

THE PECULIARITIES OF ASEPTIC CULTURE RECEIVING OF *AESCULUS CARNEA HAYNE*

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The peculiarities of the aseptic culture receiving of *Aesculus carnea* Hayne were presented for future cultivation and plant regenerants receiving. The effectiveness of different methods of sterilization was investigated and the most effective of them was chosen.

Aesculus carnea Hayne is a hybrid between horse chestnut (*Aesculus hippocastanum* L.) and red buckeye (*Aesculus pavia* L.), which was received in 1818. It was probably first appeared in Germany. In Ukraine it was introduced in 1821 for the first time (Nikitsky Botanical Garden).

The research was conducted at the National University of Life and Environmental Science of Ukraine during the spring and summer of 2013–2014. At the beginning of our experiment the stems fragments of annual growth and leaves embryos were used as explants and were sterilized by 0,1 % mercury dichloride (HgCl_2); 3% hydrogen peroxide (H_2O_2); 2,5 % sodium hypochlorite (NaClO); 1,0 % silver nitrate (AgNO_3) in various schemes.

The woody plants tend to accumulate internal infection, so it is important to find the optimal scheme of sterilization. In each variant within seven days the effectiveness of sterilization has been identified: factual and relative number of infected and aseptic explants was established. It was found that the viability of explants depends on sterilizing substance and time of sterilization.

In the case of introduction *Aesculus carnea* Hayne in the culture in vitro it is necessary to use as primary explants stems fragments of annual growth and leaves embryos. Optimally suitable scheme for sterilization of stems fragments is immersion in 2.5% solution of sodium hypochlorite (NaClO) for 10 min and holding at 1.0% solution of silver nitrate (AgNO_3) for 10 min. It was found that the best option for sterilization of leaves embryos is to process by 0.1% water solution of HgCl_2 for a period of 1 min.