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To: Pasquotank County Farmers

From: Alton E. Wood, Jr. Alton E. Wood, Jr.
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Re: 2018 Northeast Ag Expo Field Day Test Results
2019 Northeast Ag Expo
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2018 Northeast Ag Expo Field Day Test Results

One of the goals of the Northeast Ag Expo Team is to compile and make available the results of tests conducted at our field day sites. The results of one of the tests for 2018 is shared in this newsletter. The Northeast Ag Expo Team greatly appreciates the support of all our sponsors/exhibitors in helping to make this event and the research results possible. Much of the research was funded by the NC Soybean Producers Association. A special thanks goes to N.C. Spuds Inc. and Perdue Agribusiness of Elizabeth City for the land to conduct the research as well as the venue that was greatly enjoyed by all that attended. **To find a complete copy of the "2018 Northeast Ag Expo Field Day Test Results", use the following link:**

https://go.ncsu.edu/xjkwnn6

2019 Northeast Ag Expo

The 2019 Northeast Ag Expo will be hosted by the Currituck County Cooperative Extension Center on the **Roberts Brothers Farm at 169 North Gregory Road, Shawboro.** The date of the event will be **Thursday, July 25, 2019.** The commodities featured at the field day will be corn and soybean. More information will be forthcoming.

NC State University Soybean Program Results of Two Multi-Year Studies

Dr. Rachel Vann, Extension Soybean Specialist, NC State University has just completed compiling and analyzing the results of two multi-year on-farm tests. They are the non-foliar yield enhancement products and the uniform emergence test. The links to this information is as follows:

https://soybeans.ces.ncsu.edu/2019/04/non-foliar-yield-enhancement-products-in-nc-soybeans/

https://soybeans.ces.ncsu.edu/2019/04/how-important-is-uniform-emergence-in-soybeans/

As we approach the planting season for the 2019 crop, this information can help answer questions on these topics.

Stink Bugs: Let's Keep a Watch in Corn

You may think that I am obsessive about stink bugs, especially with corn. Personal experiences of seeing major damage such as barren stalks, malformed ears, and great economic loss has caused me to have much respect and disdain for them. I would like to give you some additional information, since we have corn that is up or soon to be planted. Much of the information in this article was taken from a factsheet by Dr. Dominic Reisig, at the following link:

https://corn.ces.ncsu.edu/wp-content/uploads/2019/01/Stink-Bug-Management-in-Corn.pdf?fwd=no

Where can stink bugs be a problem:

1) Corn fields planted in no-till fields with heavy cover. Watch for feeding in open-furrows.

2) Wheat-corn interfaces. Stink bugs aren't a pest of wheat, but will feed on wheat up to the time of harvest. Wheat harvest can push stink bugs into nearby corn, but this isn't a guarantee.

3) Corn fields planted behind soybeans. Stink bugs build up in soybeans during the late summer and early fall after other crops are harvested. Check field edges near woods, where stink bugs may have overwintered after building up in last year's soybeans.

Scouting:

Scout corn for stink bugs from V1 through R4. Check all edges first, since they concentrate toward edges and not field middles. The number of sampling stops will depend on the number of stink bugs present and field size. At each sampling stop, check at least 10 corn plants. Sampling the entire plant is not necessary. From V1 to V6, scout the base of the plant on the stalk below the lowest green leaf. From V14 to VT, find where the primary ear is located or peel back leaves to find where it is forming. Scout the stalk from the first leaf above and below the primary ear. From R1 to R4, scout the stalk at one leaf above and two leaves below the primary ear.

Thresholds:

Thresholds vary depending on stink bug pressure and are based on a 100-plant sample as described below (see table). **These thresholds are not percentages, but numbers.** If a single plant has multiple stink bugs, this must be counted into the total. If the number of stink bugs exceeds the number in the "treat" category, treat the field even if 100 plants have not been sampled. If the number per plant falls between the "treat" and "do not treat" category, take more samples until a confident decision can be made.

Table: Scouting for Stink Bugs in Corn: Thresholds for various growth stages and area to sample

Growth Stage	Area to Sample	Do Not Treat	Take More Samples	Treat
V1 to V6	Base of plant on stalk below lowest green leaf	≤6	>7 to 12	≥13
V14 to VT	Stalk from first leaf above and below primary ear	≤9	>10 to 17	≥18
R1 to R4	Stalk at one leaf above and two leaves below primary ear	≤35	>36 to 51	≥52

Insecticide control:

Many insecticides in the organophosphate and pyrethroid class are effective for brown stink bug in corn. However, bifenthrin is the most effective both because it can be applied at a rate that contains more active ingredients than other pyrethroids and because it is more toxic to brown stink bugs. Expect only a week residual.

