

EVALUATION OF HYDROPONIC SYSTEMS FOR PRE-BASIC SEED POTATO PRODUCTION. Jonny E. Scherwinski Pereira¹; Carlos A. B. Medeiros²; Gerson R. de L. Fortes³; Arione da S. Pereira²; Júlio Daniels². ¹Embrapa Acre, Laboratório de Cultura de Tecidos Vegetais. ²Embrapa Clima Temperado. ³Embrapa Recursos Genéticos e Biotecnologia. E-mail: jonny@cpafac.embrapa.br

The conventional methods of pre-basic seed potato production, besides the low multiplication rates and risks of plant infection by different soil pathogens, are generally harmful to the environment, due to the use of chemical products for the soil desinfestation. The development of new methods of seed production is then necessary to increase the availability of good quality seeds. The results concerning potato seed production in hydroponic systems indicate that this technique can be an alternative to the conventional production methods. The objective of this study was to evaluate the efficiency of hydroponic systems for pre-basic seed potato production. The experiments were carried out at Embrapa Temperate Climate Research Center, Pelotas, RS, Brazil, from September to November 2000 (spring growing season) and March to July 2001 (autumn growing season). The experiments compared two hydroponic systems (fiberciment tiles and articulated PVC gutters), two cultivars (Baronesa and Eliza), and two types of propagative material (*in vitro* plants and minitubers). The system constituted of PVC gutters and minitubers was highly productive. In this system, the cultivars reached multiplication rates up to 74 tubers per plant compared to the 12 tubers obtained from the fiberciment tile system. In general, the use of minitubers as propagative material produced higher number of tubers per plant, and was independent of the cultivars or hydroponic systems tested. The results demonstrate that the use of hydroponic systems can provide a significant increase in the multiplication rate of minitubers compared to the conventional technique.