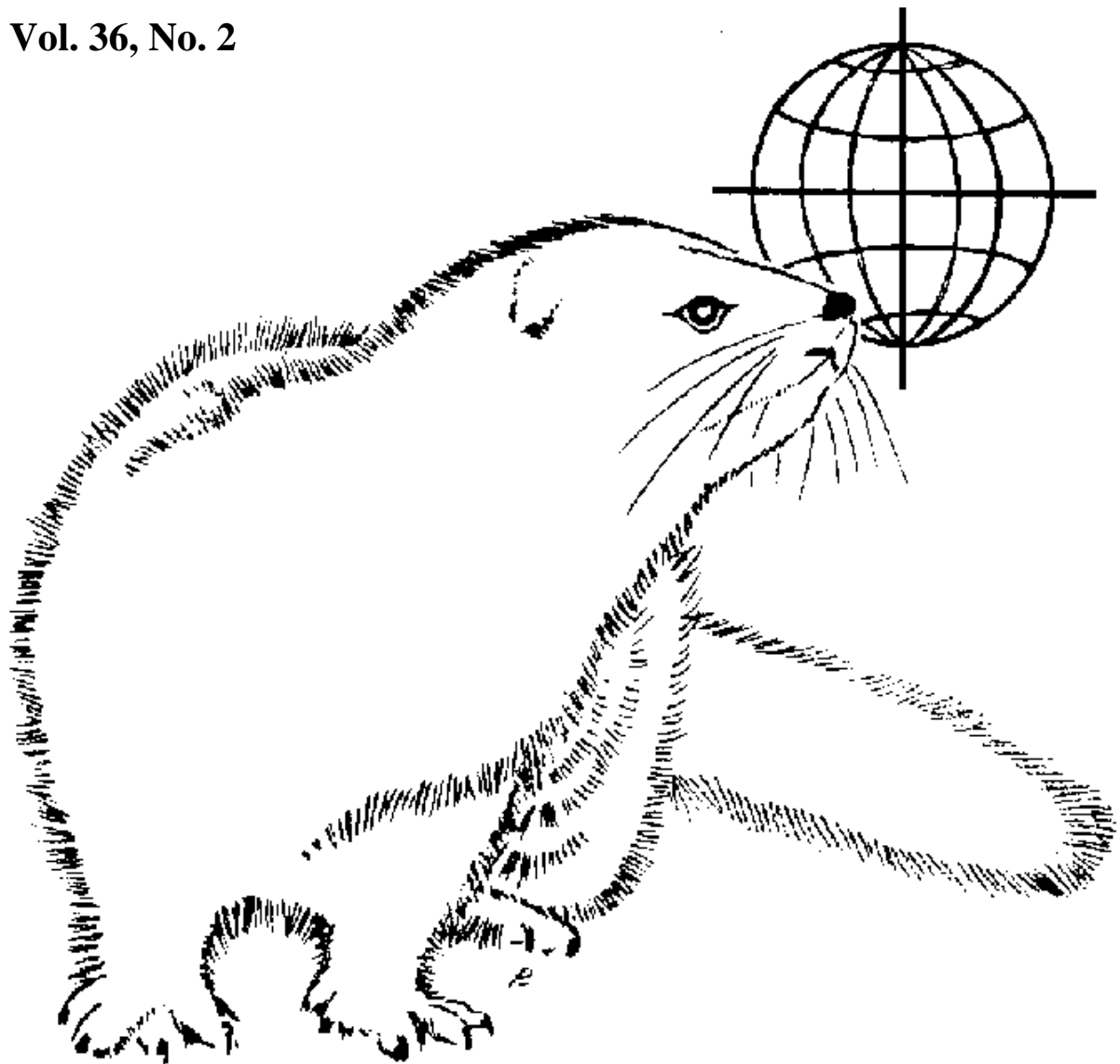


SCIENTIFUR

SCIENTIFIC INFORMATION IN FUR ANIMAL PRODUCTION

Vol. 36, No. 2



INTERNATIONAL FUR ANIMAL SCIENTIFIC ASSOCIATION

SCIENTIFUR - scientific information in Fur Animal Production.

SCIENTIFUR scientific information for those involved in fur animal production is published by the International Fur Animal Scientific Association (IFASA).

