEG 8000) as priming media (- 0.5, - 1.0, - 1.5 and – 2.0MPa) for (4, 8, 12 and 16 hours) at 30°C.Experimental units were arranged factorial in completely randomized design with three replications. Dry soybean seeds considered as a control treatment (non-primed). Results of variance analysis made clear that different osmotic potential and priming duration had significant effect on germination percentage, mean germination time, seedling vigor index, dry weight of seedlings leaf area and electrical conductivity of seeds. Also – 1.5MPa osmotic potential increased germination percentage, seedling vigor index, leaf area and dry weight of seedling meanwhile decreased mean germination time and electrical conductivity of seeds. Also it was observed that 12 hours priming duration had most effect on studied traits as – 1.5MPa osmotic potential treatment. Generally primed seeds showed better condition than control treatment in aspect of studied criteria.

Key words: Soybean, priming, priming duration, osmotic potential, germination.

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