2021 Empire State Producers Expo
Wednesday, Jan. 13th
High Tunnel Session

High Tunnel Tomatoes at Edgewater Farm

Pooh Sprague
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We are a small diversified family farm in the Upper Connecticut Valley. Our products include small fruit, (11 acres) vegetables (77 acres) and ornamentals with 44,000 sq feet of pipe and poly. Our marketing strategy incorporates CSA, wholesale, PYO and our farmstand. Tomatoes are our single most important vegetable crop to all facets of our operation. Historically we started out in the 70's as field growers of tomatoes but today with the exception of cherry, grape and some of the Roma tomatoes, all of our tomatoes are grown in greenhouse environs. The mix is half traditional beefsteak varieties, some Roma, and the balance of heirlooms. We initially grew in unheated high tunnels but over the years we have added supplemental heat, simple horizontal air flow (HAF) fans for protection and temperature monitoring systems for all the tomato greenhouses. The cost of plant production (grafting) and sales value of the crop have made us retrofit from simple passive heated and vented high tunnels.

Houses: Predominantly Ledgewood Farm 21x96 with 5' sides. Ost heaters are removed at season's end and poly rolled up and secured to ridge. Poly gal gable end for increased light transmission-expensive but worth it. Tomatoes are planted in 4-5 row systems, nominally spaced 18" in single row, some double rows and double leaders incorporated depending on the success and efficacy of raising plants through the grafting process. Double drip lines for each row, 4" spacing irrigated by pond water or artesian well. Trellising is single poly strand tied off at the purlins for each plant. Somewhat spacious, but helps with air movement in July and August in a passive environment even with HAF.

Soil: Agawam sandy loam. Saturated media extract (SME) tested annually first through UMass, now through Maine. Organic amendments are used use for fertility and front loaded at time of bed preparation. Peanut or feather meal, sulfate of potash, a little bone char for P plus compost from Foster Brothers in Vt as an amendment in spring because of off season leaching of fall and winter rains and snows. Organic matter is currently up at 6-8%, but recent tests showing salts are very low. All tomato houses are double cropped, usually with a mixture of brassicas or greens for deep fall CSA and wholesale, with very little additional amendment..

Plants: All grafted plants, all heirlooms, Romas and beefsteak, All grafted on Maxifort rootstock.

Culture: Planting seeds late January through early April. Services a harvest season from end of June through early November. Plants will be 8-10" ideally and well rooted in 4.5" pot. Beds are made with a rotary plow so they can be 6-8" high, covered with biotelo. Ray is using white mulch predominantly. Plants are set in with no started charge. Frost protection is supplied by a propane pot burner, but mostly all simple undersized propane furnaces. Culturally we sucker and

clip, but only partially successful in truss pruning and putting in truss supports, due to labor and time restraints. Usually spray once for hornworm, and powdery mildew becoming more of a problem. Knock on wood—little fulvia or late blight pressure. We hope for some low humidity breezes and steer away from varieties that are prone to it. We do not lower vines, but let them drape and use the "older" houses for #2 fruit and canners. We harvest all #1 into 17 lb single level nesting poly trays. Usually target to harvest 5- 6 good trusses of fruit depending on variety before plants are topped or begin draping, fruit quality diminishes beyond that.

Irrigation: Watering delivery systems are at best simple and crude. Because all amendments are front loaded into bed preparation there is no injection of additional fertility through irrigation. Over time we have developed to "farmer feel" as to how long irrigation periods should be, given the stage of development the tomatoes are at. Heavy watering early in plant development is reduced to little or nothing at the onset of harvest to reduce splitting. Concentrating or getting as much #1 fruit as possible out of the first 4-5 fruit trusses.

Summary: We have moved from high tunnels, in their elementary form, to another level where temp monitoring, supplemental heat and HAF is available to this crop. High tunnels have certain advantages over more sophisticated capital intensive tomato growing systems, and for years we prescribed to the simplest methodology. Our system is a "works for us" model, actually pretty simple, a standardized system for all the houses in which our tomatoes are grown.