

SUMMARIES

M.M. FURDYGA, T.M. KUPRIINOVA,
candidates of agricultural sciences
V.V. CIRILISHIN, junior scientist

INTRODUCTION, FORMING, STUDY AND USE OF COLLECTION OF POTATO OF INSTITUTE OF CARTOPLYARSTVA OF NAAN

Structural and quantitative composition of gene pool of potato of Ukraine and feature of his study is reflected with the purpose of bringing of the best standards in a subsequent selection process. On the basis of many years data among introduced material after phenotype expression the row of standards is selected with high expression of productivity and its constituents, in particular large-, multituberosusness, marketability, maintenance of starch. Possibility of the use of the selected standards is analyzed coming from the features of display of one or complex of economic-valuable signs.

G.V. ZELYA, research junior scientist

THE SELECTION OF POTATO BREEDING MATERIAL RESISTANT TO CANCER *SYNCHYTRIUM ENDOBIOTICUM* (SCHILB.) PERC.

The results of studies on the selection of potato breeding material resistant to cancer in 2011 and a preliminary test to the normal state and the four aggressive pathotypes of potato pathogen cancer. Specified varieties of potatoes and gibridi that perpedany in the State Service of Ukraine on the protection of plant varieties on the list for approval rakoustoychivyh, applying to Gosudarstveenny reesstr and zoning on the teritorrii Ukraine.

A. A. OSYPCHUK, doctor of agricultural sciences, professor
B.A. TAKTAEV, ALLA A. OSYPCHUK,
candidates of agricultural sciences

NEW HIGHLY-PRODUCTIVE POTATO VARIETIES SHCHEDRYK, CIMMERIA AND OKOLYTSYA

The results of the research to create new highly-productive potato varieties: Shchedryk, Okolytsya and Cimmeria at the Institute for Potato are highlighted. These varieties are well combine high performance with complex resistance to pests and diseases (fungal, viral and bacterial) and adverse environmental factors. Varieties Okolytsya and Cimmeria suitable for processing potato products. They successfully passed state testing, in 2008–2010 and in 2011 entered in to the Register.

O.V. SYDAKOVA, candidate of agricultural sciences

BIOCHEMICAL CHARACTERIZATION OF NEW POTATO VARIETIES

Results of a biochemical analysis of a new potato varieties created in the Institute of potato research NAAS, which are registered in a State registry of plant varieties from 2009 till 2011 years are shown. Differences among potato varieties by content of vitamin C and carotenoids established. Defined directions of using new potato varieties by biochemical features.

A.A. PODGAETSKY, doctor of agricultural sciences, professor
N.V. KRAVCHENKO, candidate of agricultural sciences
V.V. GORDIENKO, candidate of agricultural sciences

VALUE INTERSPECIFIC HYBRID OF POTATOES ON COMPLEX AGRONOMIC SING

The results of the three-year study with the analysis of the data, on which to affirm the value of potato interspecific hybrids and their backcrosses to isolate the starting of breeding material on a range of key agronomic sing. The effect on the manifestation of the external indicators

meet the following conditions during the study. Defined genealogy selected material as possible to recommend hybrids with effective control of symptoms for practical selection utilize.

T.M. OLYINIK, candidate of agricultural sciences

S.O. SLOBODYAN, branch manager of sector DNK-technology

R.V. GRITSAY, scientific researcher

USING MICROSATELLITE MARKERS OF POTATO IN PHYLOGENETIC ANALYSIS OF DOMESTIC AND FOREIGN POTATO VARIETIES

Using 9 of microsatellite markers 12 varieties of potato were investigated. Two primers allowed to reveal differences between varieties of study and to determine phylogenetic bounds among them. According to results of PCR using selected ISSR-primers 22 polymorphic fragments were obtained. On the basis of results the matrix of data was constructed.

