

From: Sterling Southern [Sterling_Southern@ncsu.edu]
Sent: Wednesday, February 27, 2002 10:31 AM
To: NOP, Webmaster
Subject: Spinosad petition

To: Mr. Richard Mathews
From: Dr. P. Sterling Southern
Subject: Petition for organic certification of spinosad

I am a professor of entomology and an extension specialist at North Carolina State University, with 25 years of experience. I have just learned that Dow AgroSciences has petitioned for organic certification of Spinosad technical material.

Though spinosad appears to me to be a good candidate for certification, I can not speak as an expert regarding its suitability as an organic insecticide. I do wish, however, to call to your attention an important need for such a certification, and one of which you may not be aware.

There is currently a small but significant niche market for organically produced flue-cured and burley tobaccos in the United States. In 2001, this market brought North Carolina and Virginia organic flue-cured tobacco farmers ca. 1.3 million dollars in income. There are good indications (increased marketing of organic cigarettes in Europe) that the size of this market will increase in the future.

Two of four major leaf-feeding insect pests of tobacco are budworms (a mix of *Heliothis virescens* and *Helicoverpa zea* - tobacco budworm and corn earworm) and hornworms (*Manduca sexta* and *M. quinquemaculata* - tobacco and tomato hornworm). Both are common pest complexes on North Carolina tobacco, requiring some control in a majority of fields in a given year. This is despite the widespread use of cultural practices, such as stalk and root destruction and fertilizer management, known to reduce the potential for such problems and also despite natural biological control by a series of predators and parasitoids. Budworms frequently occur at three or four times the established treatment threshold and can significantly reduce yields. Hornworms can, if the population is high and remedial control is not attempted, completely strip a field - reducing yields by 90+ percent.

Only one commercial variety with resistance to budworms (but not hornworms) is available to farmers, and this variety is not very acceptable due to lower potential yield and lack of disease resistance.

Currently organic tobacco farmers have available one certified organic insecticide (*Bacillus thuringiensis* ssp. *kurstacki* (Bt)) which is effective for control of hornworms and budworms. However, given the extensive plantings of genetically modified cotton, corn and soybeans expressing the *Bacillus thuringiensis* toxin and the widespread use of Bt as a sprayable insecticide, the risk of resistance development is real. Should resistance to *Bacillus thuringiensis* develop in either budworms or hornworms,

no effective alternatives are available to organic producers.

Thus, there is a real need for an alternative to Bacillus thuringiensis which can be used for budworm and hornworm control in organic tobacco. Spinosad would be a good alternative if certified. I have tested Tracer (the active ingredient of which is spinosad) in numerous replicated trials on commercial tobacco farms. It has been in these trials a very effective material for the control of hornworms and the most effective registered sprayable material for budworm control. Grower experience and comments support this conclusion.

In summary:

- * Though I am not an expert on this question, Spinosad appears to be a reasonable candidate for organic certification.
- * Organic tobacco is important in North Carolina.
- * Hornworms and budworms are a significant threat in organic tobacco
- * A single material (Bacillus thuringiensis) is available to control these pests when they escape from cultural and biological control.
- * There is real cause to anticipate the development of resistance to these pests, especially the budworm. Thus, alternatives are needed.
- * Spinosad is very effective against these pests - based on numerous field trials - and would make a good alternative in a resistance management program or as an alternative material.

With these points in mind, I hope you will give Spinosad careful consideration for organic certification.

My comments are made as an interested individual and not as a representative of my department or institution.

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