Two critical factors to achieve control are:

1) Coverage - deliver insecticide where the stink bugs are located. Ensure canopy penetration with proper nozzle, pressure and volume selection.
2) Timing - the most critical time to treat from V14 to VT is just before the primary ear is exposed. Aim to control stink bugs when the primary ear is between an immature ear hid behind the ear leaf to an ear that has emerged and newly silked, but preferably on the early side to avoid banana ear.

Impact of Seeding Rate in Early Maturing Soybean (MGIII and MGIV) on Yield, Protein, Oil, Damaged Seed, and Purple Seed Stain

At the 2018 Northeast Ag Expo Field Day site, a number of tests were conducted that were funded by the NC Soybean Producers Association. This study was among those and focused on maturity group III and IV, since there is much interest in earlier maturity soybeans than has traditionally been planted. This interest has been spawned by a number of growers in the mid-south that have produced high soybean yields with early maturity soybean planted at earlier planting dates. A big thank you to Dr. David Holshouser of Virginia Tech who helped with the

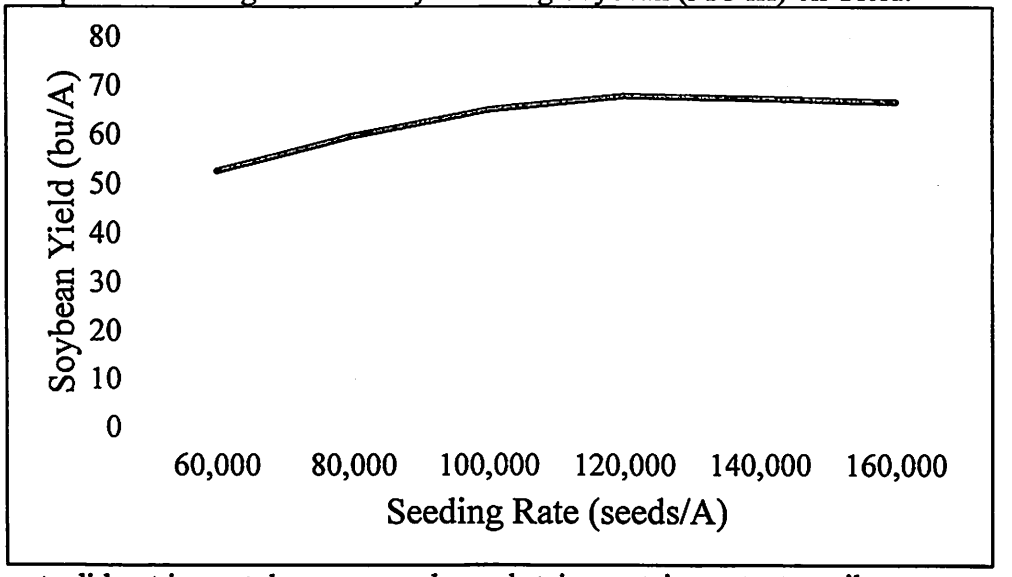
planting of this and other tests and to Dr. Rachel Vann and the NC State Soybean Extension Program who harvested these trials and analyzed this data.

In separate tests, MGIII (Pioneer P38T42) and MGIV (Asgrow AG48X7) soybean variety were used. Treatments consisted of 6 seeding rates: 60,000, 80,000, 100,000, 120,000, 140,000 and 160,000 seeds/A. Plots were 10, 15-inch rows, 26-foot long planted with a Hege planter.

The response of yield to seeding rates can be seen in the regression lines of Figure 1 and Figure 2 for MGIII and MGIV, respectively, as well as in Table 2. With both the MGIII and MGIV soybean varieties used in this study, yield trended towards declining at the lower seeding rates (<100,000 seeds/A). There was no yield advantage of increasing seeding rate over 120,000 seeds/A. Seeding rate did not impact seed damage, purple seed stain, protein content or oil content for either of these tests.

Soybean is a crop that has the ability to compensate for yield across a wide range in populations. Dr. Jim Dunphy found in previous work that final stands as low as 50,000 plants/A could produce reasonable yields. Much of the previous work done in the North Carolina State University Soybean Extension Program has focused on agronomic trials with determinate varieties. Our preliminary results from 2018 indicate that indeterminate varieties may be more sensitive to low populations, as we generally saw yield declines at seeding rates <100,000 seeds/A. Research conducted by Dr. Dunphy in the mid-2000's with indeterminate varieties found yields trended toward declining at plant populations <100,000 plants/A. Additional research is needed in this area, since seeding rate could have a major impact in two areas, costs and revenues. If the optimum seeding rates for these early planted, early maturity groups (MGIII and MGIV) is found to be less than what growers are currently using, it will reduce seed cost. Also, if these seeding rates are verified to give the highest yields, revenue per acre will be higher.

