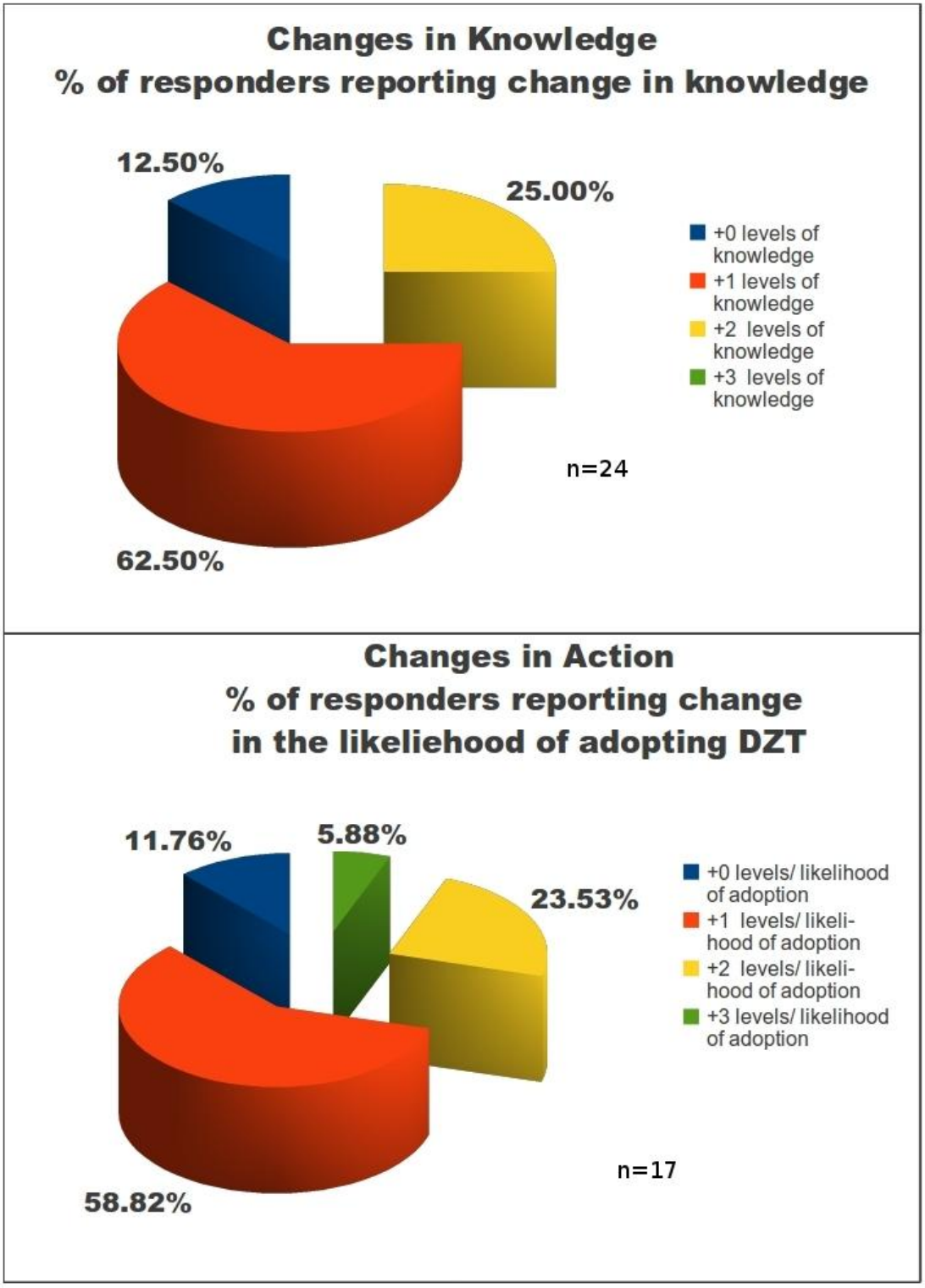

Figure 1. Results from the exit survey from the DZT session at the UMass Field Day (August 11, 2010).

Figure 2. Anu Rangarajan leading a discussion about how the Yeoman Plow could be used by growers with small tractors as a tillage tool at the Small Farm Equipment Field Day (August 5, 2010).

Figure 3. Anu Rangarajan showing growers how the Unverferth Deep Zone tiller works at the Small Farm Equipment Field Day (August 5, 2010).

Figure 4. Anu Rangarajan presenting the principals of Deep Zone Tillage at RT Twilight Meeting (November 10, 2010) at Long Island.

