

**ТЕОРИЯ И ПРАКТИКА СЕЛЕКЦИИ****И СЕМЕНОВОДСТВА ОВОЩНЫХ КУЛЬТУР****Пивоваров В.Ф., Пронина Е.П.**Основные направления и результаты селекции  
и семеноводства овощных бобовых культур во ВНИИССОК ..... 4**Сирота С.М.**Итоги работы в 2012 году по продвижению семян  
гороха овощного сортов селекции ВНИИССОК ..... 12**СОВРЕМЕННЫЕ НАПРАВЛЕНИЯ СЕЛЕКЦИИ ОВОЩНЫХ КУЛЬТУР****Вишнякова М.А., Булынец С.В., Бурляева М.О.,****Буравцева Т.В., Егорова Г.П., Семенова Е.В., Сеферова И.В.**Исходный материал для селекции овощных  
зернобобовых культур в коллекции ВИР ..... 16**Котляр И.П., Добруцкая Е.Г.**Особенности корреляций между количественными признаками  
родительских форм и гибридов первого поколения гороха овощного ..... 26**Кайгородова И.М., Пронина Е.П., Пышная О.Н.**Изучение перспективных образцов гороха овощного как  
генетических источников в селекции на качество и продуктивность ..... 30**Кайгородова И.М., Пышная О.Н., Пронина Е.П.**

Изучение наследования скороспелости у гороха овощного ..... 35

**Мусаев Ф.Б., Добруцкая Е.Г., Казыдуб Н.Г., Скорина Вит.В.**Оценка среды природных зон как фона для отбора  
на адаптивность и размножение семян фасоли овощной ..... 41**Деговцов В.Е., Сирота С.М., Добруцкая Е.Г., Баранова Е.В.**Оценка сортов фасоли овощной по параметрам адаптивности  
при разных сроках посева в Белгородской области ..... 46**Паркина О.В., Харина Н.С.**Оценка образцов фасоли овощной по продуктивности бобов и  
клубенькообразующей способности в условиях лесостепи Приобья ..... 51**СЕЛЕКЦИЯ ОВОЩНЫХ БОБОВЫХ КУЛЬТУР****Деревщюков С.Н.**История и результаты селекции фасоли овощной на Воронежской  
овощной опытной станции ..... 55**СОРТА ОВОЩНЫХ КУЛЬТУР****Балашова И.Т., Пронина Е.П., Сирота С.М., Гордеев Д.К.**

Культура бобов овощных в Нечерноземной зоне России ..... 60

**Ушаков В.А., Пронина Е.П.**

Сортимент гороха овощного селекции ВНИИССОК ..... 63

**Антошкин А.А., Мирошникова М.П., Пронина Е.П.**Антошка и Светлячок – новые сорта  
фасоли овощной селекции ВНИИССОК ..... 66**ХРАНЕНИЕ И ПЕРЕРАБОТКА ОВОЩНОЙ ПРОДУКЦИИ****Самарин Н.А., Самарин С.Н.**Конвейер сортов гороха овощного  
для консервной промышленности ..... 68**ЗАЩИТА РАСТЕНИЙ****Тимина Л.Т., Котляр И.П., Пронина Е.П.**

Устойчивость гороха овощного к мучнистой росе ..... 73

**СЕМЕНОВОДСТВО И СЕМЕНОВЕДЕНИЕ ОВОЩНЫХ КУЛЬТУР****Самарин Н.А., Самарин С.Н.**Возможные пути сохранения семеноводства отечественных сортов  
гороха овощного в современных условиях ..... 76**Гончаров Н.Ю., Гончарова Н.М., Коцарева Н.В.**Опыт выращивания гороха овощного  
на семена Белгородской области ..... 79**Шульпеков А.С., Сирота С.М., Коцарева Н.В.**Изучение семенной продуктивности сортов гороха отечественной и  
иностранной селекции в условиях юго-запада ЦЧР ..... 82**АГРОТЕХНИКА ОВОЩНЫХ РАСТЕНИЙ****Беседин А.Г.**

