

EFFECT OF SOAKING TREATMENT ON ENGINEERING PROPERTIES OF DIFFERENT RICE CULTIVAR

R.A. Bangale*, A.K. Dave and I. Srinivas

SV CAET and RS, IGKV, Raipur – 492012 (CG), India

Email: rash.gayatri@gmail.com

Received-06.07.2019, Revised-27.07.2019

Abstract: Some engineering properties of rice seeds were evaluated as the function of soaking treatment i.e. dry, one day soaked and two day soaked with four different rice cultivars i.e. Rajeshwari, Swarna, Mahamaya and MTU-1010. The study showed that the engineering properties such as geometric mean diameter, thousand seed weight, bulk density and angle of repose increased as the number of soaking days increased and the values considering all the cultivar and soaking treatments were falls in the range of 3.30 to 4.11, 19.46 to 38.01 g, 571.9 to 635.08 kg m⁻³ and 21.48 to 32.40 degree respectively. The values for Sphericity and true density were found to be in the range of 0.38 to 0.45 and 1102.66 to 1264.30 kg m⁻³ respectively. Also study showed that the values of geometric mean diameter, thousand seed weight, bulk density and angle of repose varied significantly at 5 per cent level of significance for different rice cultivar.

Keywords: Rice, Engineering properties, Soaking, Rajeshwari, Mahamaya, Swarna

REFERENCES

- Bhattacharya, K. R., Sowbhagya, C. M. and Indudhara Swamy, Y. M.** (1972). Some physical properties of paddy and rice and their interrelations. *Journal of Sci. Fd Agric.* 23, 171-186.
- Ghadge, P. N. and Prasad, K** (2012). Some physical properties of rice kernals: variety PR-106. *Journal of Food Process Technology.* Vol. 3: 175. doi:10.4172/2157-7110.1000175
- Varnamkashti, Ghasemi, Mobli, M. H., Jafari, A., Rafiee, S, Haidery Soltanabadi, M. and Kheiralipour, K.** (2007). Some engineering properties of paddy (Var Sazandegi). *Int. J. Agric. Biol.*, 5: 763-766
- Mohsenin, N. N.** (1996). Physical properties of plant and animal materials. Volume-1. Gordon and Breach Science Publishers, New York.
- Patel, N., Jagan, S. K., Jha, S. K., Sinha, J. P. and Kumar, A.** (2013). Physical properties of basmati varieties of paddy. *Journal of Agricultural Engineering*, 50 (4):39-47.
- Princewill, O. P. and Ezinne, O. E.** (2014). The effect of soaking time on some engineering properties of brown speckled Yam bean. *International Journal of Engineering and Technology.* Volume 4 No. 12. Pp 700-708.
- Putri, R. E., Santosa and Muhammad, Makky** (2018). Influence of moisture content to the physical properties of unhusked rice grain. *International Journal on Advanced Science Engineering Information Technology.* Vol. 8 No. 3. Pp 708-713.
- Vengaiiah, P. C., Srivastav, P. P. and Mujumdar, G. C.** (2015). Design related physical properties of major cereals. *Journal of Global Biosciences.* Volume 4, Special issue 1, Pp 1910-1914.
- Zareiforouh, H., Hosseinzadeh, B., Adabi, M. E. and Motavali, A.** (2011). Moisture dependant physical properties of paddy grains. *Journal of American Science.* Vol. 7 no. 7. Pp 175-182.

*Corresponding Author