FORAGES FEED THE STATE

OKLAHOMA FORAGES NEWSLETTER

OSU OKLAHOMA COOPERATIVE EXTENSION SERVICE

Volume 2 No. 4 March 2007 (No.4)

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We welcome contributions and suggestions. Comments about and contributions to the Oklahoma Forages Newsletter and/or our web sites are welcome and should be submitted to john.caddel@okstate.edu or daren.redfearn@okstate.edu

Everyone interested in forages is welcome to receive and contribute to the Oklahoma Forages Newsletter.

Alfalfa Insect Application Time Is Here

With alfalfa weevil control upon us, I thought it might be appropriate to share results of last year's insecticide efficacy trial. Populations in our trials this year just reached threshold levels last week and our tests have been sprayed. I have heard from several locations around the state and the same is true in many other locations. In addition, populations are not extremely high, which our egg sampling indicated would be the case. Growers should at least scout fields now to make treatment decisions soon.

Fall-planted alfalfa may not experience significant numbers of weevils in the first year of growth; however, aphids could be a problem. So far, low aphid populations have been the norm for most of Oklahoma and favorable growing conditions with adequate rainfall will help this continue.

Results of Evaluations of Insecticide Performance for Control of Alfalfa Weevil Larvae and Aphids in 2006.

Thirteen chemical insecticides were evaluated for efficacy in controlling alfalfa insects infesting the first crop of a fourth year stand of "OK 49" alfalfa at the Agronomy Research Station, Stillwater, OK. Pretreatment samples (February 21) indicated low numbers of alfalfa weevil larvae (1 larvae/25stems); however, an extremely high number of spotted alfalfa aphids (SAA), were observed. One week prior to stubble application 0.125 lb. A.I./acre of Lorsban 4E was applied to decrease aphid population and maintain stand. A stubble treatment of Warrior was applied to one of the plots on 28 February.

Alfalfa weevil threshold was reached and insecticides were applied to the remaining plots on 31 March using 20 gpa at 23 psi. Treatments were replicated 4 times. Sampling was conducted 3, 7, 15, and 28 days after treatment (DAT) (stubble) and continued 3, 7, 14, 21, and 28 DAT from the first threshold application, by pulling 25 stems per plot and placing them in standard Berlese funnels to extract insects for counting. Dry matter forage yields were collected for first harvest on 11 May.

Results of sampling after stubble treatment are provided in Table 1. Numbers of alfalfa weevil (AW) larvae and aphids decreased 15 days after application (stubble) from a combination of residual chemical and climatic conditions, with the latter likely having greater impact on aphid populations than on weevil numbers (Table 1).

The population density of AW was near the economic threshold at the time of treatment and remained steady at 1.0 larva/stem at 3 DAT in the untreated alfalfa. During the first week after treatment, all insecticides decreased AW larval densities below the levels recovered in untreated alfalfa. Average percent control for AW was calculated from infestations recovered 3 to 21 DAT. Throughout the test period, most insecticides significantly reduced AW populations below levels recovered in untreated alfalfa. Average percent control of AW larvae from 3 DAT to 21 DAT ranged from a low of 33.4 % for Boron (.25 lb. AI/acre) to a high of 88.8 % for Baythroid XL at (0.0219 lb. AI/acre). Baythroid 2E+ Lorsban 4E (0.0156+0.25 AI/acre) only provided 36.5 % control throughout the entire test, while all other formulations provided 60 % control or better. However, for the first three of the four sample dates calculated, 3DAT through 14DAT the Baythroid/Lorsban formulation provided 89.3 % control.

Due to unseasonably warm weather conditions and lack of plant growth, spotted aphid numbers were of increased concern during this test. Population densities for SAA reached a high of 27 per 25 stems at 14 DAT in the untreated plots, while numbers reached as high as 56.8 in other treatments. In fact, nine of the thirteen treatments had numbers above the untreated alfalfa at 14 DAT. Average percent control for SAA ranged from a low of 6.72% for Boron (0.25 lb. AI/Acre) to a high of 67.9% with Proaxis (0.0125 lb. AI/Acre). Within the first two sample dates (3DAT to 7DAT) all treatments had an average of 75% or greater control of SAA with the exception of Boron (0.25lb./AI/acre), Furadan (1.0lb./AI/acre), and Baythroid XL at (0.0156lb./AI/acre) (Table 3).

Yield of alfalfa at first harvest ranged from a high 3102.0 lb./acre in the alfalfa treated with Mustang-Max (0.025 lb. AI/acre) to a low of 2398.1 lb./acre in the Boron (0.25 lb. AI/Acre), treatment. No significant differences were found in harvest yields.

- Phil Mulder and Kelly Seuhs
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Table 1. Mean Number Insects/25 stems.

Treatment/ Rate	AW larvae				Total Aphids			
	3 DAT	7 DAT	15 DAT	28 DAT	3 DAT	7 DAT	15 DAT	28 DAT
Warrior 1 EC Stubble 0.03 lbs a.i./A	3.25	1.75	4.0	0.0	95.25	69.75	14.25	16.0
Untreated	15.0	19.25	46.5	44.75	126.75	93.25	59.75	45.75

DAT= Days After Treatment (3-31-06).