Figure 1. Impact of Seeding Rate in Early Maturing Soybean (MG III) on Yield.



*Seeding rate did not impact damage, purple seed stain, protein content or oil content.

Figure 2. Impact of Seeding Rate in Early Maturing Soybean (MG IV) on Yield.

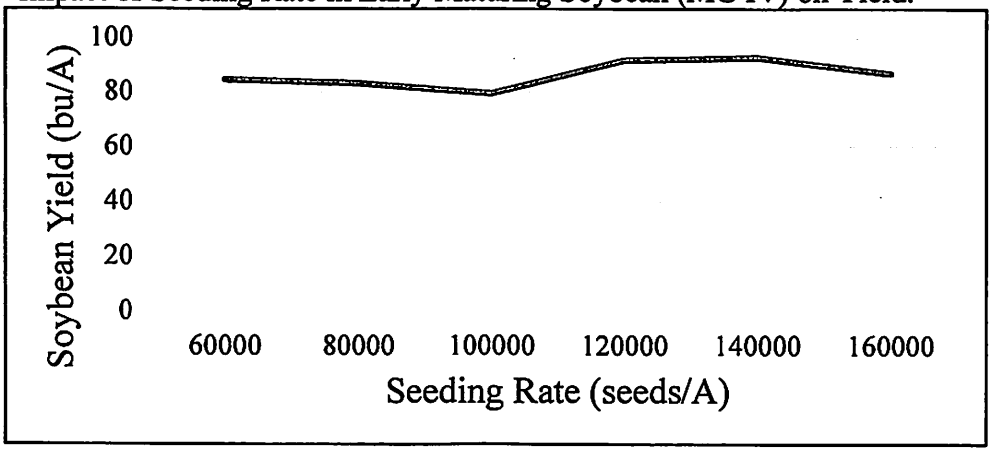


Table 2. Impact of Seeding Rate in Early Maturing Soybean (MG III and MG IV) on Yield.

Seeding Rate (seeds/A)	Variety	Yield (bu/A)
120,000	P38T42	67.9
140,000	P38T42	67.5
160,000	P38T42	66.7
100,000	P38T42	65.0
80,000	P38T42	59.7
60,000	P38T42	52.6
140,000	AG48X7	92.8
120,000	AG48X7	91.9
160,000	AG48X7	87.2
60,000	AG48X7	84.5
80,000	AG48X7	83.2
100,000	AG48X7	79.4

Seeding Rates for Soybean

Seeding rates for all of our crops have received more attention than in the past. Among the reasons for paying close attention to seeding rates is the cost of seed and new data showing that seeding rate/plant populations can greatly impact yield. We are finding that to be no less the case with soybean. Research conducted last year at the 2018 Northeast Ag Expo Field Day site appears to suggest that optimum seeding rates/plant populations for indeterminate soybean (late maturity group 4 or earlier) may be different from determinate soybean.

The recommendations in Table 3 assume that close to half a stand (half of what you see in this Table 3 for various row widths) will still exceed the population that would require replanting, especially for the narrower row spacing. Farmers should feel free to adjust (up or down) how much extra seed they want to buy as insurance against having to replant. To determine how

many plants/row ft. are needed for a given population, simply divide the desired plants/a by the row ft/a.

Aim for final stands of 75,000 plants for May planted beans, 90,000 plants for June planted beans, and 100,000 plants for July planted beans. As mentioned earlier in this article and the other article reporting on MGIII and MGIV, seeding rates and populations may need to be slightly higher for indeterminate varieties.

Table 3. Number of Soybean Seeds and Plants Needed per Foot of Row

		May Planting		June Planting		July Planting	
Row Spacing (in.)	Row Feet/ Acre	Seeds/ Row Ft.	Plants/ Row Ft.	Seeds/ Row Ft	Plants/ Row Ft.	Seeds/ Row Ft.	Plants/ Row Ft.
36	14520	7.8	7	10.2	9.5	13.3	12
30	17424	7.1	6.4	9.2	8.25	11.2	10.1
20	26,146	5.4	4.9	6.5	5.9	7.7	6.9
15	34,484	4.3	3.9	4.9	4.6	5.9	5.3
7	74,674	2.2	2	2.5	2.25	2.8	2.5

Testing for Pesticide License as Well as Pesticide License School

The Pasquotank County Center is hosting a test for people desiring to obtain a commercial pesticide or private (farmer) pesticide applicator as well as dealer license. The testing date is **Wednesday, November 13th**, and will take place at the North Carolina Cooperative Extension Center, Pasquotank County Center located at **1209 McPherson St, Elizabeth City. Testing will begin at 1pm.** Anyone coming for the testing should bring a picture ID, money (for testing fees) and a calculator. Also, if you are taking the test for a government job you should bring the address for your place of employment since it will be needed when you sign up to take the test. **A review session in preparation for the testing will be held on Friday, November 8th, from 9:00am to 11:00am at the N.C. Cooperative Extension, Pasquotank County Center. If you plan to attend any of these, please call the office at 252-338-3954 to register.**

To order the manuals in preparation for the testing, please see the N.C. Department of Agriculture and Consumer Services webpage.

http://www.ncagr.gov/SPCAP/pesticides/exam.htm.

