

varieties tended to fare the worst in foliar disease levels as they completely stopped producing leaves after fruiting. Indeterminate varieties did especially well because the plants put on a second flush of foliar growth in the later part of the season, after the extremely humid August weather was finished. The two opposite extremes are Aunt Ruby's, which produced immense quantities of lush green foliage and barely any fruit, and JTO-99197, which essentially died, and was loaded with sun-scalded, rotten fruit. Neither variety is useful under heavy disease pressure. The especially poor performance of JTO-99197, which is marketed as resistant to *Alternaria*, led me to believe that *Septoria* is the dominant disease. In the middle end of the spectrum is where the more interesting results lie. Indian Moon and Nebraska Wedding were both heavy producers of nice fruit, and showed moderately low foliar disease levels. Green Zebra was also a heavy late producer with moderate foliar disease. All three of these plants are indeterminate, and productive of both fruit and foliage. Pruden's Purple, on the other hand, received moderate foliar disease levels, but had a very low yields of marketable fruit (total fruit yields weren't low as with Aunt Ruby's, but most of the fruit was rotten). Pruden's showed the earliest onset of *Alternaria*, but the vines seemed to recover especially well and put on a second flush of foliage. Pruden's relatively good performance in spite of early *Alternaria* infection support the idea that *Septoria* is more dominant of the two diseases. Carbon and Cherokee Purple seemed to be more determinate, producing a heavy early fruit set (mostly rotten) on vines which died rapidly.

Plans for 2004

I will be eliminating Nebraska Wedding and Carbon from the trial because there was no appreciable difference between them and their counterparts (Indian Moon and Cherokee Purple, respectively). This will free up two spots in the trial—I haven't yet decided if I will use them to grow out more than one strain of some varieties or if I will add in some other varieties. I may also eliminate Indian Moon and/or Green Zebra, because they did so well, and may not need further improvement. One of my late-fall tomato problems is that I go to market with green and yellow tomatoes and the display just isn't as attractive as the full rainbow palette. Another change I will make is that I will substitute different varieties for the resistant and susceptible checks, since obviously neither fit those descriptions. I will also be performing some crosses between varieties, hopefully using Indian Moon and/or Green Zebra to introduce disease resistance into some of my other varieties. That is outside the scope of the present project, but could yield some interesting results. I may decide to run one such cross in the disease nursery to see how it performs.

Jeremy Barker Plotkin, February 28, 2004