

QUESTIONNAIRE

(*) – mandatory fields

Details about organisation	
* Organisation name	Pig-Breeding Institute named after O.V.Kvasnytskyj of Ukrainian Academy of Agrarian Sciences
Organisation acronym	IC YAAH (PBI-UA)
* Organisation Activity Type (RES - Research, HE - University, SME - Small and Medium Enterprise, IND - Industry, OTH - Other)	RES
* Keywords of main research areas	Pig-breeding, selection, feeding, physiology of reproduction, genetics, technology of pig management
* Head of organisation (first name, family name)	Andriy Getya
* Post code	36013
* Country	Ukraine
* City	Poltava
* Street, House	Shvedska Mohyla,1
* Telephone (+ country & city codes)	+38 0532 527419
* Fax (+ country & city codes)	+38 05322 22753
* E-mail	pigbreeding@ukr.net

* Description of organization and its research achievements for the last five years (~ 5000 signs)
<p>The Pig-breeding Institute (Poltava) was founded as the All- Union scientific and research pig- breeding Institute by the All- Union Academy of Agricultural sciences in August, 1930.</p> <p>In 1944 it was renamed Poltava scientific and research pig- breeding Institute. Since 1993 the Institute is subordinated to the Ukrainian Academy of Agrarian Sciences (UAAS). In 2000 the Institute was named after academician O.V. Kvasnitsky. Here headed by academician O.V. Kvasnitsky fundamental experiments were carried out on pig digestion physiology study, the results of which became a theoretical basis for further development of the optimum nutrition norms. At the same time problems of reproduction, pig feeds production, feeding and pig management were solved.</p> <p><i>Main Directions of the Institute's activity</i></p> <ul style="list-style-type: none"> ▪ improvement of the existing and creation of new pig breeds, types, lines an their crosses; ▪ search of new physiological, genetic and biochemical methods for pig productivity improvement; <ul style="list-style-type: none"> ▪ development of the system of rational feeding of animals belonging to different age and production groups, mixed fodder recipes and premixes;

- development and improvement of porcine production progressive technologies with application of computer technologies, up- to- date economic and organizational branch management methods;
- studies, propaganda and launching into production scientific developments and advanced experience.

Scientific achievements

During the last decades the Institute has accomplished a number of the research works possessing considerable theoretical and practical importance for farms different in size and property forms.

The basic of them are:

- the Poltava meaty pig type created on the crossbred basis (1974, B.V. Bankovsky, F.K.Pochernyaev, V.P. Rybalko and others);
- the Poltava meaty breed (PM) approved by the Ukrainian Ministry of Agriculture in 1993 (B. V. Bankovsky, V. P. Rybalko, L.G.Peretyatko, N.M.Sereda) which is characterized by high reproductive and fattening qualities;
- the Ukrainian meaty breed (UM) approved in 1993, (B.V. Bankovsky, S.V. Akimov, I.B. Bankovska, M.M. Borysenko, and others). Within the breed three types exist: the Poltava central, the Kharkov and the Askania types. They are recommended for application as a father form in breedline hybridization in the zones of the country;
 - three interbreed pig types within the Large White breed: ULW-1 (1985) possessing high reproductive properties and ULW-II (1994) possessing considerable fattening and meat properties, Dniprov farm mother type “Dniprovsky” (1999), the types were created under M. D. Berezovsky’s methodical guidance;
 - the red- belted meaty pigs specialized line created on the basis of seven breeds under the guidance of V.P. Rybalko in 1994 . At crossing with the planned sows this line’s boars ensure the heterosis effect within the limit of 5 –15%;
 - selection- technological porcine production system for different regions of Ukraine (1991) which jointed the pedigree and production farms’ work with wide application of the pure breeding, cross- breeding, hybridization and artificial insemination methods.

The Institute scientists’ activity includes a number of other achievements both in this country and abroad.

