

Abstracts of the “III INTERNATIONAL SYMPOSIUM ON RABBIT SCIENCE – APEZ”

Vila Real (Portugal) 2 November 2005.

The Portuguese Association of Zootecnic Engineers (APEZ), to pioneer in the organization of Animal Science and Production related events, organized, in November the 2nd, 2005, the III International Symposium on Rabbit Science. This Symposium was addressed to all professionals that work in this sector, seeking to enrich their knowledge, to provide the change of experiences and to contribute rabbit production invigorate in Trás-os-Montes Region and in Portugal.

This event occurred at the University of Trás-os-Montes and Alto Douro (UTAD) in Vila Real and gathered about 180 participants, among producers, technicians and students. Lectures were exposed by several specialists on themes like feeding of reproductive does and growing rabbits, physiology of reproduction, selection and improvement of future breeders, bio-safety, hygiene and prophylaxis.

In the opening session, producers were alerted about the expected changes in management and administration of farms aiming a final product of high quality, since food safety is a growing concern of consumers, a legal demand and it also should be a purpose of producers and of all intervenient in the production chain.

In the last session were evaluated the importance of the producers association was enhanced as a form of acquaintance of advantages, either in the negotiation with other agents of the sector.

Feeding and Nutrition

NUTRITIONAL NEEDS OF REPRODUCTIVE RABBIT DOES: TOWARDS THE SEARCH FOR GLOBAL STRATEGIES. PASCUAL J.J. *Dpt.de Ciencia Animal. Universidad Politécnica de Valencia.*
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In the present work, the latest advances in nutritional strategies for reproductive rabbit does are reviewed, considering short-term productive criteria (litter size, milk production...), but especially in the long term (body condition, life expectancy, health status...), evaluating their possible effects upon the subsequent development of the litter. In recent years, different methods have been developed for the monitoring of body condition in vivo for the development of these strategies, such as the non-invasive techniques based on measurement of the electrical conductivity of rabbit does and

the thickness of their perirenal fat by means of ultrasound, or the control of some blood metabolite that could provide information on the body state of the does, among which the level of leptin and the increase in non-esterified fatty acids after adrenergic challenge would be prominent. The development of these techniques has allowed a better knowledge of the evolution of the body condition of does, both throughout the reproductive cycle and reproductive life, providing better knowledge of the most critical moments, the differences in the management of reserves based on the age of the doe, and the possible effect of body condition on reproductive effectiveness or longevity. The availability of this information will enable the development of global nutritional strategies for the reproductive doe in the future, of which some results are already available. The use of fibrous feed during the rearing period can

improve the ingestion capacity of the doe when it has still not reached adult size and has greater difficulty in covering its needs, but this feeding programme must be applied early (before 60-70 days of age), and nulliparous does should not be mated until a suitable weight is reached. The use of high energy feeds may be interesting during the initial reproductive cycles, when the ingestion capacity of the doe is the main limiting factor, but these advantages are not so relevant once they reach their adult doe size, where this type of feed may lead to an excessive fattening or a reduction in prolificacy, and has even been related to more abrupt weaning of the kits, by encouraging milk production to a greater extent than the consumption of the kits. Genetic selection by litter size at weaning has not only selected prolificacy criteria (more live born), but also criteria of maternal aptitude (survival of the kits), which is why the does now show a greater ingestion capacity and milk production during the first weeks of life of the kits. In this sense, greater efforts must be made in future in the study of global nutritional strategies, taking into account the productivity of the breeding doe in the long term (body condition, health and longevity) and the possible effect on the subsequent development of the litters.