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INDEXING: Titles that have been published in **SCIENTIFUR** are covered in an electronic **SCIENTIFUR INDEX**.

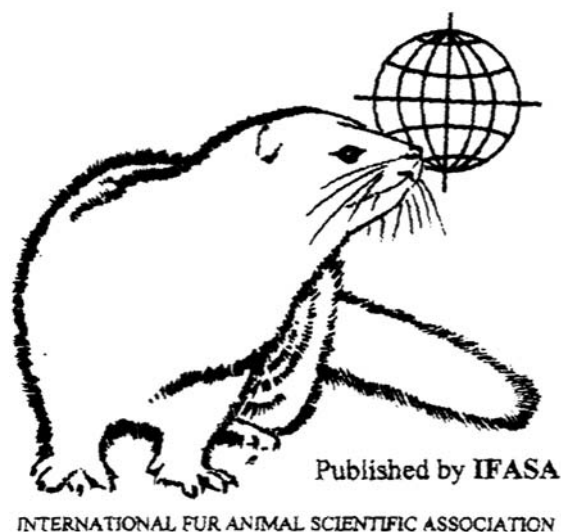
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Notes from the Editor

The Xth International Scientific Congress in Fur Animal Production will be held in Copenhagen in Denmark, August 21-25, 2012.

An interesting programme is set up for the congress. New results will be presented within fur animal research in health and diseases, nutrition, feeding and management, breeding, genetics and reproduction, and behaviour and welfare. A session will focus on a special theme on “Welfare for mink and foxes”. We look forward to a fruitful meeting.

This volume of *Scientifur* also contains links to abstracts of publications dealing with e.g. the use of a canine beadchip for detection of single nucleotide polymorphisms in mink, the complete mitochondrial genome of the red fox, a study of coat color phenotypes in mink, diseases e.g. Aleutian disease, morphological, histochemical and immunohistochemical studies in foxes, the effect of different dietary protein provision in mink, hepatic de novo lipogenesis in mink, genetic parameters for weight under different feeding conditions in mink, and genetics of behavior in the silver fox.

Vivi Hunnicke Nielsen
Editor *Scientifur*

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Biochem. Genet., 2012: [Epub ahead of print May 4]

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Gene, 2012: May 1: 498(2): 164-168. [Epub 2012 Feb 22]

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<http://www.ncbi.nlm.nih.gov/pubmed/22497269>

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J. Comp. Pathol., 2012: [Epub ahead of print May 15]

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<http://www.ncbi.nlm.nih.gov/pubmed/22542523>

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Vet. Rec., 2012: Apr 7, 170(14): 362. [Epub 2012 Mar 23]

<http://www.ncbi.nlm.nih.gov/pubmed/22447458>

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J. Vet. Diagn. Invest., 2012: Mar 24(2): 388-391. [Epub 2011 Dec 8]

<http://www.ncbi.nlm.nih.gov/pubmed/22362526>

Prevalence of *Toxoplasma gondii* infection diagnosed by PCR in farmed red foxes, arctic foxes and raccoon dogs

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Folia Bio., (Krakow), 2012: 60(1-2): 61-64

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Bull Environ. Contam. Toxicol., 2012: May 88(5): 802-806 [Epub 2012 Feb 23]

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Testing for bias in a sentinel species: contaminants in free-ranging domestic, wild, and hybrid mink

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Folia Histochem. Cytobiol., 2012: Apr 24: 50(1): 87-92. doi: 10.2478/18701

<http://www.ncbi.nlm.nih.gov/pubmed/22532141>

Foetal life protein restriction in male mink (*Neovison vison*) kits lowers post-weaning protein oxidation and the relative abundance of hepatic fructose-1,6-bisphosphatase mRNA

C.F. Matthiesen, D. Blache, P.D. Thomsen, A.H. Tauson

Animal, 2012: Jan 6(1): 50-60

<http://www.ncbi.nlm.nih.gov/pubmed/22436154>

Metabolic and growth response of mink (*Neovison vison*) kits until 10 weeks of age when exposed to different dietary protein provision

C. Larsson, R. Fink, C.F. Matthiesen, P.D. Thomsen, A.H. Tauson

Arch. Anim. Nutr., 2012: Jun 66(3): 237-55

<http://www.ncbi.nlm.nih.gov/pubmed/22724169>

Effects of dietary protein levels on digestibility of nutrients and growth rate in young female mink (*Mustela vison*)