**V.M. POLOZHENETS, doctor of agricultural sciences, professor
honoured worker of science and engineering of Ukraine**

L.V. NEMERITSKA,

candidate of biological sciences, assistant professor

I.A. ZHURAVSKA, postgraduate student

EVALUATION OF STABILITY POTATO VARIETIES TO ALTERNARIA IN UKRAINE POLESIE

The potato sorts estimation are resulted on firmness to the alternarioza excitors on a vegetative surface. The use in the complex of the field and laboratory-field methods allowed to decrease the errors of potato sorts evaluation. The necessity of such complex application approach is conditioned that potato alternarioz develops unevenly on the field area, therefore the field method for this disease not always allows to get an exact enough result. The most proof are selected to alternarioza sorts for each of groups of ripeness are: Lastochka (early); Dobrochin (middling early); Lugovskoy (middling ripe); Rakurs (middling late).

Y.S. HOLIACHUK, candidate of biological sciences

THE INFECTION'S SOURCES OF A LATE BLIGHT OF POTATO IN THE CONDITIONS OF THE WESTERN FOREST-STEPPE OF UKRAINE

Oospores of the causal organism of late blight are revealed in potato plants. The greatest number of oospores has been revealed in leaves of variety Vira. In 2009 laboratory researches have been carried out with use naturally infected by Phytophthora infestans leaves and stems of 12 varieties, and in 2010, except leaves, tubers of 5 varieties of a potato have been included in experience. Ability of pathogen's oospores which winter in resting plant to produce a lesion of potato's plants during a following growing season of the Western Forest-steppe of Ukraine is established.

G.S. BALASHOVA, candidate of agricultural sciences

SEED POTATOES WITH TWO CONDITIONS CROP YIELDS IN THE STEPPES OF UKRAINE

Problems of modern branch of potato growing in the south of Ukraine and a way of providing producers of the region are covered by a high-quality seed material of potatoes.

Production of food production in the Steppe is competitive in comparison with more favorable regions on climatic conditions only in the presence of own system of seed farming which is based on reproduction of the revitalized initial material by biotechnological methods and its further reproduction in two-fruitful culture.

Creation of own system of seed farming will allow to provide substantially the producer of food production with a qualitative seed material and to refuse considerable transportations of production from other regions, that is to make potato growing branch in the south of more independent and economically profitable.

L.V. CHERNOHATOV, postgraduate student

ADAPTIVE ABILITIES OF DIFFERENT POTATO VARIETIES IN SOUTH PART OF UKRAINIAN STEPPE

The results of evaluation of potato varieties of Ukrainian origin included in the Register of Varieties for adaptive ability based on the yield criterion during growing in south part of Ukrainian Steppe are given. The group of most productive varieties with the highest adaptability criterion for the 2 yields per year seed potato growing under irrigation is chosen. They are first of all such early potato varieties as Tiras, Skarbnitza, Karlik 04, medium early varieties Svitanok Kievskiy, Levada, Vodogray. It is possible to evaluate the adaptive and productive abilities of potato varieties basing on average criterion of adaptability.

S.A. LYAZHENKO, junior scientist

THE PRODUCTIVITY AND DEFENCE OF SEMINAL POTATO ARE FROM PHYTOPATHOGENES FOR APPLICATION OF SAPROPHYTE AND ENDOPHYTIC BACTERIA

The results of researches of potato plants productivity and bacterial and fungi diseases presence in tubers treated by saprophyte bacterial substance «Kleps» and variety specific endophytes during 2010–2012 years are put down. The positive influence of both «Kleps» substance and endophytes on potato plants productivity is established, with more substantial yield surplus for «Kleps» substance. The pre-planting treatment of seed tubers by water suspension of «Kleps» substance and endophytes of 0,5 ml per liter in 2–3 minutes is also substantial for preventing of widespread of such diseases as warp, dry rot and ryzoctoniozsis, and treatment by endophytes is more effective in this case.

L.V. TYMKO, head of the laboratory of seed

EFFICIENCY OF SELECTION OF CLONALS IS AMONG HYBRIDS OF POTATO OF INTRASPECIFIC AND DIFFICULT ORIGIN ON THE DIFFERENT STAGES OF PLANT-BREEDING PROCESS

The effectiveness of clones selection for potato hybrids of inter species and cross species origin at different stages of selection process aimed for reproduction of original seed potato is researched. The grea-

test effectiveness of selection of 30–50 clones at nursery of second main sort testing is proved. This ensures the obtaining of propagation rate of 4,9–5,6 during the further reproduction of obtained seed potato, which is sufficient to cover 0,5–1,0 hectare by potato plants.

