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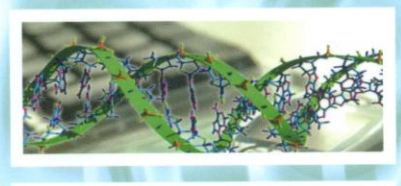

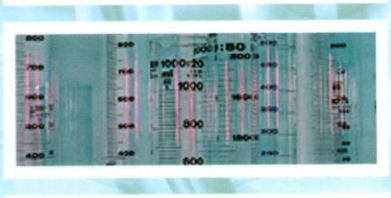

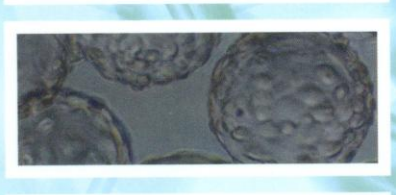

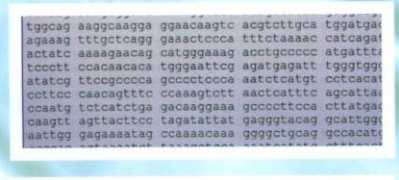

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growers searched for the best characteristics that a tomato needs to be the best for the Romanian market. *Results*: We determined that the features that are interacting are: construction and environmental factors (construction typology, ventilation, temperature, pollination, soil structure and E.C.) agro-technical factors (pruning, density, fertilization, resistance to viruses and diseases) and the market factors (long shelf life "L.S.L. gene" harvesting method and manipulation; the place of sale (supermarket/open market). *Conclusions*: The competition inside and outside Romania made the commercial factors to be classified as the main decision point when it comes to choose a tomato variety. So, the average grower is looking for a better flavor; resistance to viruses and diseases; better appearance and attractive look; and freshness reflections.

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Research regarding the influence of substrate on multiplication by seeds at ornamental grass species *Stipa tenuissima*

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Research aimed to establish a suitable substrate for seedlings' production for specie *Stipa tenuissima*. Experience was carried out at UASVM Iasi, Romania, in 4 variants, each variant representing one type of substrate: V1 – peat, V2 – jiffy-pots, V3 – garden soil and V4 – 1 part garden soil + 2 parts peat + 0.5 parts sand. At each variant were utilized 100 seeds. Substrate influenced germination process so this one varied from 95% (V4) and 52% (V2). At V1 germination percent was of 83% and at V3 was 78%. Also were observed differences between variants regarding triggering plant emergence and seed germination period. For V2, plant emergence took place later and had a longer period in comparison with the other variants. Before seedlings' planting in field those ones had a mean height between 14.8 cm (V4) and 9.7 cm (V2), and the mean number of roots/plant was between 7.6 (V4) and 4.1 (V2). At variants V1 and V3 values were close to V4. In conclusion we could say that the best results were obtained at variant V4, followed by V1 and V3, and the worst ones at V2.

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The influence of some bio-stimulating substances on seed breeding for *Aster novii-belgii*

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The purpose of the present work is the analysis of the influence of some bio-stimulating substances (Atonik, Razormin, Sprintene) on germination of *Aster novii-belgii* seeds. 25 seeds were sowed in 4 variants: V1 – control variant (no stimulation), V2 (seeds immersed for 12 h in Atonik solution – 1 ml/1 l water), V3 (Razormin solution – 2 ml/1 l water, applied on soil after sowing) and V4 (seeds immersed in Sprintene solution – 1 ml/1 l water). The used substrate has been identical for all variants. For each variant, treatment applied for substrate was repeated once every 7 days. Results shown that stimulating substances caused halving of plants' springing period (5 days for V2, 6 days for V3 and V4) in comparison to control variant (12 days). Germination percentage was influenced, so highest values were obtained for variant V2 (44%), then V3 (36%) and the lowest for V1 and V4 (28%). The differences in comparison with control plants were very significant for V2 and V3. Five weeks after sowing, before transplanting, average height of sprouts varied between 2.5 cm (V3) and 1.2 cm (V1). For V3 differences from control variant were positive and very significant. The average number of leaves on plant was between 5.6 (V1) and 7.1 (V3).

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Common bean as perspective source of proteinase inhibitors on the way to transgenic plants resistant to pests and diseases

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Wide implementation into practice of crops containing genes for strange proteins increasing their tolerance to vermins and diseases is being observed at present. One of the patterns of such proteins are inhibitors of proteolytic enzymes identified ubiquitously across plant kingdom including the legumes. Gene engineering applies widely plant proteinase inhibitors to obtain transgenic plants resistant to insects. To date genes for more than fourteen inhibitor proteins have been already expressed to in various crops. This imposes specific requirement of new sources for these proteins to develop agricultural biotechnology research and plant protection. In our experiments the activities of trypsin and chemotrypsin in twelve cultivars of common bean bred in Kazakhstan, Russia and other countries have been investigated. It has been established that high trypsin activity would be characteristic of Kazakhstani and Russian cultivars, whereas differences in chemotrypsin activities remained negligible. Comparing to foreign specimens which have indicated trypsin activity not exceeding 11.7 mg/g, cvs. "Aktatti", "Red Goya" and "Yubileinaya" possessing high trypsin activities of 20.2, 20.5 and 19.8 mg/g, respectively, may be recommended as perspective sources of proteinase inhibitors for isolating, expressing related inhibitor genes and obtaining relevant transgenic plants.

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Wheat cisgenic transformation with class I chitinase gene

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Chitinase is an enzyme involved in the defense mechanisms of wheat against fungal pathogens. Therefore, wheat resistance may be increased by introduction of genes, expressing such kind of enzymes, into wheat genome, or constitutive expression of already established "strong" genes of the same species. This approach to