

SCI-CONF.COM.UA

DYNAMICS OF THE DEVELOPMENT OF WORLD SCIENCE



**ABSTRACTS OF VIII INTERNATIONAL
SCIENTIFIC AND PRACTICAL CONFERENCE
APRIL 15-17, 2020**

**VANCOUVER
2020**

DYNAMICS OF THE DEVELOPMENT OF WORLD SCIENCE

Abstracts of VIII International Scientific and Practical Conference

Vancouver, Canada

15-17 April 2020

Vancouver, Canada

2020

UDC 001.1

BBK 87

The 8th International scientific and practical conference “Dynamics of the development of world science” (April 15-17, 2020) Perfect Publishing, Vancouver, Canada. 2020. 999 p.

ISBN 978-1-4879-3791-1

The recommended citation for this publication is:

Ivanov I. Analysis of the phaunistic composition of Ukraine // Dynamics of the development of world science. Abstracts of the 8th International scientific and practical conference. Perfect Publishing. Vancouver, Canada. 2020. Pp. 21-27. URL: <http://sci-conf.com.ua>.

Editor

Komarytsky M.L.

Ph.D. in Economics, Associate Professor

Editorial board

Ambrish Chandra, FIEEE, University of Quebec,
Canada

Zhizhang (David) Chen, FIEEE, Dalhausie University,
Canada

Hossam Gaber, University of Ontario Institute of
Technology, Canada

Xiaolin Wang, University of Tasmania, Australia

Jessica Zhou, Nanyang Technological University,
Singapore

S Jamshid Mousavi, University of Waterloo, Canada

Harish Kumar R. N., Deakin University, Australia

Lin Ma, The University of Sheffield, UK

Ryuji Matsuhashi, The University of Tokyo, Japan

Chong Wen Tong, University of Malaya, Malaysia

Farhad Shahnia, Murdoch University, Australia

Ramesh Singh, University of Malaya, Malaysia

Torben Mikkelsen, Technical University of Denmark,
Denmark

Miguel Edgar Morales Udaeta, GEPEA/EPUSP, Brazil

Rami Elemam, IAEA, Austria

Collection of scientific articles published is the scientific and practical publication, which contains scientific articles of students, graduate students, Candidates and Doctors of Sciences, research workers and practitioners from Europe, Ukraine, Russia and from neighbouring countries and beyond. The articles contain the study, reflecting the processes and changes in the structure of modern science. The collection of scientific articles is for students, postgraduate students, doctoral candidates, teachers, researchers, practitioners and people interested in the trends of modern science development.

