House flies are a serious pest in live turkey production. Left uncontrolled, they are a threat to the farm’s biosecurity program and can have a significant economic impact on operations.

House flies:
- Annoy animals and workers
- Carry and transmit disease organisms such as Salmonella, Pasteurella, Campylobacter and E. coli
- Create a public nuisance issue with farm “neighbors,” potentially leading to litigation

Insecticide application is one practical and effective part of an integrated fly management program also including sanitation, fly exclusion and fly traps.

Tekko® 10 Insect Growth Regulator Concentrate
(Active ingredient: Novaluron 9.3%)

Tekko 10 is an insect growth regulator (IGR) for house fly control in live turkey production. Novaluron, the active ingredient in Tekko 10, prevents the flies’ immature stages (the larvae or maggots) found in litter from developing into adult flies, breaking their life cycle.

Tekko 10 can be applied to poultry litter, manure areas and other insect breeding sites in and around: poultry houses, refuse storage areas and as an outdoor perimeter treatment.

House Fly Control Field Trial
In the Fall of 2020, a field trial was conducted on a 16-house turkey farm to demonstrate Tekko 10 efficacy against house flies. Following any clean-out, litter wind-rowing, and refreshing and spreading the litter across the floor area, insecticides were applied prior to bird placement. Eight houses received the integrator’s standard insecticide treatments; the other eight received the standard treatments PLUS Tekko 10 (applied at 3 fluid ounces/1,000 square feet in ≈4 gallons of water/1,000 square feet ).
TEKKO® 10 INSECT GROWTH REGULATOR

FOR HOUSE FLY CONTROL AND TURKEY HOUSES

Manure/litter samples were collected from the houses underneath 4 rows of feed pans/waterers at 1, 15, 29, 43, 58 and 71 days after bird placement and returned to the laboratory. Four of the houses in each group of eight (1, 3, 5 and 7 or 2, 4, 6 and 8) were alternately sampled on each collection date.

House fly bioassays were conducted using the field-collected litter/manure samples. For each assay replicate (3 replicates/house/date) ≈150 g of the litter/manure were mixed with 150 g of fly rearing media and placed into a plastic cup. (NOTE: Making a 50:50 blend of litter/manure + fly media cut the Tekko 10 label rate by 50% in the material used for bioassays!)

Approximately 50 <24-hour old house fly eggs1 were added to the manure/litter/fly media mix in each cup, and cups were placed into an environmental chamber (≈80°F; 50-85% RH; and a 16:8 D:N light cycle). Two days later the material in each cup was covered with ≈1 inch of rice hulls and placed back into the chamber to allow full house fly development. The bioassays were scored 3-4 weeks later by counting emerged adult house flies.

These bioassays measured the residual activity of Tekko 10 in the litter/manure collected from the houses. Through 15 days, Tekko 10 was virtually 100% effective in preventing house fly emergence. This dropped to 54% on day 29, but remained above or close to 50% through day 71. Remember that the novaluron concentration in the bioassay media was only 50% of what was actually applied to litter in the houses.

Sticky traps (fly sticks) were used to monitor adult flies in the turkey houses. One trap was placed on the front wall of each house and left there between manure/litter sampling dates. (No trap data were available for the “standard” houses on day 50.) There was a large, significant reduction in adult house flies in houses treated with Tekko 10 eight days after bird placement, and trap catches in these houses continued to fall through day 50.

1Prior to the trial, flies from the study farm were collected and colonized and used as the source of eggs for the bioassays. So, the flies used in these tests had the same resistance characteristics as those actually on the farm. This provided more realistic results than if a naïve, insecticide susceptible laboratory strain of flies had been used.
TEKKO® 10 INSECT GROWTH REGULATOR
FOR HOUSE FLY CONTROL IN TURKEY HOUSES

Although trap counts rose after this, on day 65 Tekko 10 still provided a 50% reduction in fly counts.

% Reduction in Fly Trap Counts

* Calculated using average of day 36 and 65 “standard” counts
TEKKO® 10 INSECT GROWTH REGULATOR
FOR HOUSE FLY CONTROL IN TURKEY HOUSES

TEKKO 10 Application for House Fly Control in Turkey Houses
Use Tekko 10 at the rate of 3 fluid ounces/1,000 square feet of floor space to be treated. Mix the appropriate amount of Tekko 10 with 3 – 4 gallons water/1,000 square feet of floor space to be treated. Apply diluted Tekko 10 with suitable spray equipment. Applications should be made between flocks, after the litter in each house has been prepared for placement of the next flock (i.e., following any clean-out, litter wind-rowing, and refreshing and spreading the litter across the floor area).

Tekko 10 Turkey House Treatment Calculations (example)

- House dimensions:
  - Length = 500 ft.
  - Width = 50 ft.
  - Floor Area = 500 ft. X 50 ft. = 25,000 square feet
- Tekko 10 Needed: 25,000 square feet X 3 fluid ounces/1,000 square feet = 75 fluid ounces
- Water Needed: 25,000 square feet X 4 gallons/1,000 ft.² = 100 gallons