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Grain Crop Insect Control

David Buntin, Grain Crop Entomologist

Select Hessian fly Resistance Varieties for Fall Planting. Planting a resistance variety provides season-long control and is the most effective way to control Hessian fly. Susceptible varieties should not be planted in high-risk situations including reduced/no tillage, wheat following wheat including wheat as a cover crop, and early planting. The very short seed supply last fall created problems in selecting well adapted wheat varieties with good resistance to Hessian fly. The seed supply of resistant wheat varieties should be adequate this fall. Last year, we also had a large increase in the number of fields planted with varieties susceptible to Hessian fly and numerous fields had substantial Hessian fly damage.

The 2008 Statewide Variety Test Bulletin will have table in the front section of recommended varieties for Georgia and a table of characteristics of these varieties with resistance rating to Hessian fly. The following table is a more complete list of varieties and their resistance rating for Hessian fly based on ratings of the State variety trials at Plains and Griffin. However, not all varieties are recommended for Georgia due to agronomic problems. Varieties rated as 'fair' can tolerate low to moderate infestations but may have significant fly damage under large infestations. This table was in the previous newsletter but USG 3592 was mistakenly listed in both poor and good column.

Hessian fly resistance of winter wheat varieties in Georgia.

Poor (Susceptible)	Fair	Good
AGS 2031 AgriPro Panola Chesapeake Coker 9511, 9553, 9663, 9700 Pioneer Brand 26R15, 26R22, 26R24, 26R87 Neuse, Pat, Roberts, Sungold SS 518R, 520, 524, 535, 560, 8404 USG 3295, 3477, 3555, 3725, 3910 Vigoro Dominion, McIntosh, Tribute	AGS 2020, 2055(?) AgriPro Crawford Fleming, Gore Novartis NK-Coker 9152 Pioneer Brand 26R12, 26R31 SS 8308 USG 3209, 3350, 3592, 3665	AGS 2000, 2010*, 2026*, 2485, 2060 AgriPro Magnolia Pioneer Brand 2580, 26R38, 26R61* Roane SS 8641 Vigoro Oglethorpe*

*Contains Biotype L resistance.

Farmers planting varieties rated as poor (susceptible) or fair resistance should consider using an insecticide seed treatment, Gaucho 600 or Cruiser 5FS. The seed treatment imidacloprid



(marketed as Gaucho 600 and other brands) should be applied at the equivalent rate of 1.6 fl. oz or more per 100 lb of seed. Bayer has Gaucho XT (imidacloprid plus fungicides) at 3.4 fl oz/100 lbs of seed plus a 1.0 fl oz of Gaucho 600. Cruiser 5FS should be used at the maximum label rate of 1.33 fl. oz per 100 lb of seed but this rate may still be too low for good control. For best seed coverage farmers should order seed treated for seed dealers, but Bayer CropScience has an on-farm treatment option for Gaucho.

Gaucho and Karate Zeon are Available for Aphid Control in Oats and Rye

David Buntin, Grain Crop Entomologist

Aphids can transmit barley yellow dwarf diseases (BYD) to cereal grains including wheat, barley and oats. This viral disease can be devastating to oats. The seed treatment imidacloprid (marketed as Gaucho 600 and other brands) is now available for aphid control. The rate for Gaucho 600 is 0.8 fl. oz per 100 lbs of seed. Gaucho XT (at 3.4 fl oz per 100 lbs of seed) provides an equivalent rate of insecticide plus has two fungicides to prevent seedling blights. Do not graze Gaucho treated oats for 45 days after planting. Cruiser 5FS and Cruiser Maxx Cereals are not labeled for use on oats.

The new Karate Zeon (2.08) also in now registered for use on oats. Karate Z has the same active ingredient (lambda cyhalothrin) as the old Warrior (1.0). If a seed treatment is not used, a foliar application of Karate Z at 1.6 to 1.92 fl oz per acre about 25-30 days after planting also will control aphids in the fall and suppress BYD. The grazing interval for Karate Z is 7 days. Zeta-cypermethrin (Mustang MAX, Respect) also is available for use on oats, but due to its short residual activity, it may not be as effective in suppressing BYD transmission.

Gaucho 600 and Karate Zeon also can be used on rye. BYD are not a problem on rye but aphids can stunt seedling growth. The Gaucho seed treatment may help prevent stand loss due to insects when planted early for grazing. Do not graze rye treated with Gaucho seed treatment for 45 days after planting. Always follow all label directions and precautions.

Winter Cover Crops

Dewey Lee, Extension Agronomist–Small Grains

The role and benefits of winter cover crops have been thoroughly vetted in many different farm publications. Needless to say, cover crops can certainly be used to Georgia growers' advantage. Grasses and or legumes can be used solely or together in a mixture to provide multiple benefits. It is important therefore to first decide the purpose for the cover and choose accordingly to maximize the benefits.

