of mutations and a high frequency of their manifestation. This method was used in our researches in order to obtain the valuable initial material for peanut breeding. The used biological material was peanut 'Fazenda I', approved in Moldova, that was treated with gamma rays doses of 100, 200 and 300 Gy. The result of gamma-ray-induced mutagenesis was the obtaining of peanut mutant forms with significant increase of oil and protein content. The biochemical analysis of allowed selecting the forms that are evidenced by a high oil content: from 56.57% to 54.15% ('M101', 'M107'), and protein: from 27.86% to 28.52% ('M124', 'M91'). The obtained results confirm the already known fact that the oil content in seeds is in negative correlation with protein content. It should be noted that in case of peanuts, the oil and protein content depends on the climatic conditions and is characterized by specific genotype variability for each variety. The analyses of the mass of 100 seeds of studied forms attested that characterized by high productivity. The mass varied from 51.2gr to 54.1gr ('M91', 'M96'), while in the control the mass was 50.8gr. Thus, based on the above, it is clear that the weight varies between the forms and controls and largely depends on the climatic conditions of the year. The results of research in the field of gamma ray induced of mutations have allowed to determine the important features of mutational variability and by careful selection of peanut, there were obtained the mutant forms with high oil content, protein and productivity. The obtained forms represent a great interest for peanuts breeding and reproduction in Moldova.

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INVESTIGATION OF THE EFFECTS OF ASCOCHYTA (*Ascochyta boltshauseri*) ON BIOCHEMICAL PARAMETERS OF BEAN SAMPLES

Bean is used as a rich with protein seed, as a green fertilizers, moreover its floral forms are used as ornamental plants and depending on a purpose, cultivation method changes. Bean are high with protein (20.4-31.7%), non-nitrogen substances (50-60%), fat (0.7-3.6%), ash (3.1-4.6%) and cellulose (2.3-7.1%). The absorption rate of protein which is included in bean seed constitutes 86%, which is higher than that of lentil and pea. Protein of bean contains tyrosine, tryptophan, lysine, and other aminoacids that are essential for the human body. Bread included 5-10% of white flour bean, which is particularly useful for children, is nutritious and tasty in comparison to ordinary wheat bread. The bean is often used as a diet food. Blue bean seeds contain up to 6% of protein and vitamins C, A, B. Just before of germination period of bean the leaves of the plant contain 3-16% lemon acid. The usefulness of protein includes in bean

seed could be comparable with the that of meat and milk. Besides of protein and fat, the bean seeds contain lots of carbohydrates (sugar and starch), minerals (potassium, calcium, magnesium, iron, phosphorus), organic acids (thiamine) and vitamin B2 (riboflavin), PP (nicotine acid), C (ascorbic acid).

One of the most important areas of contemporary breeding system is the protection of crops from diseases, pests and weeds. Various scientific sources, as well as Food and Agriculture experts from the UN FAO reported that the loss of crops due to affection of diseases, pests and weeds is estimated to be around $ 75 billion annually, what constitutes 34.9% of the total production rate.

Currently, one of the main and essential aspect for improving crop productivity and product quality in agriculture is the comprehensive protection of plants from various diseases and pests.

The productivity of the bean plant and the quality of its seed could be damaged by different fungal diseases. The most dangerous among them are white mold (*Sclerotinia sclerotiorum*), rust (*Uromyces appendiculatus*), grey mold (*Botrytis cinerea*), anthracnose (*Colletotrichum lindemuthianum*) and ascochyta (*Ascochyta boltshauseri*).

This research was carried out at the Absheron Scientific Research Center of Institute of Genetic Resources of ANAS. During the research 15 local and introduced varietes of bean were used. It was found that samples which were mostly infected by *Ascochyta* are AF QO-22, Qalibiyyat and K-13038 and they contain 18,7%, 21% and 24% of protein, respectively. An amount of protein among other bean samples varies between 25% - 27% (samples T / 16, T / 15, 1/18, 1/16, K-3493, contain 27% of protein).

Phytopathological evaluation conducted among given samples showed that different types of bean are infected at different level and this parameter depends on genetic background of given samples. Types of beans resistant and tolerant to *Ascochyta* have been selected and they will be used for the selection of new pathogen-resistant bean varieties.