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J. Anim. Physiol. Anim. Nutr., (Berl), 2012: doi: 10.1111/j.1439-0396.2011.01267.x. [Epub ahead of print Feb 4]

<http://www.ncbi.nlm.nih.gov/pubmed/22304242>

Effects of dietary exposure of mink (*Mustela vison*) to 2,3,7,8-tetrachlorodibenzo-p-dioxin, 2,3,4,7,8-pentachlorodibenzofuran, and 2,3,7,8-tetrachlorodibenzofuran on reproduction and offspring viability and growth

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Environ. Toxicol. Chem., 2012: Feb 31(2): 360-369. doi: 10.1002/etc.739. [Epub 2011 Dec 21]

<http://www.ncbi.nlm.nih.gov/pubmed/22095843>

Role of hepatic de novo lipogenesis in the development of fasting-induced fatty liver in the American mink (*Neovison vison*)

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Br. J. Nutr., 2012: Jan 3: 1-11. [Epub ahead of print]

<http://www.ncbi.nlm.nih.gov/pubmed/22214788>

Genetic parameters for weight in lines of mink (*Neovison vison*) selected on *ad libitum* and restricted feeding.

V.H. Nielsen, S.H. Møller, B.K. Hansen, P. Berg

Acta Agricultura Acta Agriculturae Scandinavica, Section A - Animal Science, 2012: 62(1). doi: 10.1080/09064702.2012.676062

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Mamm. Genome., 2012: Feb 23(1-2): 164-177 [Epub 2011 Nov 23]

<http://www.ncbi.nlm.nih.gov/pubmed/22108806>

Obituary



Professor Stanisław J. Jarosz 1923-2011

On 18th November 2011, Prof. Stanisław J. Jarosz, D.Sc., died in Kraków (Cracow). Prof. Jarosz - retired professor at the Agricultural University of Cracow, Poland, founder of the Cracow school of fur animal breeding was one of the most valuable individuals of Polish agriculture and fur animal breeding sector.

Stanisław Jarosz was born 20th October 1923 in Żywnów near a town of Brzozów in an extremely patriotic family. Soon after his birth, the family moved to a town of Dynów where Stanisław completed his elementary and secondary school. During 2nd World War (1942-1944), Stanisław was a member of Home Army (Armia Krajowa). For his activity within the AK Forces during the Nazi occupation as well as for helping people arrested for their membership of WiN, he was twice awarded a Home Army Cross and a Polish Army Medal was given to him by the Polish Home Ex-Servicemen Association of London.

Both the war and after-war time made him start a scientific career late. It was in the year 1948 he began his university education at Agricultural Faculty of Jagiellonian, University of Cracow. He completed his studies on 15th October 1954 with a degree of Master of Science issued, due to

organizational changes, by the Agricultural Faculty at the School of Agriculture.

In 1954, he started his 40-year long scientific and didactic career. During that time, he contributed considerably to the development of theory and practice of animal breeding as well as to the social and economic situation in Poland. He started his doctor degree studies at the Department of Animal Reproduction and Hygiene at the Cracow School of Agriculture where he was also a junior employee. Additionally, he worked first as a Director of the Semen Distribution Unit and later – of a Research Centre of the Animal Fertilization Institution in Zabierzów. Furthermore, he was entrusted a task of schooling of zoo-technical and veterinary personnel in the area of reproduction and artificial insemination of farm animals; here, he revealed his great didactic talent and really great knowledge.

He passed his doctor degree exam on 30. June, 1953. The thesis was entitled: NON-FERTILIZED AND FERTILIZED EGG CELL OF A COW.

In 1964 Ass. Prof. Stanisław Jarosz, D.Sc. established the first Polish experimental farm of chinchillas and devoted himself to scientific and didactic work on physiology of reproduction,

nutrition and breeding of fur animals. Also, he got authorization as a chinchilla judge and expert. On 2nd December 1970, Mr. Stanisław Jarosz, D.Sc. was awarded the title Assistant Professor in Agriculture based on his thesis RESEARCH ON A COURSE OF SEX CYCLE IN CHINCHILLAS (*Chinchilla velligera*) IN THE CLIMATE OF POLAND. He was given his next scientific degrees in 1978 (Assistant Professor) and 1988 (Professor).

