Research regarding the behaviour of the tobacco plant in induced infection with different pathogens

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Abstract

The micromultiplication or “in vitro” microbreeding is a form of vegetative multiplication and assures a superior yield as compared with other procedures used on the same purpose. The establishment of the growing methods of the vegetal tobacco explants on “in vitro” culture media that would lead to plant regeneration, created the premises of using these in plant amelioration. It is yet considered that there is insufficient research done to permit the mass introduction of this method in practice. It is necessary to deepen the researches to elaborate a method that assures the mass production of plants regenerated from somatic cells. To “in vitro” micromultiplication, the explant can originate from the callus, but in this case, the plant neogenesis implicates the induction, control and stimulation of the organogenesis processes. Also, the callus cell, often in tobacco, can suffer poliploidization phenomena that can lead to obtaining plants genetically different from the donor. The genetic variability can be avoided by using as explant an organized structure. On this purpose, the apical meristem was used as explant. This type of explant will act, as regarding the genetic stability, similar to vegetative breeding. The aim of the paper is the determination of the “in vitro” culture for meristem explants in Burley type tobacco that would allow the expression of cells pluripotency, in order to obtain healthy plants, free of viral diseases, which can be used in practical purposes, as for example the plants used for seed.

Key words: meristem, explant, callus, organogenesis, tobacco