O.M. ANDRUSHKO,
Y.B. DEMKOVYCH, candidates of agricultural sciences
M.O. ANDRUSHKO, student

EFFECTIVENESS OF THE CLONES OF DIFFERENT SIZE REPRODUCTION OF THE ORIGINAL SEED POTATOES IN THE CONDITIONS OF WESTERN- STEPPE UKRAINE

The results of researches are resulted in relation to productivity and quality of seminal material of potato of got at the use of clone. It is set that the selection of only multituberous clone with the amount of commodity tubers provided over 15 things perceptible increase of seminal qualities and productive properties of initial seminal material of potato and is the effective reception of receipt of initial material for the necessities of original nurseries organization.

O.L. KLYACHENKO, candidate of biological sciences, assistant professor
V.A. KOLTUNOV, doctor of agricultural sciences, professor
V.V. BORODAI, candidate of biological sciences, assistant professor
L.M. KOZHEMYAKINA, postgraduate student
N.I. VOITSESHYNA, candidate of agricultural sciences

PATTERNS OF GROWTH AND DEVELOPMENT OF DIFFERENT GENOTYPES OF POTATO *IN VITRO*, DEPENDING ON THE COMPOSITION OF THE CULTURE MEDIUM

The influence of different growth regulators on growth and development in culture in vitro potato varieties Podolyanka, Serpanok, Povin, Fantasy, Oberig, Zelenuy Gay, Kalinovskaya, Chervona Ruta and Po-

liske Dzherelo was studied. The most intensive growth of potato apical meristems was observed on a modified medium Morel supplemented with kinetin – 0.5 mg/l, IAA – 1.0 mg /l, adenine – 0.25 mg / liter. Also, good results were obtained on a medium containing: kinetin – 0.5 mg /l, IAA – 1.0 mg /l, adenine – 0.25 mg /l, gibberellin – 0.05 mg / liter. A medium – early ripening variety Zelenuy Gay had a high rate of reproduction – 145, intensive callus formation. The greatest number of potato plants that have shaped mikrotubers (80–90%) was observed in plants on a nutrient medium MS with the addition of naphthaleneacetic acid (NAA), indolilacetic acid (IAA) at 0.1 mg /l and mezoinozit 100 mg / liter.

P.M. KOSTIN, senior research assistant

M.G. SHARAPA, candidate of agricultural science

FEATURES OF EARLY POTATO CULTIVATION UNDER FILM IN THE SOUTH OF UKRAINE

The article focuses on the role of timing of germinated potato tubers' planting, optimal doses of fertilizer application, different drip irrigation regimes and economic feasibility of using core technological processes in the field under the conditions of the drying south of Ukraine.

Based on the results of research, an effective technology of early potato growing under temporary film for drip irrigation has been developed, tested and recommended to the manufacturers. This developed technology allows you to obtain early potato production in late May – early June up to 15 tons per 1 hectare with 1,00–1,10 UAH per 1 kg net cost with guaranteed return.

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GROWING POTATOES USING POTATO BOND-DISC PLANTING APPARATUS FOR PLANTING TUBERS OF DIFFERENT SIZES

The article deals with analysis of the current state of planting potatoes. Based on research conducted at the Institute for Potato Research NAAS, was found that pneumatic seeder SPCH-4 and made an experi-

mental potato-based L-201 does not provide agronomic requirements, causing clipped shoots, damage up to 5% of tubers, perform only one technological operation - planting potatoes. The structure of made potato seeder with bond-disk planting unit is presented. In order to expand the technological capabilities of machines, reducing material costs and prevent damage to seedlings and tubers workflow the research results were described. Technical descriptions of made potato seeder were given.