On January 1st 1982, a self-dependent organizational unit: Section of Fur Animals Breeding was established and two research workers employed: Mr. Bogusław Barabasz, Dr.Sc., and Ms. Olga Szeleszczuk, Vet. Doctor. Later (1990), it was changed into a Department of Fur Animal Breeding and Prof. Stanisław Jarosz was the head of it until his retirement in the year 1994.

During a period of many years of work with WSR and AR (Cracow University of Agriculture), Prof. Stanisław Jarosz completed several research training periods. In the years 1962/63, he worked at the Moscow Academy of Veterinary for 6 months. In 1964, due to the necessity of starting didactic work in the area of small animal breeding, he completed a one-year training period with Dept. of General Animal Breeding at the Warsaw SGGW under guidance of Prof. Władysław Herman. Next, in the years 1969/70, he had a 1.5-year training period at the Michigan State University, U.S.A., where he learned much about large farms of minks, about didactics and publications related to reproduction in animals. Later, as a visiting professor, he worked twice at the Endocrine Research Center: 8 months in the year 1975 and 12 months in the academic year 1986/87 on the problem of reproduction/transfer of embryo.

In 1988, being a participant of the IVth International IFASA Congress in Canada, he was nominated as a member of a 5-men IFASA Superior Council whose task was to coordinate scientific research and organize international congresses on production and breeding of small farm animals.

Prof. Stanisław Jarosz was a member of Agriculture and Forest Commission of P.A.N. (Polish Academy of Sciences), of Scientific Committee of the Ministry of Agriculture and of Fur Animal Section of Animal Production Commission. Many times, he was awarded Polish national medals and orders. For his scientific activity, he was honored with medals

by the National Education Minister and by the Rector at the University.

Thanks to his teaching and publications, Stanisław Jarosz formed numerous groups of zootechnician professionals who – belonging to different age groups - are active in the profession to this date. Mr. Jarosz set the highest possible scientific and professional standards in his area.

His scientific output consist of 300 publications of which 200 are his original texts published in Polish, English, Russian, German and Japanese languages. Furthermore, he is an author or co-author of six books; the one of them entitled: Beautiful Fur Animals and their Colour Genetics were published in 1988 in four language versions: English, Norwegian, Danish and Swedish.

Fur animals and their breeding were his scientific and didactic passion. Together with his team, he conducted research work related to nourishment, reproduction and diseases of herbivorous and carnivorous fur animals. Thanks to his obstinacy, “the Cracow fur school” had the possibility to use the Research Station in Rząska near Cracow since the year 1990 – as the only one in Poland those days. Mr. Jarosz used to employ and modify research methods both his own ones and those prepared by other scientists, too. It was not a long time until important effects came. In the year 1968, the paper entitled: “Attempt to Identify Co-Relation Between Sexual Reflexes, Semen Characteristic and Fertility of Mink” was published. In monoetric females undergoing provoked ovulation and long-time diapause as well as in polygamy system of pairing, it was necessary to elaborate a method of evaluation of fertility of male mink. Elaboration of biological explanations of reproduction of female chinchillas in the climate of Poland was his great success. First chinchillas were delivered to Poland in the year 1956 by Mr. and Mrs. Władysław and Elwira Rzewuski who lived in Grywałd near Krościenko. Having noted their limited fertility, Stanisław Jarosz discussed the problem in his thesis: “Study on reproduction cycle in *Chinchilla velligera* in climate condition of Poland”. Studies were conducted in the years 1965-1969 at the chinchilla farm in Przegorzany. Animals were delivered by several breeders: Elwira and Władysław Rzewuski, Janina Baluta, Władysław Mierczak and others. Results of his studies, published in his Assistant Professor thesis, were the real basis for the

development of breeding of chinchillas at much greater scale in Poland. Breeding of chinchillas became an alternative source of income for quite a lot of people. They were also the base for several academic handbooks: *Breeding of Chinchillas*, *Chinchillas – Breeding and Raising*, *Breeding of Fur Animals*. Stanisław Jarosz has also published a handbook for students: *Breeding of Fur Animals*.

