Ticks Resistance to Ixodicides

To prevent tick resistance to ixodicides, it is important to carry out a good management and application of the products based on a diagnosis of susceptibility and resistance to the chemical families authorized by Agriculture.

By definition, resistance is the ability of a parasite population - in this case ticks, to tolerate doses of toxicants that would be lethal to most individuals in a normal (susceptible) population of the same species.

When an ixodicide or tickicide is used intensively, it causes a strong selection pressure that eliminates susceptible individuals.

Eighty percent of ixodicide resistance problems are due to poor product management.

Prevention of resistance = Rational management of pesticides. This concept should consider the following:

- Use of tick pesticides when really necessary, i.e. when the infestation is such that the condition and health of the animals is affected.
- Identify the pest to be combated and choose the correct strategy.
- Do not use homemade mixtures or agricultural pesticides, resort to rotation programs when necessary.
- Strictly follow the manufacturer's instructions and recommendations.
- Change chemical family only after a resistance diagnosis.

In order to carry out a comprehensive management of ticks, an option is to establish strategies to control ticks of the genus Boophilus spp. For instance, application of vaccine with recombinant antigen Bm86 of Boophilus microplus, in farms in the states of Michoacán, Nayarit, Puebla, Quintana Roo, Tabasco, Tamaulipas, Veracruz, and Yucatán. In addition, in areas where resistance to ticks is a reality, the integrated management and application of treatments based on macrocyclic lactones, inhibitors of tick development in their larval phase, have been indicated.