D.D. FITSURO, S.A. TURKO, candidates of agricultural sciences

G.I. PISKUN, doctor of agricultural sciences

V.L. MAKHANKO, candidate of agricultural sciences

N.N. GONCHAROVA, candidate of biological sciences

L.I. PISCHENKO, research associate

THE BASIC AGROTECHNICAL RECEPTIONS CULTIVATION OF THE EARLY POTATO AND FOR MANUFACTURE OF STARCH IN THE CONDITIONS OF BELARUS

In the conditions of Belarus at cultivation of an early potato, sprouting a seed material accelerates shoots for 5–8 days, and the shelter of plantings of a potato spunbond promoted occurrence of shoots for 2–5 days faster; than without shelter a nonwoven material; the crop of commodity tubers on variety has made: Lileya – 21,9–27,6 t/ha (+2,3–3,6 t/ha), Uladar – 19,4–23,2 t/ha, (+0,3–1,0), Molli – 14,0–20,0 t/ha (+1,3–3,7 t/ha). At cultivation of a potato for starch manufacture the greatest efficiency of variety of a potato is established at entering of dose $N_{90}P_{90}K_{180} + B, Cu, Mn$ against 40 t/ha of organic fertilizers: Arkhideya – 40,0–42,5 t/ha, Atlant – 46,8–48,8, Vytok – 34,8–38,6, Zdabytak – 45,7–49,1, Mag – 36,0–37,2 t/ha. Gathering of starch about 1 ha depending on level of a food, not root spray dressing microcells on potato variety has made: Arkhideya – 3,9–7,1 t/ha; Atlant – 4,7–7,9; Vytok – 4,6–7,4; Mag – 5,1–7,1; Zdabytak – 5,3–9,5 t/ha.

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A.M. Petrenko, postgraduate student
L.E. Karmazin, research associate
O.I. KOLOSNIHENKO, junior scientist

APPLICATION FOR AGROTECHNICAL PREPARE POTATOES FOR CLEANING AND THEIR IMPACT ON QUALITY SEED TUBERS

Deals with the results of studies conducted during the 2009–2011. Institute of potato on the impact of a single desykatsiyi kartoplynnaya Rehlonom before building and aftereffect double its imposition on the yield and reproductive properties of seed tubers. Found that for early varieties Smoky and Middle-grade fantasy best proven option, where they spent desykatsiyu bevelled kartoplynnaya Rehlonom 20% VR 2,0 L/ha in tank mixtures with fungicide Rydomil Gold MC – 2,5 kg / ha, which counteract these negative effects on tuber desiccant. Increase in yield compared with the control on grades was 5,6% and 4,7% respectively.

S.I. KORNIENKO, O.V. KUTS,
candidates of agricultural sciences

EFFECTIVENESS OF APPLYING MICROFERTILIZERS IN GROWING PERICARPS OF BEET

On the left bank of Ukraine in zone of forestry steppe and black soils, implementation of treatments with mixtures Zn + Mo and B + Mo, with microfertilizers «Reacom-CO» in the background making locally $N_{60}R_{60}K_{120}$ caused growth yield of table beet seed on 88–251 kg/ha, increasing weight of 1000 seeds and does not affect indicators of vigor and laboratory seed germination. Conducting treatments with micronutrients in background fertilizer application provides high economic performance, profitability in this case is 183–188%, cost of 1 kg of seeds – 17,4–17,7 uan / kg.

**I.H. MOROZ, candidate of agricultural sciences
A.O. ROZHNYTOVSKY, I.I. STUDZINSKAYA, A.L. VASYLENKO,
juniors scientific**

SOME ASPECTS OF POTATO PRODUCTION AND TECHNICAL SUPPORT IN THE FIELD OF POTATO INDUSTRY

The questions regarding the production of potatoes in the world are highlighted. The results of the analysis of potato production industry in Ukraine by categories are shown. Showed modern status of potato production and technical support of ones. Specified poor logistics and lack of domestic special equipment for agricultural enterprises and farms. Emphasized the importance of domestic specialized equipment produced by specified plants in Ukraine.

**S.A. TURCO, V.A. KOZLOV, V.L. MAKHANKO, L.N. KOZLOV,
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POTATO GROWING IN BELARUS