e-mail: vancouver@sci-conf.com.ua

homepage: <http://sci-conf.com.ua/>

©2020 Scientific Publishing Center “Sci-conf.com.ua” ®

©2020 Perfect Publishing ®

©2020 Authors of the articles

TABLE OF CONTENTS

1.	<i>Albeshchenko O. S.</i> IMPROVEMENT OF THE ENTREPRENEURIAL ENVIRONMENT OF THE TOURIST AND HOTEL BUSINESS.	16
2.	<i>Babkina O., Nikouan A., Volobuiev A.</i> TO THE QUESTION DETECTION AND PREVENTION COVID- 2019 IN UKRAINE AND THE WORLD.	24
3.	<i>Bulyk R. Ye., Vlasova K. V.</i> THE USE OF WORKBOOKS ON MEDICAL BIOLOGY – WAY TO FACILITATE LEARNING SKILLS.	32
4.	<i>Deineka V., Pietukhov R.</i> IMPROVING TECHNOLOGICAL CEMENT QUALITY PARAMETERS.	37
5.	<i>Dutko G.</i> THE CLINICAL PECULIARITIES OF TOOTH DECAY IN CHILDREN WITH OLIGOPHRENIA.	39
6.	<i>Epereshi T. Yo.</i> INNOVATIVE TECHNOLOGIES IN THE TRADE AREA.	43
7.	<i>Fartushok T. V., Pyndus T. A., Yurchyshyn O. M., Fartushok N. V., Baran S. Z., Komissarova O. S.</i> THE VALUE OF VITAMIN D FOR THE HUMAN BODY.	53
8.	<i>Hadaichuk N., Nykyporets S.</i> TESTING AS A FORM OF CONTROL OF THE LEVEL OF FOREIGN LANGUAGE AMONG THE STUDENTS OF TECHNICAL NON-LINGUISTIC HIGHER EDUCATIONAL INSTITUTIONS.	60
9.	<i>Hoshko K. O., Malenko K. A., Stashevska A. O., Fedotov O. V.</i> ANALYSIS OF PROFESSIONAL HAZARDS AND DISEASES IN THE WORK OF A DENTIST DOCTOR.	64
10.	<i>Guliyeva N. A.</i> SEMANTIC STRUCTURE OF WORDS.	70
11.	<i>Goy O.</i> FOREIGN EXPERIENCE OF STRATEGIC MANAGEMENT MECHANISMS IMPROVEMENT IN THE PUBLIC SECTOR.	76
12.	<i>Ivaniv M. O., Mychalenko I. V.</i> VARIABILITY OF PRODUCTIVITY STRUCTURE ELEMENTS IN MAIZE HYBRIDS OF DIFFERENT FAO GROUPS AND THEIR RELATIONSHIP WITH GRAIN YIELD UNDER DIFFERENT IRRIGATION AND MOISTURE CONDITIONS IN THE ARID STEPPE OF UKRAINE.	80
13.	<i>Khamroeva S. M., Mengliev B. R.</i> SOME COMMENTS ON THE SEMANTIC TAGGING OF VERBS IN UZBEK LANGUAGE CORPUS.	86

UDC 631.53.01:633.15:631.811.98:631.67 (477.72)

**VARIABILITY OF PRODUCTIVITY STRUCTURE ELEMENTS IN MAIZE
HYBRIDS OF DIFFERENT FAO GROUPS AND THEIR RELATIONSHIP
WITH GRAIN YIELD UNDER DIFFERENT IRRIGATION AND MOISTURE
CONDITIONS IN THE ARID STEPPE OF UKRAINE**

Ivaniv Mykola Oleksandrovich

Candidate of Agricultural Science

Mychalenko Iryna Valentynyvna

Candidate of Agricultural Science

Kherson State Agrarian University

Ukraine, Kherson

Summary. The study presents the results of the research on the indexes of the productivity structure of corn hybrids of different FAO groups and the model of their correlation with kernel yields of innovative corn hybrids under different irrigation modes and water supply under conditions of the Arid Steppe of Ukraine. The hybrids were sown under different irrigation modes (common sprinkling, drip irrigation, sub-irrigation) and without irrigation to compare their drought-resistance. The research determines the indexes of the kernel weight of a cob and 1000 kernel weight in the hybrids of different FAO groups under different water supply and irrigation modes.

Key words: hybrid, corn, irrigation, kernels, productivity, drought-resistance, correlation models.

Purpose of research. To establish the manifestation of the characteristics of "cob grain mass", "mass of 1000 grains" and their impact on grain yield in modern domestic corn hybrids for different ways of watering and moisture supply in the Dry Steppe of Ukraine.

Materials and methods of research. The researches were carried out according to the thematic plan of research of the State Pedagogical University of Kherson State

Agrarian University under the task "Realization of technology of cultivation of basic crops". Field experiments were performed in the Sivasko Agro Firm of the Novotroitsky District of Kherson Region, located in the Dry-Steppe Agro-ecological Zone and within the limits of the Kakhovka Irrigation System, in 2017–2019. The object of the study was modern corn hybrids of domestic breeding of different maturity groups. Hybrids were sown under different irrigation methods (common rainfall, drip irrigation, soil irrigation) and without irrigation to compare their drought resistance. **Methods** - field, laboratory, statistical. To determine the rate of response of corn hybrids to technological conditions, investigated the effect of different methods of irrigation on grain yield: irrigation plant Zimatic, drip irrigation, soil irrigation with a pre-irrigation soil moisture level of 80% HB in the soil layer 0-50 cm without irrigation [1–5].