- principally surpassing the modern analogues the new Poltava pig embryo-transplantation method (M.A. Martynenko, P.V. Denisyuk, V.O. Lobchenko) and boars sperm deep freezing technology (V. F. Kovalenko) were worked out;
- the reproduction and pig artificial insemination technology was created and is being continuously improved. In particular the following methods are proposed and launched into production: the fractional method of pig artificial insemination together with the correspondent equipment both for the fractional and non-fractional methods; the sow’s reproductive ability renovation method; the rational regime of detecting sows in oestrus as well as their insemination; methods of farrows synchronization, etc. (O.V. Kvasnitsky, V.F. Kovalenko);
 - norms and rations of feeding pigs belonging to different age and production groups , recipes of combined feeds and their premixes (M.A. Kovalenko, I.S. Tronchuk, M.T. Nozdrin, A.A.Polishchuk, L.I.Yatsenko, S. O. Semyonov and others) were proposed;
 - the rational porcine production farm module for different categories of enterprises was developed; the state norms for pig- farm construction projects were

determined on the basis of the technological and zoohygienic investigations in the sphere of different age and production groups pig- keeping (I.I. Zabolotny, V. F. Kovalenko, O. F. Saglo, V. Z. Folomeev and others).

The Institute proposes:

- methodical recommendations for researches in pig- breeding;
- the Poltava meaty and the Ukrainian meaty breed pigs;
- new interbreed pig types within the Large White breed;
- new red- belted meaty pigs specialized line;
- selection- technological porcine production system;
- the sow's reproductive ability renovation method;
- the rational regime of detecting sows in oestrus as well as their artificial insemination technology;
- programs and perspective plans of selection and pedigree work on breeding herd and pig populations;
- development of full value combined feeds recipes for pigs belonging to different age and production groups;
- the porcine production technological bases;
- organization of pedigree farms for pigs belonging to different genotypes;
- boars' and sows' estimation as to their genotype and phenotype;
- immunological control of pedigree youngsters lineage;
- service in porcine production farm organization ;
- the selection process control automatized system;
- methodical consultations on the problems of selection, breeding herd reproduction, fattening and pig management;
- conduct of the science-practical seminars and conferences on the problems of pig- breeding.

	Contact Information
* Contact person (first name, family name)	Konstantin Pochernyaev
* Department / Laboratory	Genetics laboratory
* Position	Senior Scientist
* Qualification and research experience	Geneticist, molecular biologist. 16 years of experience in the field of molecular biology, animal genetics, environment pollution research. Well experienced in various molecular biology techniques including cloning, DNA fingerprinting, PCR, RAPD, microsatellite analysis, biostatistics.
* Post address (house, street, city, code, country)	Artema Str., 7\22, Poltava, 36014, Ukraine
* Telephone (+ country & city codes)	+38 05322 22410
* Fax (+ country & city codes)	-
* E-mail	pochernyaev@mail.ru

International co-operation / Participation in EU RTD programmes or other bilateral / multilateral actions
INTAS, TACIS, TEMPUS, COST, EUREKA, other RTD programmes (please specify programme/s, project title/s and year/s)
I have been worked from 1998 till 1999 as visitor exchanger in Institute for Animal Science and Behavior Mariensee in Department of Genetics and Genetics Resources in Germany. Research subject: "Analysis of genetic variability in sixteen German sheep breeds with eleven microsattellites".

	* Please, use "X" to indicate the scientific area/s of your potential project
CHEMISTRY	
SOCIAL AND HUMAN SCIENCES	
ECONOMIC SCIENCES	
ENGINEERING SCIENCE	
ENVIRONMENT	
AGRICULTURE AND FOOD	X
HEALTH	X
MATHEMATICS	
INFORMATION SCIENCE	
PHYSICS	
NANOTECHNOLOGIES	
ENERGY	
TRANSPORT	
SPACE	

* Summary of potential research project envisaged hosting of European researcher for the period of between 1 and 2 years
<p>The target of the project is to determine the role of microsattellites.</p> <p>The project's idea: We believe, that the ms role lies in maintaining the permanent size of the "closed" DNA domain (approximately 85 000 b.p.) which permits the successful packing and chromosome formation. The simpler mechanism exists in viruses, where successful DNA packing into a capsid is only possible at a certain DNA length.</p> <p>Ms mutations do not occur due to DNA-polymerase faults or due to unequal exchange between the homologous alleles at meiosis, as it is commonly considered. As to the mechanism of ms mutations arising we suppose that the main role here belongs to the reparation system.</p> <p>The experimental checking the idea: It is necessary to determine the total amount of all ms alleles repeats (in length) in homologous chromosomes within the same fragment, simultaneously determining the size of the inter-marker regions. The idea will be confirmed if lengths of the persistent fragments in homologous chromosomes the ms balance is observed.</p>

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	Please, confirm your agreement on data publication and dissemination
I agree with the publication of the data on the web-site http://www.inco-ecca.net , and dissemination among Mobility National Contact Points of the EU MS and AC (YES / NO)	Yes
Date	November, 26, 2008