

## Summary of Data from Barbara Shew and David Jordan

### ***Jordan:***

One could argue that the results are inconclusive. There was variation in the nematode populations and that always adds to the challenges of this type of work. I don't know what to say about weather conditions. I am cautious in saying the Velum Total was ineffective in general because in Rick's thrips trials both Admire Pro and Velum Total performed poorly compared to performance in previous years. That did not seem to be related to resistance in thrips to these products. One thought is that the hot and dry conditions may have impacted uptake of product (less imidacloprid for thrips control) and I am extrapolating that to say it could have impacted the presence of fluopyram to suppress nematodes. That is why I will look at this again in the rotation trials (with cotton in 2020 and peanut in 2021.) I know I will have substantial levels of nematodes and that will allow us to see if the product works. If we had good thrips control by Velum Total and Admire Pro in the trials Rick had at both Rocky Mount and Lewiston, I would conclude that Velum Total offers little for nematode control. But the poor thrips control points to an issue either due to weather or resistance. I feel confident the product was delivered in the furrow and the calibration was correct.

The question is what would you recommend to the farmer? That might be easier than a general recommendation for the state. He had a good stand, likely good thrips control and there were no differences in yield. So under his typical rotations, it looks like that treatment offers little value because of expense. For people with more consistent nematode populations, our rotation trials (on two research stations in 2019) suggest that there is no little value from Velum Total. That is a bold and broad statement given the poor thrips control in other trials and the question about product uptake.

So, I think you could suggest the farmer could save that money based on his situation. For a broader recommendation we need to do more work, to rule out weather. I was hoping the rotation trials would offer a definitive answer because I had many different levels of nematodes and something should have stood out. But there was clearly no difference in nematode populations or yield due to Velum Total compared with the control (Admire Pro.) I will share these results at our training session in January.

### ***Shew:***

I analyzed the reproductive factor for root-knot (attached). This is the change of the population from spring to fall.

$RF = \text{spring count} / (\text{fall count} + 1)$ . As an example  $RF = 10$  would mean that the fall population was 10X the spring population.

You can see from the analysis that there was fairly high amounts of reproduction in some cases but there was no difference between Admire and Velum Total.

It's possible that weather affected efficacy. VT is not very soluble at all so in dry weather it will have trouble moving into the plant or dispersing in soil.

I've had VT in trials for many years now and don't think I have ever found significant differences -- but I've never had populations high enough to show impact, if there was any. I also have seen very little data from my colleagues (on peanut) showing consistent activity. Fluopyram is highly effective in some systems and nematodes, for example it seems to work very well against sting nematode in turf (golf greens). It just seems that peanut and peanut nematodes may not be the best of targets for this product. It does seem that there's a benefit to a follow-up application of Propulse (fluopyram) in some systems, but irrigation or rain is needed for efficacy.