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220. GERMINATION AND SEEDLING GROWTH OF WHEAT AS AFFECTED BY PRE-SOWING REGULATORS SEED TREATMENTS.

¹Sponchiado, J. C., ¹Souza, C. A., ¹Michels, A. F., ¹Correa, C., ¹Zanesco, P. R., ¹Tormem, M. E., ²Coelho, C. M. M. ¹Universidade do Estado de Santa Catarina (UDESC), Lages-SC, Brazil, julhana.sponchiado@bol.com.br, ²Universidade Federal de Santa Catarina (UFSC), Florianópolis-SC, Brazil.

Plant growth regulators are chemicals that modify plant growth and development by mimicking plant hormones. The objective of this research was to evaluate the effect of wheat seeds pre-sowing treated with different plant growth regulators on germination and seedling development by direct seed soaking. The experiment consisted of seven treatments: untreated seeds(control); direct application of Trinexapac-Ethyl(TE), Mepiquat Chloride(MC), 2-chloride ethyl-trimethylammonium chloride(CCC), Chlormequat Chloride(CC), Ethephon(E) and Prohexadione-Ca(PC) on the seeds and soaking in solutions equivalent to field spray dose of each regulator. The treatments were applied in the seeds by sow using a germitest paper and subsequently to germinate in control germination chamber, at 25 °C or in soil at field conditions. Germination first count and germination percentage were evaluated at 5 and 10 days after seeding, respectively, and germination speed index (GSI) at 5 to 15 days after sowing, seedling height, leaf chlorophyll and leaves number at 16 day after sowing. The treatments were arranged in randomized blocks with four replicates, using wheat Abalone cultivar. The data were compared with controls at $P < 0.05$, and applied Dunnett's test or Duncan's test among the regulators. The emergence after TE seed treatment was lower than control only 27% compared to 52% from control, but seed MC treatment lead to highest first germination count 83% compared to 73% from control. The GSI, leaves number per plant and leaf chlorophyll did not differ from control. But, the CCC treatment were numerically highest of the others treatments on GSI, leaves number, chlorophyll and plant height parameters. In conclusion, some regulators applied by pre-sowing had potential to contribute for reduce the plant height (TE) and CCC can increase the emergence, GSI, chlorophyll content and leaves number.

Keywords: *Triticum aestivum*, Vigor, Seedling growth, Plant regulator

Aknowledgments: UDESC, CAPES

221. METHODS OF OVERCOMING SEEDS DORMANCY IN *Caryocar villosum* (Aubl.) Pers.

¹Garcia, L. C., ²Moraes, R. P., ¹Sousa, S. G. A. de, ³Barroso, L. M. M. ¹Embrapa Amazônia Ocidental, Manaus-AM, Brazil. lucinda.carneiro@cpaa.embrapa.br, ²PPG Ciências do Ambiente e Sustentabilidade na Amazônia da UFAM; ³PIBIC Embrapa/CNPq.

Caryocar villosum (Aubl.) Pers. – Caryocaraceae (Piquia) is an Amazonian tree species of great economic and ecological importance in the region, which is characterized by having a slow and uneven seed germination, as a result of severe seed dormancy. The seeds were collected in a matrix of natural forest area from Phenological Park (BR 174, Km 54), Embrapa Western Amazon, in Manaus Amazonas State, Brazil. The following methods were used for overcoming of dormancy: cutting of the endocarp (T1), cutting of endocarp and cutting of tegument (T2), removal of endocarp and removal of cutting of the tegument (T3), cutting of endocarp and cutting of the tegument plus immersed in solution gibberellic acid (GA3) at a concentration of 500 mg per 24 hours (T4), removal of the endocarp and removal of the tegument, plus immersion in gibberellic acid (GA3) at a concentration of 500mg per 24 hours (T5). Were analyzed total percentage of germination (%) and emergence velocity index (EVI). The statistic design was completely randomized with four replications of 20 seeds per treatment. The analysis of the data and the interpretation of results allowed to the conclusion that the better treatment to overcome the seeds dormancy of the species studied is the endocarp removal and the tegument removal, plus immersed in gibberellic acid (T5), with germination of 64.37%, the worse treatment was the cut of endocarp and cut of tegument, with germination of 49.37% the seeds.

Keywords: *Caryocar villosum*, seed dormancy, forest seeds, seed germination.