

Table S1. Characteristics of soybean varieties used in the experiment.

Variety	Characters
Primorskaya 4	This variety refers to the Manchu subspecies. It is mid-ripening, with a growing period of 117-120 days and a yield of 2.8-3.0 t/ha. The plants are of medium height (75-80 cm) with stems of 4-4.5 mm in thickness. The height of attachment of the lowest pods is 14-18 cm above ground. The seed form is globose, and the seeds are bright, matte, and unpigmented, with a gray eye-like scar. The mass of 1000 seeds is 140-160 g. The oil concentration is 21%, and the protein concentration is 39%. A distinctive feature of this variety is high number of pods per plant: 5 to 8 at the tillering node, with more than 40% of the pods containing 3 or 4 seeds. This variety is resistant to fungal damage and viral diseases.
Primorskaya 13	The Primorsky Scientific Research Institute of Agriculture developed this variety through individual selection of a hybrid combination of Chippev's (USA) × T-VO-FAN (China). The yield of this variety under production conditions is 1.8-2.5 t/ha. The variety is early maturing, with a growth period of 103-109 days. The bush is compact, mid-clasp, with a plant height of 60-85 cm. The height of attachment of the lowest pods is 12-15 cm. Seeds are yellow, oval-oblong, mid-sized, and large, and the scar is dark gray. The mass of 1000 seeds ranges from 160 to 220 g. The oil concentration in the seed ranges from 18% to 23%, and the crude protein concentration is 39%-42%. Fusarium wilt affects this variety to a moderate degree, while septoria blight, downy mildew, and fire blight affect it at above-average levels.
Primorskaya 81	This variety was developed by researchers from the Federal Scientific Center of Agricultural Biotechnology of the Far East, named after A. K. Chaiki—specifically, from the laboratory of biotechnology and the laboratory of soybean breeding—and was included in the State Register of Breeding Achievements of the Russian Federation in 2004. The variety is high-yielding and stable, with a maximum yield of 4.3 t/ha, and has a high oil content of up to 22%. The growth period is 112-116 days. Plants are of medium height (70-80 cm), with a moderately thick stem (4-4.5 mm). The branching of the plants is also moderate, with up to 4 stems per plant. Leaves are ternate, and the top of the stem is filled with pods. The mass of 1000 seeds ranges from 180 to 210 g, and the seeds are unpigmented. The variety is highly resistant to fungal and viral diseases, and lodging is not observed.
Primorskaya 86	This variety refers to the Manchu subspecies. It has a middle-late growing period, spanning 120-124 days, with high productivity. Thus, early planting should be no later than May 25th. According to the results, the production yield was 3.2 t/ha. Many 3- and 4-seeded pods are formed on the plant, ranging from 40 to 88 pieces. The tillering node presents 6 to 9 pods. Plants are medium in height, ranging from 82 to 98 cm, with a compact, bushy form. The lowest pods are attached at 16-18

cm, and the stem thickness is 5-6 mm. The mass of 1000 seeds is 185-190 g. It contains 20% oil and 39% protein.
