

# *Fly Problems?*

**Biological Fly Management Programs**

*It's all about COST OF KILL!*



  
**kunafin**  
"The Insectary"



  
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## HISTORY OF KUNAFIN

Since 1959, Kunafin has been producing and supplying beneficial insects for Biological Integrated Insect Management (BIIM) programs. Kunafin has been a pioneer in the field of BIIC. We began some of the first Integrated Pest Management (IPM) programs in the United States and are committed to IPM. Kunafin is family-owned and operated. The Insectary was founded by Joe and Frank Junfin. Joe, an entomologist trained in Europe, and Frank, a graduate of Texas A&M in entomology, began by consulting and supplying *Trichogramma* wasps to farming operations for insect control in field crops. In 1978, the mass rearing facilities for the production of various species of fly parasites was established. Kunafin supplies fly parasites to cattle feedlots, dairy, poultry, horse, pig, and sheep operations. Kunafin mass rears and supplies other beneficial insects for use in agriculture, greenhouses and ornamental.



Frank Junfin on a consultation.

## THE FLY PROBLEM

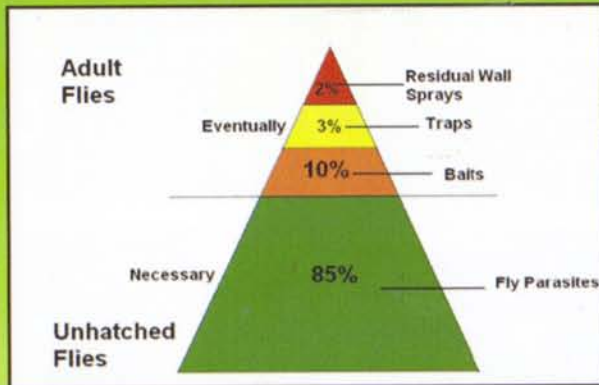
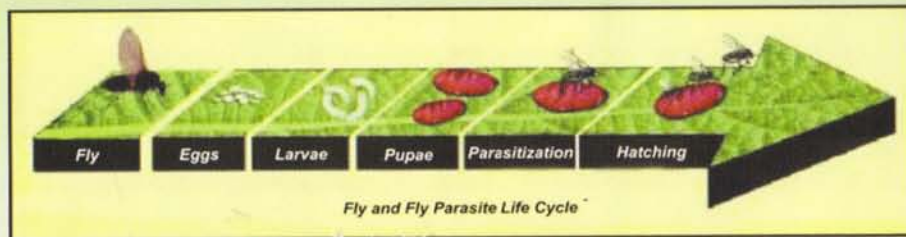
World health officials have often characterized the common house fly as the most dangerous insect on Earth! By breeding in the filth and refuse of animals and humans, the fly transmits many dangerous viruses and other disease causing bacteria. In addition to spreading disease, the fly is a nuisance.



Fly parasite on a fly pupa.

## LIFE CYCLE

Fly parasites seek out fly pupae and lay their eggs inside as part of their own productive cycle. The fly parasite larvae consumes the pest fly's larvae. The adult fly parasite emerges and will repeat the cycle, seeking out other fly pupae. Fly parasites attack several species of filth-breeding flies commonly associated with animals. They live on and near manure and garbage waste disposal sites, going completely unnoticed by humans and animals. The parasites do not bother humans and animals in any way. To release the fly parasites think like a MAMA FLY! The parasites should be distributed throughout the breeding areas when they begin emerging on a scheduled basis during "fly season." Distribution is so important!



Only 15% of the flies exist as adult flies. The other 85% are hidden in their breeding areas.



Larvae and Pupae in the manure.

## BIOLOGICAL INTEGRATED FLY MANAGEMENT PROGRAMS

Nature has always maintained a balance among species populations by means of natural enemies, distribution of food supplies, natural disaster, etc. Imbalances are generally temporary unless natural mechanisms are interrupted by the activities of man. By artificially congregating large numbers of animals in one area, or by planting too many acres of a particular crop, we allow the build-up of inordinate numbers of pest insects that thrive in these conditions. Kunafin simply takes advantage of nature's own predators and parasites by producing and releasing them in combination with SELECTIVE use of tools such as baits, traps, residuals and other proven cultural practices. Kunafin is all about strategy! We customize the program to fit the clients' needs. This is the ONLY way effective pest insect management can be maintained over the LONG-TERM! Biological integrated insect management is scientifically proven and cost-effective.



Kunafin Fly Parasite Pouches

- Biological - Fly Parasites
- Tools - Baits, Traps and Residual Spray
- Cultural - Sanitary/Management
- Entomologist - Education, Research and Development



Baiting



Pheromone/Smell Based Traps



Residual Spray

**IT WORKS!! AND IT SAVES MONEY OVER CONVENTIONAL METHODS!!!**