

## Toxic effect of malathion on the brain tissue of Indian cat-fish *Heteropneustes fossilis*

**Ranjit Hazarika**  
Gauhati University, India

Malathion is the common insecticide [O, O-dimethyl-s-1, 2-di (ethoxycarbonyl) ethyl phosphorodioxide] widely used in Agriculture on variety of crops of Assam, India. Runoff from treated fields contaminates the nearby bodies of water with organ phosphorus pesticide which are neurotoxic to the ichthyofauna. The present work was designed to study the effect of Malathion on the behavior and histopathology of *H. fossilis*, as an experimental model fish. The fish were exposed to different concentrations 0.008, 0.025 and 0.050 ppm of pesticides for 72 hours, after exposure, fish exhibited various behavioral changes. Histopathological examination of brain tissues has revealed cytoplasmic and gross histopathological alteration including necrosis and in fractional changes. This result consist with the finding that organophosphate pesticide is neurotoxic in nature.

[rranjit96@rediffmail.com](mailto:rranjit96@rediffmail.com)

## Role of animal nutrition in economizing milk production

**V K Khatta**  
Lala Lajpat Rai University of Veterinary and Animal Sciences, India

There are two major objectives of dairy farming. The first is to get optimal milk production and second is to get maximum reproductive potential (i.e., a calf a year). Feeding is the major component of cost of milk production which accounts for 55-60 percent of total cost of milk production. Therefore, judicious feeding is the most important pillar of economical dairying. The dairy animals must be fed with a balanced ration incorporating all the nutrients in right proportions keeping in view the requirements of the animal. Understanding the partitioning of nutrients in dairy animals during different phases of lactation cycle, thereby the need of nutrients according to stage of lactation is important to exploit maximum genetic potential of dairy animals. As dairy farmer gets more profit through milk during early lactation period, so it may be called as profit period as return on investment is higher than rest of the lactation period. It is, therefore, essential that this period be managed scientifically. Improved milk yield during early lactation is associated with the proportionately greater partitioning of nutrients towards milk synthesis at the expense of body reserve. An ideal diet may be prepared for dairy animals to meet out production as well as reproduction requirement. Dairy cows require essential amino acids for maintenance, reproduction, growth and milk production which come from either microbial protein synthesized in the rumen or from dietary protein that is not degraded in the rumen. The quantity of amino acids required by the lactating cow depends on the level of milk production and thus diet needs to be balanced accordingly. Chelated minerals and other complexes are useful in animal nutrition to protect trace minerals during digestion. Chelated and other complexed minerals are administered especially during times of high nutritional demand such as pregnancy, weaning or other reproductive stress, rapid growth and environmental stress. In parts of the country where majority of livestock subsist on poor quality feeding stuffs and agro industrial byproducts, high yielding dairy animals have big challenge for meeting out the nutrients demand for sustainable milk production. Moreover, in these animals especially during early lactation, the amount of energy required exceeds the amount available from diet which results in a negative energy balance which is closely related to reproductive performance. Although, dietary fat has great potential to enhance energy density of the ration and then composition of the milk fat, various factors limit its use in large amounts in ration. Chemically prepared calcium salts of long chain fatty acids relatively less degradable in rumen, have highest intestinal digestibility and serve as an additional source of calcium. Ration of the high producing animals should contain 4-6% fat which should include fat from natural feed, oil seed and bypass fat in equal proportions.

[v.khatta@gmail.com](mailto:v.khatta@gmail.com)