

Gene pool of common beans in Western Siberia

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The problem of import substitution in the seed market is primarily the problem of creating competitive varieties. To solve this problem, it is necessary to ensure the genetic potential of the crop varieties. Functional products are of particular importance for the implementation of the food task. Grain and leguminous crops are of interest. Common beans (*Phaseolus vulgaris*) has a unique balanced composition of seeds and green beans with a high content of protein, vitamins and microelements. Importance for the creation of varieties is the use of collection material of different ecological and geographical origin. There is a need to study the gene pool to identify sources and donors of valuable traits. From 1997 to the present time in the Novosibirsk State Agrarian University has studied more than 150 breeding samples of different geographical origin, including recombinant forms. The studied varieties of beans are divided by origin: most 51 % – introduced, including 47 % – of European and 4 % – of Asian origin, the samples of hybrid origin. Breeding samples were studied on the main features: the duration of the growing season, the nature of growth, plant height and attachment of the lower beans, shape and length, color of beans. The variability of these features with the establishment of correlations, evaluation of the nature of the inheritance of individual features. According to the duration of the growing season varieties were divided into 4 groups of ripeness (early maturing – 7 %, of which can be identified very early: Nika, Secunda, Maxi; mid-season: Sunray, G135 – 43 %, middle: Viola, G171 – 37 %, and late – 13 %). Indicators of high productivity and quality of green beans were found in 44 % of samples: G135, Peak, Rocqentcant, Sunray, Nika with a yield of more than 3.5 kg/m². The creation of varieties with a complex of certain selected characteristics on the basis of available breeding samples of the Siberian gene pool for specific soil and climatic conditions will ensure guaranteed high productivity and product quality.