Сорта и основные приемы возделывания гороха овощного на Кубани ..... 86

**THEORY AND PRACTICE OF BREEDING  
AND CROPS SEED PRODUCTION****Pivovarov V.F., Pronina E.P.**Main directions and results of vegetable breeding and  
seed production of legumes in VNISSOK ..... 4**Sirota S.M.**The outcome of the 2012 promotion  
of pea vegetable varieties of VNISSOK breeding ..... 12**MODERN TRENDS IN SELECTION OF VEGETABLE CROPS****Vishnyakova M.A., Bulintsev S.V., Burlyaeva M.O.,****Buravtseva T.V., Egorova G.P., Semenova E.V., Seferova I.V.**The initial material for grain legumes breeding  
in the collection of VIR ..... 16**Kotlyar I.P., Dobrutskaya E.G.**Correlation features between quantitative traits  
of the parental forms and hybrids of the first generation of pea ..... 26**Kaigorodova I.M., Pronina E.P., Pishnaya O.N.**Study of perspective models of pea as genetic sources in  
breeding for quality and productivity ..... 30**Kaigorodova I.M., Pronina E.P., Pishnaya O.N.**

The study of the inheritance of earliness of ripening of pea ..... 35

**Musayev F.B., Dobrutskaya E.G., Kazidub N.G., Skorina Vit.V.**Environmental assessment of natural areas as background  
for selection for adaptability and bean vegetable seed multiplication ..... 41**Degovtsov V.E., Sirota S.M., Dobrutskaya E.G., Baranova E.V.**Evaluation of vegetable bean varieties on the parameters  
of adaptability at different times of sowing in the Belgorod region ..... 46**Parkina O.V., Harina N.S.**Evaluation of bean vegetable samples on productivity and root formation  
capacity in the condition of forest-steppe of the Ob region ..... 51**SELECTION OF VEGETABLE LEGUME CROPS****Derevskyukov S.N.**History and results of breeding of bean vegetable on the  
Vegetable Voronezh Experimental Station ..... 55**VARIETIES OF VEGETABLE CROPS****Balashova I.T., Pronina E.P., Sirota S.M., Gordeev D.K.**

Beans culture in chernozem zone of Russia ..... 60

**Ushakov V.A., Pronina E.P.**

Pea assortment of VNISSOK breeding ..... 63

**Antoshkin A.A., Miroshnikova M.P., Pronina E.P.**Antoshka and Svetlyachok are new varieties  
of bean of VNISSOK breeding ..... 66**STORAGE AND PROCESSING OF VEGETABLE PRODUCT****Samarin N.A., Samarin S.N.**Characteristics of chain  
of pea varieties for vegetable canning ..... 68**PLANT PROTECTION****Timina L.T., Kotlyar I.P., Pronina E.P.**

Pea resistance to powdery mildew ..... 73

**SEED BREEDING AND SEED STUDYING OF VEGETABLE CROPS****Samarin N.A., Samarin S.N.**Possible ways to save seed production of pea  
domestic varieties in current conditions ..... 76**Goncharov N.U., Goncharova N.M., Kotsareva N.V.**Experience of vegetable pea growing  
for seeds in the Belgorod region ..... 79**Shulpekova A.S., Sirota S.M., Kotsareva N.V.**The study of seed productivity of pea varieties of domestic and  
foreign breeding in the conditions of the southwest of central Russia ..... 82**AGROTECHNICS OF VEGETABLE PLANTS****Bessedin A.G.**

Varieties and basic techniques of pea cultivation in Kuban ..... 86

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## THEORY AND PRACTICE OF BREEDING AND CROPS SEED PRODUCTION

**Pivovarov V.F., Pronina E.P.**

### MAIN DIRECTIONS AND RESULTS OF VEGETABLE BREEDING AND SEED PRODUCTION OF VEGETABLE CROPS OF LEGUMES IN VNISSOK

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The paper demonstrates the basic achievements in breeding and seed production of vegetable legumes in All-Russian Research Institute of vegetable breeding and seed production and the directions of the development of advanced varieties, which are very important at this stage.

**Keywords:** *peas, beans, variety, genotype, yield, seed production, processing plants*

**Sirota S.M.**

### THE OUTCOME OF THE 2012 PROMOTION OF PEA VEGETABLE VARIETIES OF VNISSOK BREEDING

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A brief description of weather conditions in 2012 is shown in the areas of pea production. The reaction of pea varieties of VNISSOK breeding at growing in different regions of Russia and Belarus is described. The results of the meetings and the workshops with the leaders of a number of canning plants are summarized.

