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Vol. 8, No. 68
Sept. 24, 2007

Strawberry Drought Advisory No. 5
Dear Growers and Agents,

I have checked various weather services this morning regarding the potential for some rainfall this week, and in the early week the prospects are very poor. AWIS shows increasing probability for rain towards Thur (9/27) and Fri (9/28) with probability levels in the 40s and 50s, and then dropping again off by Sat (9/29) and Sunday (9/30). In speaking with one farmer from Randolph County this past Saturday, I learned that their particular area of the state has had only slightly more than 4 inches of rain since April! With virtually no rain coming last week (we did get some rains in Clayton last week), it is a major concern now whether growers will not have adequate water to successfully transplant and establish their strawberry crop? Some growers are dealing with this issue by calling their plant supplier to put off delivery of plants by a week or even two weeks. I can appreciate the value of delaying by a week. But, there could be some very significant losses in yield potential associated with a two-week delay.

In this brief advisory I simply wish to share a few reminders on planting dates for plugs. By this date today (Sept. 24), a number of growers in the Piedmont are usually getting started, or possibly even finished with plug planting.

The drought is causing many Piedmont growers to delay planting into next week. I do not see a serious problem associated with a week delay, especially with plug plants. Typically, plugs can be set 5-7 days later than plugs without any loss in yield.

In the Sandhills, growers do not usually plant fresh dug until the first week in October, and plugs are often set in the second week of October in this region of the state. But, I also know many fresh-dug growers in the Sandhills, and perhaps in the Coastal Plain, are trying right now to pump water into their farm ponds from wells and any other sources, so as to have enough water available (in their ponds) for establishing fresh dug. Some of these growers are requesting 2 week delays in plant shipments to allow them time enough to build up their water supplies.

At Clayton (coastal plain/piedmont), we are planning to set plugs on Oct. 11 -- this is a week later than normal for us. But, if you go to Table 1 in the drought advisory under strawberries – Labor Day : <http://www.ces.ncsu.edu/disaster/drought/>, you will see data for Clayton in 2006-2007 (Chandler) that shows that marketable yields for plugs set on Oct. 3 (2006) was really no different than Chandler plugs set Oct. 11 (both in the range of

23,000 lbs/A). With setting on Oct. 18 (2006), we still achieved a yield of 18,600 lbs/A (and better fruit size), but with the Oct. 24 setting of plugs, yields dropped to 12,900 lbs/A.

Please remember that 2007-2007 was quite mild, and there is absolutely **no guarantee** that we could pull off these same yields in 2007-2008 – if we have a cold fall/winter??

SUMMARY

How to handle the planting date situation with this extended drought?

1. As stated in previous advisories, plugs are the best choice under conditions where water supplies are not adequate for fresh dug establishment – but it is virtually impossible to get plugs now
2. Assuming some above-average temperatures in October and November, it may be possible to delay planting of plugs another week past the time you normally set plugs in your area without any really drop off in yield, but if you anticipate a delay of an additional week more, it is very likely that yield will be reduced by a significant amount (e.g. we dropped to 18,600 lbs/A with the Oct 18 planting vs. 23,000 lbs/A from setting the previous week). Further delays could seriously reduce yield potential. Here is a summary from our experience at Clayton in 2006-2007. I am assuming Oct. 3 as our “normal” planting date for this location
 1. With one-week delay (Oct 11) – minimal effect, and could be better to wait in some years (like 2006-2007)
 2. Two-week delay (Oct 18) – possibly some yield loss, but not significant if mild fall season
 3. Three- week delay (Oct 24) - **disaster**

QUESTIONS ABOUT PLANTING OF PLUGS?