Left: A third larval instar of the alfalfa weevil with black head and white middorsal stripe.

Right: Spotted alfalfa aphids, an adult and two nymphs.

Roundup Ready® Alfalfa Trials
Preliminary Results 2006
Roundup Ready vs. Conventional Alfalfa and Herbicides

During the last several years the subject of the most frequently asked questions has had to do with Roundup Ready® alfalfa, and this is a continuation of results we have recently collected. Roundup Ready® alfalfa was deregulated in June 2005 and is the first perennial forage GMO cleared for cultivation. FORAGE NEWS, issue #1 2007 had a summary of some of our Roundup Ready® grazing alfalfa activities, and issue #3 had a summary of seeding rate studies with Roundup Ready® alfalfa.

The purpose here is to briefly summarize the results of studies involving Roundup Ready® alfalfa using Roundup for weed control and conventional varieties using traditional herbicides.

Roundup Ready vs Conventional alfalfa and herbicides trials compare the performance of a Roundup Ready® alfalfa variety and Roundup herbicide with a conventional variety and herbicides. This includes trials established at Perkins and Chickasha in fall 2005 and trials at Haskell and Bixby sown in spring 2006.

At Bixby where weeds were prolific and competitive, the combination of the Roundup Ready® alfalfa variety and Roundup herbicide produced yields much higher than the conventional or no herbicide (with either variety) (For details see - Table 24 on the web at http://alfalfa.okstate.edu/images/RRAlfalfa/SummaryTables/RRvsCONVBIXBY06.htm). This is an irrigated site and a spring-planted stand.

Results from the other three trials were different. It was dry and hot at these sites like most of the state. Very few weeds developed, and the weeds did not compete with alfalfa enough to decrease yield. Consequently, controlling the weeds did not increase forage yield. With a few exceptions the conventional alfalfa varieties (OK 49 or HybriForce 600) tended to have somewhat higher yields than the RR varieties (DKA41-18RR and FD4RRA). Details of these trials are on the web as Table 25 for Haskell

http://alfalfa.okstate.edu/images/RRAlfalfa/SummaryTables/RR%20vs%20CONV%20HASKELL-06.htm,
Table 26 for Chickasha
http://alfalfa.okstate.edu/images/RRAlfalfa/SummaryTables/RRvsConvCHCK06.htm and Table 27 for Perkins at
http://alfalfa.okstate.edu/images/RRAlfalfa/SummaryTables/RRvsConvPERK06.htm).

-- John Caddel
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Judge Orders "STOP SALE" for Roundup Ready® Alfalfa

As you may be aware, the U.S. District Court for the Northern District of California issued a preliminary injunction placing restrictions on the purchase and planting of Roundup Ready® alfalfa seed across the United States.

The March 12, 2007, court order allows for the continued harvest, use and sale of Roundup Ready® alfalfa forage, but places limits on the purchase and planting of Roundup Ready® alfalfa seed until further hearings are held.

Under the order, Roundup Ready® alfalfa purchased on or before March, 12, 2007, may be planted by growers through March 30, 2007. The order also states that growers intending to plant alfalfa after March 30, 2007, must plant non-genetically engineered alfalfa. Purchases of Roundup Ready® alfalfa seed are prohibited after March 12, pending the scheduled court hearing on April 27. Following the hearing, the court is expected to decide the status of Roundup Ready® alfalfa during the time it takes USDA to satisfy its procedural obligation to complete an environmental impact statement.

If you purchased Roundup Ready® alfalfa and will not plant it by March 30, you should contact the seed dealer or company from which you purchased the seed. They should be able to advise you of their return policies and their ability to supply you with conventional alfalfa seed.

This case, brought by the Center for Food Safety and others against the U.S. Department of Agriculture (USDA) as Geertson Seed Farms Inc., et al. v. Mike Johanns, et al., centers on the USDA's process in approving Roundup Ready alfalfa for non-regulated status.

As these proceedings continue, it is important to note that this case is not focused on the safety of Roundup Ready® alfalfa. The scope of this case is the regulatory procedure used to approve Roundup Ready® alfalfa for planting. The District Court and other regulatory agencies, both at home and abroad, agree that Roundup Ready® alfalfa poses no harm to people or livestock. There was no evidence in this case showing environmental effects of Roundup Ready® alfalfa.

For more information about he "Stop-Sale" order on Roundup Ready® alfalfa, go to the WWW where you can find opinions as to why Roundup Ready® alfalfa as well as all GMO's are bad. You can also find how much Roundup Ready® alfalfa and other GMO's are helping the American farmer and the rest of the world. An easy way to find a lot of information is to go to http://google.com and type in "roundup ready alfalfa." Watch out what yousee on the web. Some things are there with absolutely no proof and other things are highly accurate.

The **OKLAHOMA FORAGES NEWSLETTER** is published in electronic format on an as needed basis throughout the year. To receive a notice when a new version becomes available, send an email with "subscribe" as the subject line to john.caddel@okstate.edu

CONTRIBUTIONS WANTED

Do you have a comment about some aspect of forage production that you would like to share? Do you have a question about some aspect of forage production? Send comments, questions, or articles you have seen and want to share to Daren Redfearn daren.redfearn@okstate.edu To remain anonymous, just let us know.