I wish to mention one more scientific area of activity of Stanisław Jarosz. In the years 1969/70, during his first stay at the Endocrine Research Unit, Michigan State University, East Lansing, U.S.A., he – known there as Dr. Wiercinski – used to carry on his research in an innovative, also in America, manner, i.e. with the use of laparoscope. He used the instrument in the work concerning reproduction of primates, goats, and hamsters. When he got back to Poland, he bought a laparoscope and was using it in fox reproduction studies. Thanks to this, he was able to determine both folliculogenesis and oogenesis in polar foxes with no need to kill the animals. The laparoscope that had been purchased within a Polish-American research project was used not only in animals; also physicians of Cracow had access to it and could improve their skills.

During burial ceremony on November 23, in my own name and all our “fur scientists”, I had opportunity to thank him for nearly 30 years of work and cooperation with him and under his guidance. Although he was a demanding Teacher, I think none of your students and co-workers has disappointed you. Forever, you will stay in our memory.



Dr. Stanisław Jarosz using a laparoscope

Olga Szeleszczuk

Obituary



Professor Morten Bakken 1954-2011

Professor Morten Bakken died on 5th June 2011. He was a well-known and respected scientist with special expertise on the behaviour and welfare of farmed foxes. Morten suffered from cancer during the last years. Despite several medical treatments for his lung and brain tumours he kept on his work as well as he could manage, until just a few weeks before he died.

Morten had a MSc in Zoology (specialty Ethology) from University of Trondheim in 1981. In his master thesis he showed that the black breast stripe of great tits (*Parus major*) correlated with the social status of the bird, a work that was published in 1984 in the well-reputed journal *Animal Behaviour*. In 1987 Morten started working at Norwegian University of Life Sciences (at that time named Agricultural University of Norway), Dept. of Animal and Aquacultural Sciences, on a project on maternal behaviour of silver foxes, which resulted in his PhD thesis in 1994. Morten became Associate Professor of ethology and animal welfare in 1997, and Professor in 2002.

Morten's major contribution to applied ethology science was an uncompromising attitude that basic biology and behavioural ecology were essential

background for applied research. In his PhD work he studied maternal infanticide among silver fox vixens and concluded that this might not be pathological, but rather an adaptive trait to manipulate offspring to becoming helpers in future reproduction under the difficult farming conditions.

In the mid 1990's, he initiated research on prenatal stress in foxes, and later also in chickens and salmon. This early work stimulated a lot of research work around Europe on prenatal experience also in other species, and still in 2011 we started a new EU project on this topic in goats. Morten worked hard for improving housing, handling and breeding of fur animals based on his scientific results. He was particularly interested in maternal behaviour, stress, emotions, behavioural genetics and the fulfilment of behavioural needs incl. the need for seclusion. Most of the welfare improvements in this production in Norway during the last 10-12 years are based on Morten's ideas. His work and practical ideas for welfare improvements were also an essential part of the EU report on the welfare of animals kept for fur production which was finished in 2001.

Morten cooperated extensively with other scientists in genetics, breeding, physiology and veterinary

science, and contributed with great skill to cross-scientific work in a number of farmed species like pigs, cows, mice, chickens and salmon. During his 25 years of scientific work Morten published more than 80 scientific papers. He was a well-respected teacher and a popular supervisor for a large number of master and doctoral students. He also served as a mentor for other scientists, who really loved discussing theoretical problems and scientific visions with Morten. This role as a keen advisor and promoter of excellence in science gave him first the position as Head of research in our department, and later he became Prorector of science at our university for a few years until his disease made it impossible to continue with this position.

Morten's favorite species was undoubtedly the domestic dog. He was the most competent dog ethologist in Norway and struggled to convince dog breeding organizations and dog owners to learn dog ethology and implement this knowledge both into the selection work and into handling and rising of puppies. The overall aim was to improve the dogs and to make the future dog owners happier.

Morten was a good friend of many ethologists. He produced a number of high quality research results and stimulated students to achieve what they never thought they were able to. His skilled work and enthusiasm will be remembered for decades, and it will not be easy to replace him in our department. Now our thoughts go to his dear wife Karna, who lived with and was a great support to Morten for more than 30 years.

Bjarne O. Braastad

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