The N.C. Cooperative Extension, Pasquotank County Center in conjunction with the Pesticide Safety Education Program at NC State University and the NCDA&CS Pesticide Section will be offering a 2-day school for people who would like to obtain a private applicator (farmer) or commercial applicator/dealer license. **It will be held on Wednesday, August 7th starting at 8:30am and on Thursday, August 8th starting at 8:30am. The instruction will be on Wednesday and until lunch on Thursday, with testing taking place after lunch on Thursday. There are fees associated with the school.**

If you have questions about any of this information, please contact the office at 252-338-3954.

Last Private (Farmer) Pesticide Applicator Recertification Class for 2019 and Completing the Renewal Process

If your private pesticide applicator license expires in 2019 and you have not already received the necessary training, then you need to come to the following training to get recertified. This is the last class for 2019. You must receive 4 hours of credit that includes the "V" and "X" training. To provide the 4 hours that private pesticide applicators will need, the Pasquotank County Center is conducting a class on **Tuesday, August 13th at the Pasquotank Extension Center** located at 1209 McPherson Street. If you plan to attend, please contact the Pasquotank County Center to register.

Private pesticide applicators (farmers) that had to get recertified in 2019 and have already received their 2 hours of "V" and 2 hours of "X" training before the first of March will soon be getting their renewal cards that **they must fill out and return with their $10.00 check to the address indicated on the form. Only after you have done this does the NCDA&CS Pesticide Section issue you a new pesticide card and consider you up to date.**

Date/Time	Location	Topic	Speaker	Credits Provided
Tuesday, August 13, 2019 **5:30pm – 9:30pm** **5:30pm – 7:30pm V** **7:30pm – 9:30pm X** **Commercial credits provided during X**	Pasquotank County Center	Private (Farmer) Pesticide Applicator Recertification Class – V & X Training	Al Wood, Extension Agent, Pasquotank Clay Hudson, NCDA&CS, Pesticide Section	**Private Applicator** 2 hours V 2 hours X **Commercial Applicator** 2 hours A, B, D, G, H, I, K, L, M, N, O, T

Watch for Those Wheat Contest Fields

Although the 2018-2019 wheat crop has had a rough time with too much water, it has continued to look reasonably good. Since the application of topdress nitrogen the wheat has taken off. Even with the track record of this crop, I still feel that there are some fields that are going to have some outstanding yields.

An entry must be at least 3 continuous acres in size and have 4 straight sides. If you feel that you have an outstanding site that you would like to enter, please contact me. A day or so notice will help me in scheduling everyone that would like to harvest a contest entry. This program helps us all to learn about what is helping us to push yields.

Pasquotank-Camden-Currituck-Perquimans-Chowan
USDA-FSA Crop Report Deadlines

In order to participate in our FSA Programs, all crops have to be reported by the following dates:

- May 15th – spring cabbage and potatoes
- July 15th – corn, soybeans, cotton, peanuts, grain sorghum and all other crops
- September 15th – fall cabbage

Failure to meet deadlines in 2019 for crop reporting will result in late fees being applied. If you have any questions, please contact your local USDA- Farm Service Agency office at 338-1070 extension 2 or 426-5802 extension 2.

National Corn Contest Entry Form Deadlines

The national corn yield contest test, which is sponsored by the National Corn Growers Association, is separate from the state corn yield contest and has its own requirements (although a national entry is also accepted as a state entry in NC). The major ones are: (1) submit an entry form and a harvest report form for each entry with each having deadlines, (2) plot size is 1.25 acres with it being harvested from a field of at least 10 acres in size of the variety entered (3) the harvested area is composed of strips the width of corn header and then skip three times that width until you have 1.25 acres.

There is a **cost associated with submitting an entry and varies with the entry deadline you submit it by, but some of the companies will pay it through vouchers.** The deadlines for submitting the entry forms, in which you designate the variety you will harvest are as follows: **June 30, 2019 ($75 per entry) and July 31, 2019 ($110 per entry). If you have any questions, please contact me or use the following link to get additional information:**

https://www.ncga.com/for-farmers/national-corn-yield-contest/ncyc-get-started.