Api Life Var™
The main ingredient for Varroa mite control is thymol. However this product also contains eucalyptus oil and menthol. It is formulated on a vermiculite wafer. After honey supers are removed each wafer is broken into four pieces and each piece placed on the frames at each corner of the hive body. It is recommended also to place each piece within a screen to prevent the bees from physically removing the tablet piece. Some of our beekeepers have noticed this is a problem in some of the strongest colonies. Also, the label requires that screen bottom boards be closed so the vapors will be more concentrated within the hive. This product is to be used when average temperatures are above 59°F. Daytime high temperatures above 95°F may result in excessive brood injury. The wafer pieces are replaced two times for a total of three treatments at seven to ten day intervals. It is recommended that tablet residuals be removed twelve days after the last application. Generally for us the treatments are done once a year after honey harvest.

No honey should be harvested from supers or hive bodies on the hive at the time of treatment. Honey supers may be added after the tablet pieces are removed but harvest of surplus honey should not be done until after thirty days. Personal protective equipment consists of chemical resistant gloves, protective eye wear and long sleeves. The estimated cost is $3.75 to $5.40 per colony depending on the quantity purchased.

Api Life Var™ labels state for Varroa mite control. However, some of the supporting literature for the product does mention control of tracheal mites also. There has not been much work done on quantifying the level of control of tracheal mites but I did find a research study, which indicates that thymol, should provide adequate control of the tracheal mites.

Apiguard™
The active ingredient for this product, like in Api Life Var™ is thymol. However Apiguard™ does not contain any other essential oils and it is formulated in a gel type base. The bees themselves distribute the gel throughout the colony and of course the vapors are released as well. Apiguard™ comes in a bulk bucket with all the necessary items for application or in ready to use trays. A spacer is required so that the top of the gel has one-fourth inch clearance to the bottom of the inner cover. I have noticed that some inner covers can be inverted to create this necessary space so no spacer should be required with these types. The Apiguard™ is placed on the frames usually of the food super. Apiguard™ should be used when daytime high temperatures are above 60°F and below 105°F. The first treatment is left in the hive for fourteen days, then another treatment is applied which can be left in the hives until honey supers are added. Just like for Api Life Var™ our best time to treat is in my opinion just after honey harvest. The label does not mention closing screened bottom boards but some of the supporting literature does and I feel this is a good idea.
No honey is to be harvested from frames within the hive at the time of treatment. The product should be removed prior to adding supers for surplus honey and honey may be harvested as soon as it is ready. Personal protective equipment is long sleeves, protective eyewear and chemical resistant gloves. The per-colony estimated cost is $3.50 per pack and $7.00 per hive if you are using the ready to use trays. If you use the bulk bucket formulation the cost is about $3.00 per hive ($1.50 for each treatment). Furthermore in the bulk system the product label specifies that for weaker colonies and over-wintering nucleus colonies a half dose only applied one time can be used.

Regarding tracheal mite control please see the comments from Api Life Var™.

Mite-AwayII™
This product contains the active ingredient formic acid in a ready to use pad. It is placed in the hive in a spacer and on two half-inch thick sticks to suspend it above the frames of the food chamber. No re-treatment is necessary and the pad should be removed after twenty-one days. Both tracheal and Varroa mites are controlled.

Mite-AwayII™ should not be used if daytime high temperatures are above 80°F. The minimum daytime high temperature is 50°F. I feel the use of this product will be more applicable in the fall. Screened bottom boards should be closed.

After the treatment is removed from the hive, honey supers may be added and honey harvested after fourteen days. Formic acid can be very dangerous to use if the pad contents contact metal or unprotected skin.

Personal protective equipment is coveralls over long sleeves, a veil over protective eyewear, a cartridge type respirator and chemical resistant gloves. Estimated cost is about $4.00 per hive.

Sucroicide™
The active ingredient in this product is part of tobacco leaves and when mixed with water and sprayed on bees it causes the adhering Varroa mites to desiccate and die. Sucroicide™ must be applied three times at 7 to 10 day intervals and for the best results each brood frame should be removed from the hive and the bees on both sides sprayed. It can be used while supers for surplus honey are on the hive. Since it is labor intensive to use and disruptive of the colony, two people with adequate protection in my opinion is the most practical approach. The cost of Sucroicide™ is less than $1.00 per colony. It does not have any activity against tracheal mites. The only protective equipment required is protective eyewear.

All of these bio-pesticides have been used in the area with success. Please, if you have any questions or concerns let me know. (704) 482-4365