

EDIBLE INSECTS CAN HELP TO MEET THE HUMAN FOOD NEEDS OF THE 21ST CENTURY; OPEN INVITATION FOR RESEARCH AND REVIEW ARTICLES**Munir Ahmad****Department of Entomology, PMAS-Arid Agriculture University, Rawalpindi, Pakistan*

World human population is increasing at great pace due to availability of better food, health and living environments. Every day more than six million humans are added in the world population. Present and new comers demand us to generate and develop such food reserves that could meet their needs for survival. We are focusing on food production for plants and animals by breeding new cultivars, high yielding varieties or breeds to generate food and feed for ever increasing hungry mouths of human population. These animals and plants production systems force us to manage different problems during their production, processing and storage conditions from different pests. Major pests include the pathogens, diseases and insect pests. Insects are not only harmful but also beneficial to mankind and different insects and their products have been used since centuries.

Major contributions come from beneficial predatory insects as bio-control agents of insect pests, honeybees, silkworms, lac worms, butterflies and insect zoos. Different value added products like honey, royal jelly, beeswax, bee venom, propolis, lac, silk, worms as animal feed, butterfly for food and aesthetic sense etc. are some aspects commonly known by us. Other benefits include insects as food for humans, feed for animals and bait for fishing, insect fighting, insect tea and insects for different medical importance. Insects have also been used to introduce them as diverse organisms as insect zoos and butterfly parks for recreation.

Different societies do not prefer or avoid directly consuming insects in their diet where such places can be well utilized with insects as replacement of other protein sources in animal feed with higher quantities of micronutrients. Chicken diet can be improved with insects like grasshoppers, termites, flies, moths as great replacement of protein source. In comparison to rear other animals as protein source, these insects require less space, less food to meet their needs and less labor. Commercial rearing and multiplication can improve it in a much better way than currently produced meat in the form of chicken etc. and can get higher price as compared to that fed on commercial poultry feed. Flies larvae and adult reared on chick manure when fed to chicks, yielded higher protein profile than on soybean or fish meal. This conversion of chicken manure to flies can not only reduce wastes management problems but also increase the biomass and provides cheaper replacement for protein diet.

Different organizations at global scale are very much interested to utilize this food reserve to meet the needs of food, feed and medicine for humans. FAO has launched the program for its full utilization and different consortiums have been established to make these food reserves get better utilized especially in developing and under developed world countries. Such aspects need our attention not

only to meet our needs but also for provision of these resources to provide economic benefits as new industries with less environmental hazards. It is, now, the duty of all those related to these fields of knowledge and expertise to develop rearing procedures for their commercialization.

Keeping in view the importance of entomophagy, it is an open invitation for all the respective researchers, university teachers and professionals to submit articles relevant to this field and enhance the food production to meet the ever increasing need of human hungry mouths.

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