Results of the research and discussion. The study establishes the polynomial dependence between the elements of the productivity structure and the kernel yields of the innovative hybrids under conditions of natural moisturizing and artificial irrigation in the Arid Steppe of Ukraine. It determines the impact of the biometric indexes, the length of the growing season of the hybrids on their productivity under different moisture conditions.

The study determines optimal elements of the productivity structure for certain maturity groups and levels of moisture supply. The calculations of the dependence of the kernel yields of the corn hybrids on the kernel weight of a cob under irrigated conditions showed that there is a strong positive correlation between these indexes. It is necessary to mention that the dependence is inclined to linearity, the correlation coefficient being at a high level – 0.938. The maximum kernel yield was recorded by the indexes of the kernel weight of a cob within 208-217 g that ensures the kernel yields of the corn hybrids of 15–16 t/ha under irrigated conditions. The correlation of the kernel yields and the kernel weight of a cob was similar under non-irrigated conditions. However, the kernel weight of a cob and the length of the growing season had a negative correlation that indicates to a prevailing impact of a reduction in the growing season and a decrease in water use on drought-resistance of the hybrids.

Under non-irrigated conditions the kernel weight of a cob cannot be an indicator of a hybrid potential capability. Drought-resistance is preferred in the early maturing hybrids, which considerably yield to less drought-resistant hybrids under conditions of an optimal irrigation mode, but the late maturing hybrids are more productive.

Under irrigation conditions 1000 kernel weight had an additive impact on the kernel productivity of the corn hybrids (the correlation coefficient is 0.733). Under conditions of severe droughts physiological mechanisms of attracting nutrients to corn seeds are necessary for stress-resistance of the genotypes, causing the formation of larger kernels of the hybrids with genetically programmed drought-resistance. These hybrids (Stepovyi, Pyvykha) have 1000 kernel weight ranging from 170g to 190 g that is more by 17-20% than in highly productive hybrids of an intensive type under non-irrigated conditions. However, under irrigation 1000 kernel weight in highly productive hybrids of an intensive type was more by 17-23% when compared to the drought-resistant hybrids. In order to obtain corn kernel yields ranging from 3 t/ha to 3.5 t/ha under conditions of the Arid Steppe drought-resistant corn hybrids must have 1000 kernel weight not less than 170 g. Therefore it is necessary to use special hybrids created by special breeding programs for drought-resistance (Table).

Under conditions of the Arid Steppe it is necessary to use corn hybrids with a genetically programmed reaction to moisture supply during the growing season. While selecting hybrids by adaptively to agro-ecological conditions it is important to pay special attention to the indexes of the weight of corn cob kernels and the size of kernels (1000 kernel weight).

In the arid steppe zone of Ukraine, against the background of climate change trends, the realization of the potential productivity of maize hybrids is limited by a variety of limited factors and one of the main ones is moisture supply. The adaptability of hybrids to the soil and climatic conditions of the Dry Steppe zone and artificial moisture content is reflected by the parameters of growth and development of hybrid plants.

Table

Grain weight of cob (g) in maize hybrids of different FAO groups depending on irrigation and irrigation methods (2017-2019)

Hybrid	FAO	Without irrigation	Irrigation sprinkling	Watering with drip irrigation	Watering with soil irrigation
Stepovyi	190	102,3	152,6	158,3	149,8
Pyvycha	180	98,3	149,4	154,3	145,2
Skadovskiy	290	96,4	156,2	158,7	153,4
Hotin	280	97,5	173,5	178,4	172,0
Kahovsky	380	67,4	185,8	195,3	190,7
Rostok	340	65,4	196,1	208,7	201,3
Arabat	420	41,5	200,5	214,8	207,1
Sofiya	420	42,0	207,2	217,1	211,3
Average		76,35	177,6	185,7	178,8
LCD ₀₅		3,14	5,23	5,45	4,89

Table shows the results of the calculation of the weight of cob from modern innovative corn hybrids for different irrigation and irrigation methods. The weight of the top cob is shown, because in modern corn hybrids, only one (top) cob is formed at the optimal planting density, and the cob from the lower internodes is formed with little or no grain (except in the case of liquefied crops).

