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**INOPTEP 2023**

# **BOOK OF ABSTRACTS**

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INOPTEP 2023**

and

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## SAFFLOWER AS AN ALTERNATIVE OIL CROP - POTENTIAL IN THE PET NUTRITION

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Safflower (*Carthamus tinctorius L.*) is an annual plant from the *Composite family*. The resistance to climatic conditions, lack of water, and increased soil salinity makes a valuable alternative oil crop that has gained importance in recent years. Safflower is a significantly cheaper variant of the related culture of saffron, which use can be higher in human and animal nutrition, the textile and dye industry, biodiesel production, etc. Safflower can be said to be a "climate-smart" crop that can adapt to changing environmental conditions thanks to its rich genetic diversity. Effective implementation of support policies in technology, appropriate incentives, and marketing, especially in countries facing water deficits and changing soil quality, has significant potential for improving food security and the income and livelihoods of people engaged in agriculture. Safflower contains 90% of total unsaturated fatty acids, of which 14% are monounsaturated (MUFA) and 76% are polyunsaturated (PUFA). Among the n-6 fatty acids, the main ingredient is linoleic acid, which accounts for 74% of the total fat content. The use of safflower in animal nutrition dates back to the 1980s of the last century. The results of feeding animals with safflower show that it is a palatable and acceptable source of protein and fiber, with yields similar to or even better than oats or alfalfa. Safflower pastures have also shown that feeding ruminants with this plant contribute to better growth and higher fertility of animals. However, there are very few investigations of the evaluation of safflower oil and cake in the nutrition of animals, especially pets. The use of safflower seeds in the diet of ornamental birds (parrots, canaries, etc.) is widely known as an ingredient that improves the quality and shine of feathers. In this regard, it could be assumed that have the same effect on the skin and hair of pets, which has been confirmed in research related to the use of safflower oil in human nutrition. Also, numerous data from experts in the field of pet nutrition showed the positive effects of this oil as an ingredient in the diet of dogs and cats, not only in the domain of skin and hair health but also for the structure of the cell membrane, cell function, as well as for healthy reproduction, growth, a strong heart, and immunity.

**Key words:** *pet food, safflower oil, safflower cake*

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## CURRENT AND FUTURE CHALLENGES IN PET FOOD INDUSTRY

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The pet food market has been very attractive and grown dramatically in the last decades offering a huge number of products that differ in physical form, composition of nutrients and physiological and pathological conditions. Approximately 30% of all pet food and pet care sales worldwide are made in Europe, which is regarded as one of the leaders in the sector. In Serbia as well, it is slowly starting to develop and gain importance. More and more families are acquiring pets causing the pet food industry to grow quickly. A recent research revealed that 99 percent of owners considered their pets to be "part" of the family. Over the years, dramatic changes in pet food industry making the basic pet foods more sophisticated that provide not only the right nutrients in optimal quantities but also much more than we call optimal.

The main trend influencing the pet food market is the humanization of pets. Many pet owners seek pet food that is representative of their personal preferences. Due to the rise in "natural", "raw" and "organic" food, there is now a greater selection of premium products available to owners. Specialist products such as those focusing on a specific health benefits have been very popular and shown strong growth. As owners appear to be more concerned with their pet's diet, premium, luxurious, healthy, and functional foods are entering the mainstream.

Pet foods can be in different forms as complete or complementary; wet, dry, snacks and treats or raw. A pet food manufacturer's skill bases on the selection and blending of various meat, fish, vegetables, cereals, minerals, and vitamins to create nutritious foods that pets enjoy. Owners have various options including fully prepared raw meals, a combination of wet and dry foods, and specially formulated pet treats.

Trends in pet food are beginning to resemble those in human food. In the future, new formulated products based on insects can be expected on the market, as well as many others that have unique functional and sensory properties with authentic ingredients.

***Key words:*** *pet food, trends, future*

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