ALTERNATIVES TO THE USE OF GROWTH PROMOTERS IN THE DIETS OF GROWING RABBITS. MOURÃO J.L.*, PINHEIRO V.* AND FALCÃO E CUNHA L.† *CECAV - UTAD, Dpt. de Zootecnia, Vila Real, Portugal. †Dpt. de Ciência Animal, ISA, UTL, Tapada de Ajuda, Lisboa, Portugal. *vpinheir@utad.pt*

Growth promoters have been used in the intensive rabbit production to over the last years the prophylaxis of several digestive disturbances of the growing rabbit. Nevertheless the European Community legislation with the purpose of increasing food safety prohibits its use starting from 2006, being now a concern of the technicians and investigators the search of alternative products. Among the several alternative additives, prebiotics, probiotics, enzymes and acidifiers have been the most studied and the ones that present the most promising results. The ways of action of the different additives were presented as well as a

summary of the results obtained in the more recent studies in this area. Additives can be considered biologically safe for human and animal health and can constitute valid and interesting alternatives to the use of antibiotics or other veterinary products, when promoting the stabilization of the intestinal microflora and the integrity of the intestinal mucosa, improving animal's health and welfare, leading to better productive performances. Nevertheless, the biological answers obtained in the growing rabbit feeding, in animals health and performances are not always evidenced and the results sometimes are ambiguous, which can be related with the chemical composition of the remaining components of the diet, with the used dosages, with the adaptation and selectivity of the intestinal microorganisms to those substances and with the conditions that the animal is exposed, for that more studies are necessary to evaluate the conditions in which its use is needed and you explain their true effects.

Health and Prophylaxis

PROPHYLACTIC MANAGEMENT, MAIN DISEASES AND DISINFECTION AND VACCINATION PROGRAMS. MORA X. AND GIFRA J. *ASVET Veterinaria S.L.*

In rabbit production diseases should be contemplated as a global perspective and not as an isolated animal, always considering a group of animals to treat, in agreement with the age or physiologic state. Rabbit's diseases have more and more a multifactor origin, which makes treatment more difficult assuming prophylaxis a fundamental importance in rabbit production. This prophylaxis can be divided in 5 great groups: hygienic, sanitary, vaccine, medical and dietary. Among the several diseases that can affect rabbits the digestive ones still have a great importance and can be responsible for bulky damages in rabbit production. The mixomatosis and the viral hemorrhagic disease also have affected a lot of farms of Portugal and Spain, while mamitis and metritis are diseases with a more reduced incidence, but still important.

BIO-SAFETY NORMS IN RABBIT PRODUCTION.
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Bio-safety importance in food safety, health and in the increase of profitability in rabbit production was detached. Considering rabbit production specificities and risk factors, specific prophylactic measures were presented, alerting producers for the critical points in order to enhance the importance of bio-safety norms in the administration of profitable farms.

Reproductive management

GENETIC SELECTION OF MATERNAL LINES AND REPLACEMENT OF REPRODUCTIVE STOCK.
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This paper has two parts. In the first part it is reviewed the current rabbit genetic selection programs and the possible alternatives. Selection is made in nucleuses of selection owned by farmers or by breeding companies, using scientific methods. It should be clear that selection is not possible at the farm level, and only some culling for pathological reasons is possible at the farm. Genetic improvement uses mathematical methods based in the current knowledge of the biology of the rabbit and it is not either possible or practical to practise it by the farmer. The second part of this paper deals

with recommendations to farmers for the replacement of their reproductive stock, in particular to their does. Here it is discussed how to optimize the policy of replacement, applying diverse solutions to diverse cases. It is showed how farmers can take advantage of the genetic improvement made by the professional companies.

REPRODUCTIVE PHYSIOLOGY OF RABBIT DOE AND RECEPTIVITY INDUCTION. GONZALEZ-URDIALES R. *Centro Tecnológico de Inseminación Artificial S.A. CENTROTEC. Univ. de León. Spain.*

The knowledge of the hormones that regulate the female reproductive activity and its way of action can help to improve reproductive management in order to increase receptivity and reproductive efficiency. The treatment of the females with PMSG or with PMSG and PGF2 α is the most used method for the induction of receptivity. Yet, several studies have demonstrated that some bio-stimulating methods can be a valid alternative to the hormonal induction with the inherent advantage of being natural methods. The female manipulation through the change of cages or grouping, the mother-litter separation, the energetic flushing and light control are methods that can be used in some situations. Of all these methods, the mother-litter separation seems to be that that gathers more advantages.

