Table 2. The reproduction factor and the yield of test-tube potato plants of different varieties on the original nutrient medium of VNIIKh

Varieties	Initial number of test-tube plants, pcs.	Reproduction factor	Number of plants after grafting, pcs.	Difference to control, %
Volozhanin. St.	25	3.9	98	
Zhukovskiy rannii	25	5.6	140	42
Udacha	25	4.7	118	20
Kolobok	25	4.2	105	7

The length of the internode is considered to be one of the most important indicators in the *in vitro* culture. For the grafting of test-tube plants, the average length of the internode is more important than the short or the long one. Short internode makes the grafting of plants very difficult, therefore many grafts become unsuitable for planting. The reverse trend is observed in case of the internodes outgrowing. In this case, too, there is a lot of waste, and it is necessary to cut them several times, which turns the planted graft into the conditioning form. But all this requires a lot of time.

The results of the studies showed that the Zhukovsky rannii (6.8 cm) and Undacha (6.7 cm) varieties had formed the longest internodes, which exceeded that of the Volzhanin control variety by 1.0 and 0.9 cm, respectively.

According to our research, it was found that not all varieties reacted equally to the same nutrient medium. This can be explained by the adaptability feature of each genotype to the source of nutrition.

During normal development, a large number of healthy internodes are formed and, as a rule, more grafts emerge for further reproduction. One test tube allows obtaining 625 plants after 4 graftings with a reproduction factor of 5 (Table 2).

As the data in Table 2 show, the maximum reproduction rate (5.6) was noted in the Zhukovsky variety, which exceeded the control by 1.7, and one test tube plant allowed obtaining 22% more healthy plants after 4 graftings. The remaining varieties were inferior to it, although the studied indicator was higher than the control one.

CONCLUSION

1. Variety differences in the length of the internodes were established in the growth of the test-tube plants in vitro in the Murasige-Skuga nutrient medium.
2. The early Zhukovsky variety showed the best indicators of the length of the internodes (6.8 cm), the stem (8.6), and the reproduction factor (5.6).
3. By controlling the amount and quality of the nutrient medium, the yield of microtubers can be regulated.

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