DESCRIPTION FOR THE GENERAL PUBLIC

The aim of the project is to study the basic principles of food neophobia, psychological phenomenon which consists in fear of eating the new, unfamiliar food. Another subject raised in this project is to study the development of food preferences (taste preferences).

Fear of eating unfamiliar foods, it is the problem concerning the children, among others. Difficulties with the introduction new foods to their diet, may lead to shortage of nutrients necessary for proper development of an organism. In addition, people with eating disorders have often problems with the limited scope of the food they eat and/or food preferences, which in turn can lead to serious health consequences.
The problem of food neophobia also occurs in livestock and animals living in the zoo. Giving animals even slightly modified food may cause the animal to stop eating, significantly deteriorating their welfare and can pose a problem from the point of view of the profitability of farming.
Food neophobia is the crucial problem in pest control technologies aimed at rat. Rats live in the immediate vicinity of humans for generations have been subjected to intense disinfestation. They neophobic response towards unfamiliar food significantly impedes the use of poisonous substance.

Studying basic mechanisms of behavior in humans poses many difficulties. Particularly important seems to be the fact that human behaviour is strongly effected by culture. In the case of studies on humans, it is not possible to control their earlier feeding experiences. What is more, the introduction of aversive foods (particularly in children, or people with eating disorders) raises serious ethical concerns. So, in the present project the use of animal model (in this case the rat *Rattus norvegicus*) is proposed. This model is very often used in behavioral studies, including studies on the mechanisms of human behaviour. In addition, a selection of this species is based on the fact that, like humans, rats display food neophobia, they learn from members of their group which foods can be eaten and which should be avoided, and they also have an innate preference for sweet and salty flavors and they avoid bitter and sour foods.

In the project, a series of experiments and tests is planed. The first step, it is to examine which substances, commonly added to food, are more or less preferred by rats. Then the animals are divided into three groups. One group will be kept under standard conditions such as other laboratory rats. The second group will be maintained in enriched conditions supplemented with various objects, enabling motor activity, play and contacts with other group members. In the third group, objects enriching environment are altered in time and location, and food is also changing. On animals maintained in different conditions a series of studies on the level of food neophobia and development of food preferences will be carried out. One of the main subject of this research will be the effect of contact with unpleasantly tasted food on later eating behavior. Tests will also be conducted on the relationship of food neophobia with generalized fear of novelty, as well as with the general level of anxiety.

Understanding the mechanisms of psychological phenomena is essential before further research, including studies on humans. This is particularly important in the case of such crucial issues as eating problems and disorders, which may lead to a deficiency in nutrients, necessary for proper development and functioning of an organism. Moreover, the proposed research may allow in the future to conduct research on the neurobiological mechanisms of food neophobia and shaping food preferences.