



# Biological methods for pest control in animals and plants

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## DESCRIPTION

The Pest control is the regulation or management of a pest species any animal, plant, or fungus that has a negative impact on human activities or the environment. The human response will vary according to the severity of the damage and will range from tolerance to deterrence and management to attempts to completely eradicate the pest. An integrated pest management strategy may include pest control measures. Pests are kept at bay in agriculture through mechanical, cultural, chemical, and biological means. Plowing and cultivating the soil before sowing reduces the pest burden, and crop rotation helps reduce pest species build-up. Limiting the use of pesticides in favor of alternative techniques is a sign of environmental concern. This can be done by keeping an eye on the crop, using pesticides only when necessary, and cultivating pest resistant plant varieties and crops. When using biological methods, it is best to support the pests natural enemies and introduce the right predators or parasites. The pests in homes and urban settings are rodents, birds, insects, and other creatures that live in the same habitat as people and eat or damage property. Exclusion or quarantine, repulsion, physical removal, or chemical methods are all tried to control these pests. Alternatives include sterilization programmes and other biological control strategies. Limiting the use of pesticides in favor of alternative techniques is a sign of environmental concern. This can be done by keeping an eye on the crop, using pesticides only

when necessary, and cultivating pest-resistant plant varieties and crops. Red weaver ants, seen here eating a snail, have long been used in China, Southeast Asia, and Africa to eradicate pests. Around 2500 BC, the Sumerians used Sulphur compounds as insecticides, which led to the development of the first chemical pesticides. The Colorado potato beetle's rapid spread across the country inspired the development of modern pest control. Arsenical compounds were finally used to control the beetle, and unlike what was anticipated, the human population was not poisoned. This paved the way for insecticides to be widely accepted across the continent. Chemical pest control spread as a result of the industrialization and mechanization of agriculture in the 18<sup>th</sup> and 19<sup>th</sup> centuries, as well as the invention of the insecticides pyrethrum and derris. This development was aided by the 20<sup>th</sup> century discoveries of numerous synthetic herbicides and insecticides like DDT. When weaver ant colonies, *Oecophylla smaragdina*, were purposefully planted in citrus plantations to control beetle is and caterpillars, the first instance of biological control was documented in China around 300 AD. As depicted in prehistoric cave art, ducks were used in China around 4000 BC to eat pests in paddy fields. At around the same time those citrus trees in Burma were connected by bamboos to allow ants to pass between them and help control caterpillars, an Indian mynah was brought to Mauritius in 1762 to control locusts. The use of ladybirds to control

scale insects began in California citrus plantations in the 1880's, and other biological control experiments soon followed. Experiments in biological control were successfully ended by the introduction of DDT, a simple and efficient chemical. Biological control experienced a renaissance in the 1960's as issues with chemical

resistance and environmental damage started to surface. Despite resurgence in interest in conventional and biological pest control towards the end of the 20<sup>th</sup> century, chemical pest control is still the most common type of pest control used today.