**Keywords:** *vegetable peas, varieties, plant, processing, canning, green peas*

## MODERN TRENDS IN AGRICULTURAL CROPS BREEDING

**Vishnyakova M.A., Bulintsev S.V., Burlayaeva M.O.,**

**Buravtseva T.V., Egorova G.P., Semenova E.V., Seferova I.V.**

### THE INITIAL MATERIAL FOR GRAIN LEGUMES BREEDING IN THE COLLECTION OF VIR

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Industry by N.I. Vavilov of RAAS

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In the VIR collection there is a rich initial material, which can contribute to the intensification of breeding of leguminous of vegetable directions of our country, as well as an increase in species diversity of cultures in this group.

**Keywords:** *legumes, peas, vegetables, beans, varieties, raw material, breeding*

**Kotlyar I.P., Dobrutska E.G.**

### CORRELATION FEATURES BETWEEN QUANTITATIVE TRAITS OF THE PARENTAL FORMS AND HYBRIDS OF THE FIRST GENERATION OF PEA

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The number of correlations on vegetable peas depends on the length of the growing period, and the adaptive capacity of the samples. In F<sub>1</sub> hybrids manifestation of «t» correlations is increasingly close to their parents.

**Keywords:** *vegetable peas, quantitative traits, correlation, adaptability, hybrids F<sub>1</sub>*

**Kaigorodova I.M., Pronina E.P., Pishnaya O.N.**

### STUDY OF PERSPECTIVE MODELS OF PEA AS GENETIC SOURCES IN BREEDING FOR QUALITY AND PRODUCTIVITY

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The green pea collection consisting of 277 samples varied in geographical distance, quantity, and quality traits was evaluated. The samples with agronomic valuable traits were selected. The starch grains in selected green pea samples were studied. The molecular analysis of these samples was conducted. The selected samples were used for the reciprocal crossing. The pattern inheritance of hybrids F<sub>1</sub> was studied.

**Keywords:** *Pisum sativum, green pea, breeding material, germplasm collection, RAPD-analysis*

**Kaigorodova I.M., Pishnaya O.N., Pronina E.P.**

### THE STUDY OF THE INHERITANCE OF EARLINESS OF RIPENING OF PEA

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«The number of infertile nodes» is a stable variety trait of pea plants, and it is directly related to the duration of the growing season. To study the manifestations of this trait in hybrid progenies the reciprocal crosses among pea samples of different groups of maturity have been made.

**Keywords:** *vegetable peas, hybridization, early-ripening*

## Musayev F.B., Dobrutska E.G.<sup>1</sup>, Kazidub N.G.<sup>2</sup>, Skorina Vt.V.<sup>3</sup> ENVIRONMENTAL ASSESSMENT OF NATURAL AREAS AS BACKGROUND FOR SELECTION FOR ADAPTABILITY AND BEAN VEGETABLE SEEDS MULTIPLICATION

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The basic elements of the ecological breeding technology were study. The backgrounds for selection at different stages of breeding for adaptability of bean vegetable were chosen.

**Keywords:** *adaptability, selection, bean vegetable, backgrounds for the selection*

## Degovtsov V.E., Sirota S.M., Dobrutska E.G., Baranova E.V. EVALUATION OF VEGETABLE BEAN VARIETIES ON THE PARAMETERS OF ADAPTABILITY

AT DIFFERENT TIME OF SOWING IN THE BELGOROD REGION

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The analysis of display of the quantitative traits in varieties of different groups (highly adaptive and highly responsive to changing environmental conditions) is shown. The utilization of varieties based on their adaptive characteristics depending on the level of technology are recommended.

**Keywords:** *adaptability, beans vegetables, varieties, traits, Belgorod region*

**Parkina O.V., Harina N.S.**

## EVALUATION OF BEAN VEGETABLE SAMPLES ON PRODUCTIVITY AND ROOT FORMATION CAPACITY IN THE CONDITIONS OF FOREST-STEPPE OF THE OB REGION

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The efficiency of root formation capacity of the bean hybrids in the conditions of forest-steppe of the Ob region has been shown.

**Keywords:** *bean vegetable, hybrid, root formation capacity, productivity*

## SELECTION OF VEGETABLE LEGUME CROPS

**Derevshchikov S.N.**

### HISTORY AND RESULTS OF BREEDING OF BEAN VEGETABLE ON THE VEGETABLE VORONEZH EXPERIMENTAL STATION

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The main results of breeding of vegetable bean in the Voronezh Vegetable Research Station are shown. Several varieties of vegetable bean are described.

**Keywords:** *bean vegetable, breeding, variety*

## VARIETIES OF VEGETABLE CROPS

**Ushakov V.A., Pronina E.P.**

### PEA ASSORTMENT OF VNISSOK BREEDING

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The advantages of varieties of vegetable pea of VNISSOK breeding have been shown. These varieties are suitable for canning, freezing, gardening, and for universal use.