GO TO THIS advisory: Strawberry Drought Advisory 4
<http://www.ces.ncsu.edu/disaster/drought/>

Transplanting Plugs to the Field

The ideal age of the plug for field transplanting is four weeks. Plugs held for six weeks in the trays are not as desirable and may have a slower initial growth rate in the field following transplanting. Plug plants pose less serious problems than freshly dug for field transplanting. Pot-mulch planters or vegetable water-wheels can be used to mechanically transplant and water strawberry plug s. Careful size-grading of tip plants will produce more uniform plugs for efficient machine transplanting.

Depth. Do not “bury” the growing point of the plug plant by setting too deeply. Plug plants are not very deep; the rootballs are only 2¼ inches in depth for 50-cell trays. Your planting hole should not be quite as deep as the plug rootball: A 2-inch hole is recommended for a 2¼- to 2½-inch rootball. Press the plug into the hole so that the top of the rootball is about even with the soil surface. Even if you are mechanically setting plugs

with a water wheel, it is a good idea to have one or two workers following the transplanter to brush a light layer of soil around the top of the plug's rootball without covering the growing point. This soil layer is helpful in keeping the plugs from "wicking out." Without this slight soil layer, the exposed artificial soil media will wick moisture out of the plug very rapidly on sunny, windy days.

Starter solution. Tray-grown transplants that have been under a plug propagation nutritional program do not require a starter solution at transplanting. A typical feeding program for plug transplants while they are still in the trays is to apply 1 pound of 20-20-20 per 100 gallons of water (in weeks three and four) before transplanting. This supplies roughly the equivalent of 240 parts per million (ppm) N.

Irrigation. A few hours of overhead sprinkler irrigation immediately following transplanting of plugs is recommended. A number of commercial growers in North Carolina use light overhead sprinkling (1/10-inch per hr) for the first, second, and possibly third day following transplanting for approximately 5 hours, 3 hours, and 2 hours per day, respectively.

SPECIAL RECOMMENDATION FOR DROUGHT OF 2007

It will be mandatory to hook up drip this fall. An important additional point to consider this fall is to be very attentive to the post-plant watering of the plugs, and many growers and agents who I have been speaking with are **definitely** hooking up their drip irrigation systems even before transplanting, and then these systems will have to run just following transplanting to make sure the strawberry plugs don't "wick out" (dry up). You may need to pre-wet the strawberry beds 2 days ahead of transplanting if the beds are dry now, but don't get the beds too wet just before transplanting, or the water wheels will actually cause permanent indentations in the bed if it is too wet.

The important idea is not to transplant into a "dry bed," and thus the recommendation for some drip irrigation 2 days in advance of planting. Following planting, be sure to have the drip hooked up and ready to run!

Phytophthora crown and root rot

[On farms where Phytophthora crown and root rot has been a problem, it is very important apply Ridomil Gold EC to the soil before planting. If you do have some concerns with Phytophthora crown and root rot infection in your plugs – get them tested.](#)

If your land has had a history of Phytophthora crown and root rot, caused by *Phytophthora cactorum*, see the recommendation to apply Ridomil Gold EC in a band treatment (for drip applications) in sufficient water to move the fungicide into the root zone. **This application is best made through the drip before transplanting.** I have just spoken with Frank Louws, and he recommends making this injection into the bed a few days before transplanting. It could be done as much as 2 weeks ahead, but doing this a few days before planting is fine.

Foliar sprays of [phosphites](#) can be effective where Phytophthora crown and root rot has

been diagnosed in plug plants.

With runner tips and fresh dug plants where Phytophthora crown and root rot has been diagnosed, **dips** of phosphites may be effective. See this reference below (p3)

http://www.smallfruits.org/SmallFruitsRegGuide/Guides/2007/Strawberry%20Integrated%20Management%20GuidefinalcopyJennings%202%208%2007%20_3_.pdf

Appreciation

I wish to acknowledge the assistance of Frank Louws, plant pathology, in this advisory today. Frank also commented on his observation that Sweet Charlie is perhaps the most susceptible variety to Phytophthora crown and root rot that we have observed in North Carolina.

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