

INNOVATIVE PRODUCTION PRACTICES IN THE SOUTHEAST, A COTTON GROWER'S PERSPECTIVE

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Today I want to discuss our experience with variable rate spraying on Isbell Farms. This is not something all that new. A lot of people have been working with this technology for years. The system to get this technology to the farm is what I think is innovative. The company we are working with is Intime, Inc. The reason I believe this is innovative for cotton production is that we don't have to be experts on computers, or have a computer expert on staff. The process works like this. First you identify your field boundaries and Intime sets you up on their web site. You have a password to get into your information. Next you set up your sprayer. If you start from scratch the cost will be around 6 to 8 thousand dollars. If you are already doing some precision work you will have some of the parts and software that you will need to get set up.

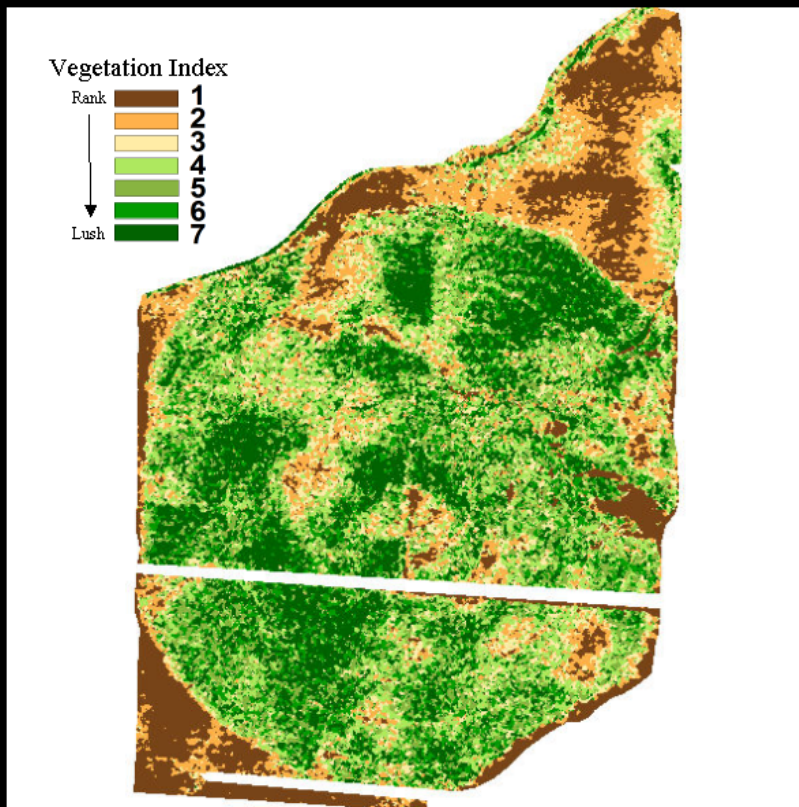
This company flies your fields to acquire images. This is vital part of this system and without images you (excuse the grammar) ain't got nothing. If the images have been acquired then Intime processes and places them on their web page in your file. Now you are ready to begin. You go on line and request a scout map. This map will show 7 different growth levels, one being lowest and seven being highest. At this point you have the option of viewing a map and making decisions on spray rates or uploading this map onto an iPAQ to carry to field. This map is geo referenced so you can go anywhere in the field to determine what rate you want. Now YOU make the decision of what gallon per acre rate you want to spray on the seven different levels.

The request to create a prescription is done over the Internet with a very simple form. Last year, once I made a request, it took about one or two minutes for the server to return the request. Once this is done you download the prescription and move it to the sprayer. At this point we look at the prescription report to decide on what tips to use and what rate of chemical will be in each gallon of water. This is a little different than we have done in the past. Example: when using growth regulator we run 1.1 oz per gal. water. Ten gallon rate per acre will spray 11 oz of growth regulator per acre. The reason we use that 1.1 rate is it works out to seven gallons. On a 4710 with 800 gal of water we put seven gal. material, which equals 896 oz. that works back to 1.1 oz material per gal. We did not see big savings in material cost but were able to put the chemical where we wanted it and, maybe more importantly, where we did not want to spray.

You can also generate a map showing where the different rate will go out. Now just hit "Go" on the iPAQ and spray. The amazing thing to me is that IT WORKS. You stand back and watch the sprayer change rates or even cut on and off on its own. As you spray, you will get a map on the iPAQ that tells you what you have sprayed or, better yet, what you have not sprayed.

We also used this system to variably apply some defoliate and boll opener. I did not see much savings on defoliation but big savings on boll opener; plus, we were able to put higher rates where needed to get the whole field ready to pick. Last year we had about half of our cotton crop with Intime. This year we plan to put our entire cotton crop into this system. For 2004 we plan to do some variable rate on side dress nitrate, insecticide spray for plant bugs, growth regulators and defoliation. Our largest interest will be with growth regulators.

Last year Intime did have some aerial variable rate application. We hope to have the option of using aerial application in the Tennessee Valley for 2004. In conclusion, myself and my sons, Todd and Shane, think this innovative approach will be one of tomorrow's solutions for today's challenges.





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* InTime Prescription Report
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Date:          Tuesday Dec 9, 02003
Time:          8:51 PM
Farm:          Isbell Farms
Field:         Crabapple
Image Date:    2003-09-12
Chemical:      Dropp
Spray Grid Size: 90x60 Feet

Rate Information by Class:
Class: 1      Rate: 7.0
Class: 2      Rate: 9.0
Class: 3      Rate: 10.0
Class: 4      Rate: 12.0

Rx Source      : Vegetation Index
Controller     : Farmworks SiteMate
Price of Chemical : $57.50 Per POUNDS
Tank Concentration: 1.0 Acres : 0.2 POUNDS at 10.0 Gallons/Acre

Prescription Results*:

Rate: 12.0    Acres: 51.31    Percent: 28.33    Est Volume: 615.7
Rate: 10.0    Acres: 62.93    Percent: 34.75    Est Volume: 629.3
Rate: 9.0     Acres: 9.58     Percent: 5.29     Est Volume: 86.2
Rate: 7.0     Acres: 57.42    Percent: 31.71    Est Volume: 402.0

Total Acres      : 181.10
Total Volume is  : 1733.19 Gallons
Total Chemical Used: 34.66 POUNDS
Cost per Acre    : $11.01
Total Chemical Cost: $1993.17
  
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*Note that these are estimated based on the result of image analysis.
Actual result may vary.