**Keywords:** *vegetable peas, varieties, green peas, yields*

**Antoshkin AA, Miroshnikova MP, Pronina EP**

### ANTOSHKA AND SVETLYACHOK ARE NEW VARIETIES OF BEAN OF VNISSOK BREEDING

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As a result of many years breeding, two varieties of southern bean have been developed. Cultivar «Antoshka» is climbing bean for farm gardening. Cultivar «Svetlyachok» is bunch-forming cultivar. Both varieties are suitable for mechanized cultivation. They are characterized by high content of sugars and ascorbic acid. These cultivars are recommended for freezing.

**Keywords:** *southern bean, breeding, farm gardening, bouquets location of beans*

**Balashova I.T., Pronina E.P., Sirota S.M., Gordeev D.K.**

### BEAN CULTURE IN CHERNOZEM ZONE OF RUSSIA

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Beans (Vicia faba L.) is the one of the ancient crops which have been cultivated and used for food. The historical note about bean utilization in ancient world and in Russia, and the information about centers of origin, food value of seeds are presented in this review. Botanical characteristics of three bean varieties of VNISSOK breeding are described.

**Keywords:** *beans, centers of origin, food value of seeds, Russian varieties of beans*

## PROBLEMS OF STORAGE AND PROCESSING OF VEGETABLE PRODUCTS

**Samarin N.A., Samarin S.N.**

### CHARACTERISTICS OF CHAIN OF PEA VARIETIES FOR VEGETABLE CANNING

Ltd. «Genesis-Delta»

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The characteristics of seven pea varieties of different groups of ripening are described. These cultivars provide the sustainable row material input in canning factories of Krasnodar region. In bogharic agriculture it takes 24-26 days. When using the irrigation system and different time of sowing it takes 35-40 days.

**Keywords:** *pea varieties, traits, gen, product quality, chain of pea varieties.*

## PLANT PROTECTION

**Timina L.T., Kotlyar I.P., Pronina E.P.**

### PEA RESISTANCE TO POWDERY MILDEW

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The results of the evaluation of breeding pea samples for resistance to powdery mildew are shown. Sources of resistance are recommended.

**Keywords:** *vegetable peas, disease, powdery mildew (Erysiphe communis Yrev. F. Pisi Dietrich), resistance, sources*

## SEED PRODUCTION AND SEED STUDIES

### OF VEGETABLE CROPS

**Samarin N.A., Samarin S.N.**

### POSSIBLE WAYS TO SAVE SEED PRODUCTION OF PEA DOMESTIC VARIETIES IN CURRENT CONDITIONS

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The possible ways of development of seed production of pea in Russia and increasing of competitive growth of domestic pea varieties suitable for processing industry are represented in the article.

**Keywords:** *vegetable pea, varieties, seed production, processing*

**Goncharov N.U., Goncharova N.M., Kotsareva N.V.**

### EXPERIENCE OF VEGETABLE PEA GROWING FOR SEEDS IN THE BELGOROD REGION

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The results of the industrial cultivation of pea seeds in farms of Belgorod region are shown.

**Keywords:** *vegetable pea, varieties, growing conditions, seed yield*

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### THE STUDY OF SEED PRODUCTIVITY OF PEA VARIETIES OF DOMESTIC AND FOREIGN BREEDING IN THE CONDITIONS OF THE SOUTHWEST OF CENTRAL RUSSIA

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The results of the study of vegetable pea collection of domestic and foreign breeding are shown. The biological characteristics and seed productivity of 23 varieties of vegetable pea in condition of the southwest of Central Russia were studied. The varieties were selected based on the time of ripening. The cv. «Premium» is very early-ripening variety which showed the industrial ripeness at 39 days and biological ripeness at 45 days. The cv. «Maksdon» has a higher seed productivity (2,54 t per ha).

**Keywords:** *pea vegetable, variety studying, seed productivity*

## AGROTECHNICS OF VEGETABLE CROPS

**Bessedin A.G.**

### VARIETIES AND BASIC TECHNIQUES

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New varieties of pea of different time of ripening were developed in the Crimean experimental breeding station. These varieties were included in the State register of breeding achievements permitted for use in the areas of raw material for canning factories of Kuban. The cultivation technology of the pea varieties is described.

**Keywords:** *vegetable pea, varieties, cultivation technology*