APPLICATION OF GERMINATION TESTS OF PURSLANE (*PORTULACA OLERACEA* L.)

Larissa Grazielle P. Melo*[1]; Marinalva Woods Pedrosa[1]; Thaís Silva Sales[1]; Marialva Alvarenga Moreira[1]

[1]Empresa de Pesquisa Agropecuária de Minas Gerais, Campo Experimental de Santa Rita, Prudente de Morais, MG, Brazil.
*Corresponding author: larissagrazimelo@gmail.com

Abstract

Unconventional vegetables (HNC) belong to the group of unconventional food plants (PANC), they are excellent sources of nutrients, minerals, vitamins and other essential biomolecules for human nutrition. According to the Ministry of Agriculture, Livestock and Supply of Brazil (MAPA), the HNC are little known, in addition to not being fully inserted into the production chains, so that their benefits are equally little disseminated in society. Purslane (Portulaca Oleracea L.) is an HNC abundant in omega-3 and is considered the plant species that has the highest amount of this acid. Omega-3 is an essential nutrient for human health, being directly involved in brain functions, cell division and other stages of metabolism. The species is a rich source of vitamins A, C, B and other nutrients beneficial to health such as calcium, magnesium, iron and potassium. It is usually propagated via seeds due to the high production rate of such multiplying agents. It can also be propagated asexually by using vegetative propagules, such as stems, leaves, etc. The HNC, although still little known by society, are excellent sources of nutrients and carry cultural importance for several peoples, for example, the chicken with ora-pro-nóbis, a typical dish of Minas Gerais cuisine (Minas Gerais / Brazil). In the last decades, the population's eating habits have been modified, the search for products that bring in themselves cultural and representative value of peoples and regions is a growing demand, as well as the search for foods with greater availability of nutrients. In view of this demand for HNC, it is necessary to develop technologies and disseminate information on the production of seedlings of such vegetables so that the cultivation can supply the market. The objective of the research was to evaluate the germination performance of purslane seeds under different test conditions. The research was conducted at the Bromatology Laboratory of the Santa Rita Experimental Field at EPAMIG (CESR), in Prudente de Morais-MG, from March 3, 2022 to July 12, 2022.The experimental design used was completely randomized, with eight treatments and four replications of 25 seeds. The tests were carried out on specific paper for germination. The seeds used were collected in the production sector of CESR. The tests were conducted in a B.O.D. the first count was performed at 5 days and the second count was performed 14 days after the assembly of each test, as described by the RAS (Rules for Seed Analysis-MAPA). The treatments were composed by the different germination tests, namely: T1:25ºC, 12h light; T2: (Pre-cooling at 10ºC/3 days) 25ºC, 12h light; T3:(Pre-cooling at 5ºC/7 days) 25ºC, 16h light; T4:(Pre-cooling at 5ºC/7 days) KNO3 2g/L, 25ºC, 16h light; T5:KNO3 2g/L, 25°C, 16h light; T6: (Cleaning in 1% NaClO solution) 35ºC, 12h light; T7: (Cleaning in 2% NaClO solution) 35ºC, 12h light and T8:35ºC,12h light. The results obtained were submitted to analysis of variance and test of means. It was observed that disinfection with NaClO and the use of higher temperature contributed to increase the germination percentage of the seeds. Tests 1 and 2 showed the highest values for hard seeds. Test 6 provided a higher percentage of germination compared to tests 1, 2, 4 and 5. The use of KNO3 did not significantly increase the germination percentage of the seeds. Despite some advances, the different combinations of pre-cooling, temperature, light, disinfection and use of a substance to break dormancy, which constituted the tests carried out in this work, were not enough to obtain an acceptable percentage of germination for purslane. The results demonstrate the need for further investigation on the appropriate conditions to promote the germination of the species.

Keywords

Food and nutrition security, Germination,.Unconventional vegetable, Unconventional food plants.