

All experienced southeastern strawberry farmers pay primary attention to canopy temperatures for very obvious reasons. However in order to maximize yields, quality and harvest season extension while minimizing spring cold protection event costs, we pay particular attention to 2”, 4” and 8” SOIL TEMPERATURES at our location. It is extremely important to understand WHEN those soil temperatures cross and consistently remain above 50F, which appears to be a critical growth index for strawberry development and PROPER POLLINATION.

Our experience has been that it is NOT economically feasible to save any bloom PREMATURELY opening before soil temperatures reach 50F, as most will develop into CULLS that must be discarded. It is also our experience that the DURATION of cold events that typically occur for 2 to 3 weeks after passing that 50F soil temperature threshold, can require cost PROHIBITIVE and DAMAGING amounts of overhead protection alone. However, that creates a window for SHORT TERM, COST EFFECTIVE use of heavy row covers and “STRATEGIC FORCING”.

Historical data for our location indicates that DAYLENGTH passes a critical 11 hour threshold on 2/15 annually. Likewise, historical ground temperature data confirms that average soil temperature normally passes consistently over the 50F critical growth index about 2/20. Prior to 2/20, soil temperatures are erratic, but after 2/20 soil temperatures become more consistent and generally follow a predictable increasing line.

UGA provides an EXCELLENT AUTOMATED WEATHER SERVICE that I like to use to illustrate these concepts. Please go to the www.weather.uga.edu website. Under weather stations, on the left margin, select “CLARKS HILL, SC”, the station closest our farm. Next click on graph, and then click again on “Graph Daily Data”. A series of charts will then appear showing daily weather conditions for the past year. Scrolling down to soil temperatures, you can observe that December and January were much warmer than normal, but you can see what will happen about 2/20, based on past history.

Next, at the top of that Graph Daily Data Chart, please select the time period 2/10/16 thru 3/20/16 and click on GRAPH. Now, scroll down the page to the 2”, 4”, and 8” soil temperatures. Please note that they cross the critical 50F threshold on 2/20 and then follow an increasing and more consistent curve. Although daily max and min temperatures fluctuate significantly thru March, the ALL IMPORTANT SOIL TEMPERATURES are rising more consistently. The solar radiation and evapotranspiration graphs reflect similar increasing stability after 2/20 annually.

Southeastern strawberry growers should probably search out and study that data for their farm specific locations to determine their specific growth threshold date, if interested in STRATEGIC FORCING. Unfortunately, that data may not be readily available to many growers. Other states truly interested in COST EFFECTIVE, SUSTAINABLE strawberry production might want to partner with, or piggyback on UGA's system and provide similar services to their agricultural communities. We have used this technology successfully for over 10 years at our location, and actually experienced a record breaking harvest of 100 days with Camarosa plants in 2016, and frequently exceed 12 weeks of harvest.

“STRATEGIC FORCING” also significantly reduced row cover related costs, as the deployment was limited to a single 2-3 week event, degradation was reduced accordingly, and cover re-use life extended significantly. When integrated closely with the end of winter dormancy it can take a plant from “TIGHT CANOPY WINTER DORMANT” to “MORE DESIRABLE, MID SEASON TYPE, OPEN POLLINATING CANOPY” in just 14 to 21 days. In March 2016, I openly shared this information with many and will include that information again, hoping that it may be helpful.

Sincerely,

Clyde Gurosik