Under irrigation conditions, the weight of corn cobs from corn hybrids increased with the increase of the FAO group, which is quite natural. It reached maximum values in the middle-late hybrids of Arabat and Sofia (200 - 217 g). More favorable conditions for the formation of cobs were, on average, in the ways of irrigation with drip irrigation and soil irrigation (average weight of cob of 185.7 and 178.8 g). However, short-matured and middle-matured hybrids formed larger masses of cobs during drip irrigation and sprinkling, and FAO 300-420 hybrids formed larger cobs during both drip and soil irrigation.

This is explained by the fact that hybrids with increased duration of the growing season also have a more powerful root system, which penetrates to the depth of the irrigation belt and the rise of the capillary border just in the phase of organogenesis of the formation of potential productivity of the cob. To the root system of early maturing hybrids, irrigation water with soil irrigation arrives with a delay, which

leads to a lack of full realization of the potential of formation of a cob. However, without irrigation, the grain weight of the cobs sharply decreased under irrigation conditions. This is due to the fact that in the late-maturing hybrids, despite the higher potential performance of the cob, in the conditions of drought, the dusting of the upper part of the rod and the formation of a low mass of cob of grain were suppressed.

Conclusions. Calculations of the grain yield of maize hybrids on the weight of corn from the cob in irrigation conditions showed that there is a strong positive relationship between these indicators. It is characteristic that the dependence has a tendency to straightforwardness, the correlation coefficient was at a high level. The maximum grain yield is fixed by the index of grain weight from the cob in the range of 208-217 g, which ensures the grain yield of corn hybrids in irrigation conditions of 15 - 16 t / ha. The correlation of grain yield and grain weight of the cob without irrigation wore a similar relationship. However, the weight of the corn on the cob and the length of the growing season were negative, indicating a major influence on the drought resistance of the hybrids by reducing the growing season and reducing water consumption.

REFERENCES:

1. Lavrynenko Yu. O., Vozhegova R.A., Hozh O. A. Productivity of corn hybrids of different FAO groups depending on microfertilizers and growth stimulants under irrigation in the south of Ukraine// *Agricultural Science and Practice*. – 2016. – Vol. 3. – No. 1. – P. 55-60. DOI: 10.15407/agrisp3.01.055
2. Zarei B., Kahrizi D., Aboughadareh A. P., Sadeghi F. Correlation and path coefficient analysis for determining interrelationships among grain yield and related characters in corn hybrids (*Zea mays* L.). *Int. J. Agric. Crop Sci.* 2012. Vol. 4, Iss. 20. P. 1519–1522. doi: IJACS/2012/4-20/1519-1522
3. Vozhehova R.A., Kokovikhin S.V., Lykhovyd P.V., Biliaeva I.M., Drobitko A.V., Nesterchuk V.V. Assessment of the CROPWAT 8.0 software reliability for evapotranspiration and crop water requirements calculations. *Journal of Water and*

Land Development. Polish Academy of Sciences (PAN) in Warsaw. 2018. No. 39 (X–XII). P. 147–152. <http://www.degruyter.com/view/j/jwld> DOI: 10.2478/jwld-2018-0070

4. Lavrynenko Yu. O. Breeding heritage and its role in stabilizing production of corn grain in Ukraine. Natural sciences and modern technological solutions: knowledge integration in the XXI century : collective monograph. Lviv-Torun : Liha-Pres, 2019. P. 103 – 119. DOI <https://doi.org/10.36059/978-966-397-154-4/103-119>

5. Вожегова Р.А., Малярчук М.П., Коковіхін С. В. Методика польових і лабораторних досліджень на зрошуваних землях. Херсон : Грінь Д.С., 2014. 286 с.