Sometimes maximum benefits cannot be achieved because you do not have the experience nor equipment to deal with a highly successful cover. Last year is a great example of the difficulty in working with large amounts of biomass. Usually, winter grain production is closely related to



total winter biomass yield. In other words, as grain yields increase there is a corresponding increase in straw production. Last year, growers harvested a record wheat yield. In some counties, growers had too much straw to successfully handle in conservation tillage systems because they had neither the proper equipment or experience to plant in the stubble. So what happened? A lot of fields were burned. While this increases the nutrients availability through burning and makes it easier to plant, it eliminates the benefits of cover and may cause more harm than good (i.e. attraction of lesser cornstalk borers, soil erosion, etc).

Maximum cover by winter crops can be easily achieved when the cover crop of choice is planted in late September or October. As planting is delayed to mid-November and mid-December you should expect to see a 30 to 70%+ reduction in dry matter yield, respectively. The table below illustrates the effects of planting date on yield of grasses and legumes used for cover crops.

Effect of Planting Date on Dry Matter Accumulation, lbs per acre, Tifton GA, 2006				
Crop	Oct. 3	Oct. 24	Nov. 14	Dec. 2
Rye	11,853	6,377	4,621	1,908
Triticale	8,470	6,177	1,798	1,628
Wheat	7,879	6,426	2,318	705
Clover	7,982	4,924	1,762	655
Vetch	6,270	7,523	1,883	1,413

Note: Yields obtained with 30 lbs N per acre applied and residual nutrients in fallow ground.

If your purpose in a cover is to meet a minimum required cover and your ability is limited to work lots of residue (due to the lack of experience or equipment) then planting an inexpensive cover such as wheat in November will achieve your purpose. However, this can be problematic if you grow wheat for grain on your farm. Planting wheat repeatedly on the same fields year after year (though you are not taking it to grain), increases the pressure on grain yield from Hessian fly and plant diseases such as take-all. Take-all is one of the most devastating diseases in wheat production. Rye nor triticale is much help in this area since they can serve as a host to take-all and Hessian fly. In this case, oats would be a preferred choice. If you still plan to use wheat, then choose a Hessian fly resistant variety and plant in mid to early December. You will establish a low yielding cover but risk less exposure of the crop to both disease and insects.

If you are interested in achieving the most residue or biomass possible in a given winter though, I suggest using Wrens Abruzzi rye or a triticale such as Trical 342. These two grasses grow rapidly in the fall and accumulate biomass quickly. It is important to note that these grasses when planted in early October can accumulate 5 to 7 tons of biomass per acre by April and May. You must have the experience and equipment to plant into this amount of residue. This amount and type of cover generally maximizes the benefits to a summer crop.

If your purpose is to capture and hold nutrients then rye becomes the grass of choice since it accumulates more biomass and thus nutrients earlier than any of the other grasses.



If your purpose is to use the cover as an alternative nitrogen source then crimson clover and vetch become the best choices. Most studies in the southern U.S. demonstrate that legumes can provide 30 to 120 lbs of nitrogen replacement depending on management and environmental influences.

AU Robin, Dixie and Tibbee are good crimson clover varieties that are commonly available. AU Robin is the preferred variety because it is very productive and flowers early. If the seed is coated then make sure to increase the seeding rate by 30%. As far as vetch is concerned, unfortunately, only common hairy vetch is available for purchase this fall. Though common is productive, AU Early Cover (release from Auburn University) is the best choice due to greater biomass production and nitrogen replacement. Hopefully more seed will be available next year.

A good compromise of cover and nitrogen accumulation is to mix both grass and legume such as rye and clover. If you desire grazing or hay this mixture provides both nutritious grazing for cattle and good ground cover for planting a summer crop if any regrowth is allowed.

The chart below provides the general planting rate recommendations from Extension and NRCS.

Planting rate in lbs per acre or seed/row foot for winter crops		
Oats	64-96	12-15
Rye	56-112	18-22
Triticale	48-96	15-18
Wheat	60-120	15-18
Vetch	20-25	
Crimson clover	15-20	

The last consideration is determining whether to use fertilizer to promote growth. The more nitrogen applied to grasses the more biomass you can accumulate by next spring. However, that is generally not economical. Any field that is economically productive in raw commodities is generally well suited for a cover crop without additional nutrients. In other words, no phosphorus or potassium will be necessary to obtain beneficial amounts of biomass. If corn is to be planted behind a grass cover crop then wheat, oats, rye and triticale would benefit from 30 lbs N per acre at planting to encourage as much fall growth as possible. If peanuts, cotton or soybeans are to be planted, then a late winter/early spring application of 30 lbs N per acre would increase biomass production. However, if the cover crop is following peanuts or soybeans then I suggest no nitrogen should be used even if corn is to be grown the following spring. The idea behind a cover crop is to provide maximum economical benefit. Given that nitrogen prices have risen to \$.80 per pound, it is hard to justify any additional nutrient to promote biomass growth since the winter grasses are proficient at accumulating nutrients.