Figure 5. Richard K. Shaw, Ph.D., Soil Scientist, USDA-NRCS NYC Soil Survey leading a discussion about soil structure at RT Twilight Meeting (November 10, 2010) at Long Island.

Figure 6. DZT Broccoli at Grower 3 farm in NY, fall 2010.

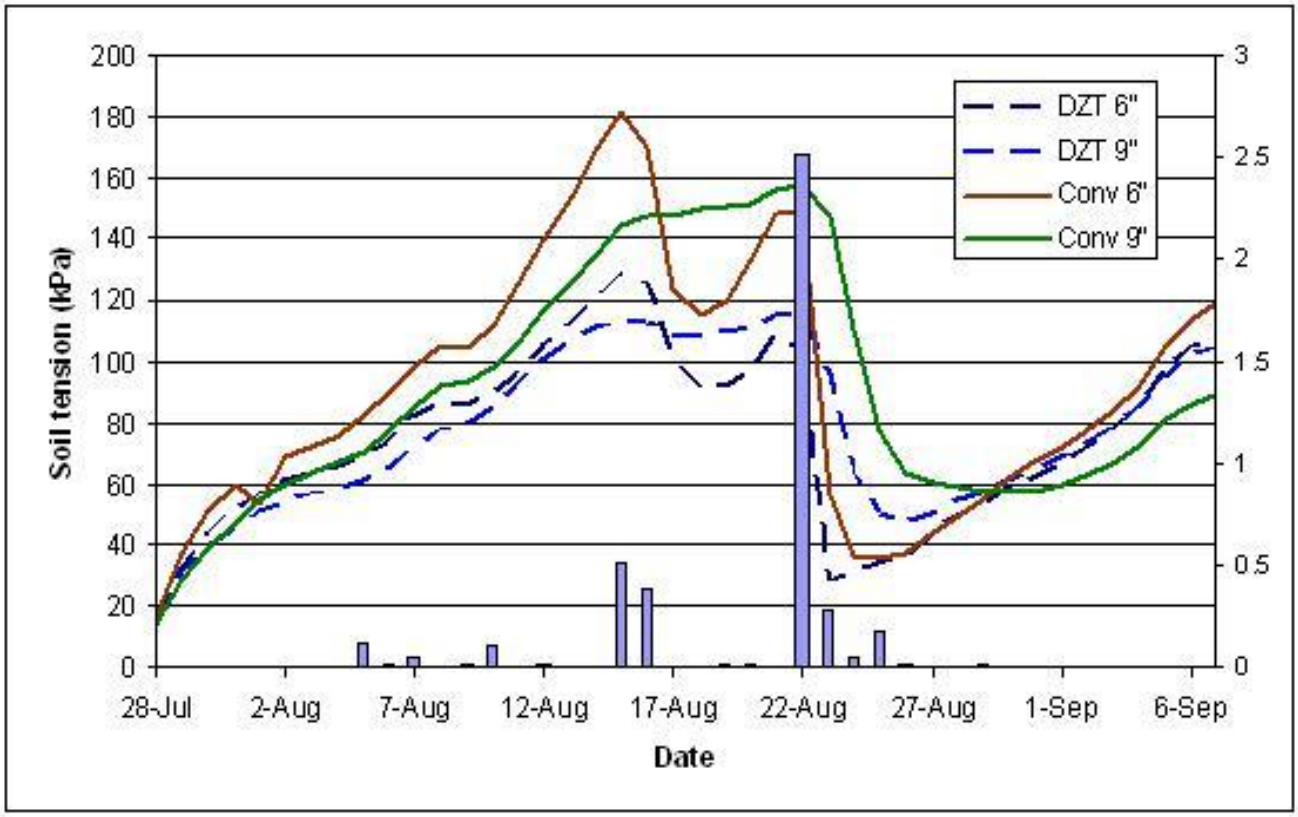

Figure 7. Mean soil tension (solid and dashed lines) as measured from July 18, 2010 to Sept 7, 2010 at two depths in conventional vs deep zone tillage plots on field 33, University of Massachusetts Agronomy Research Plots, So. Deerfield, MA. Precipitation (cm) during the same period is shown in the blue bars, and on the right axis.

Figure 8. Deep Zone Tillage plots at the University of Massachusetts Research Station. Photo taken 18-10-2010.

Figure 9. Conventional Tillage plots at the Agronomy Research Station, South Deerfield Massachusetts. Note that the upper 9” of soil are dry.

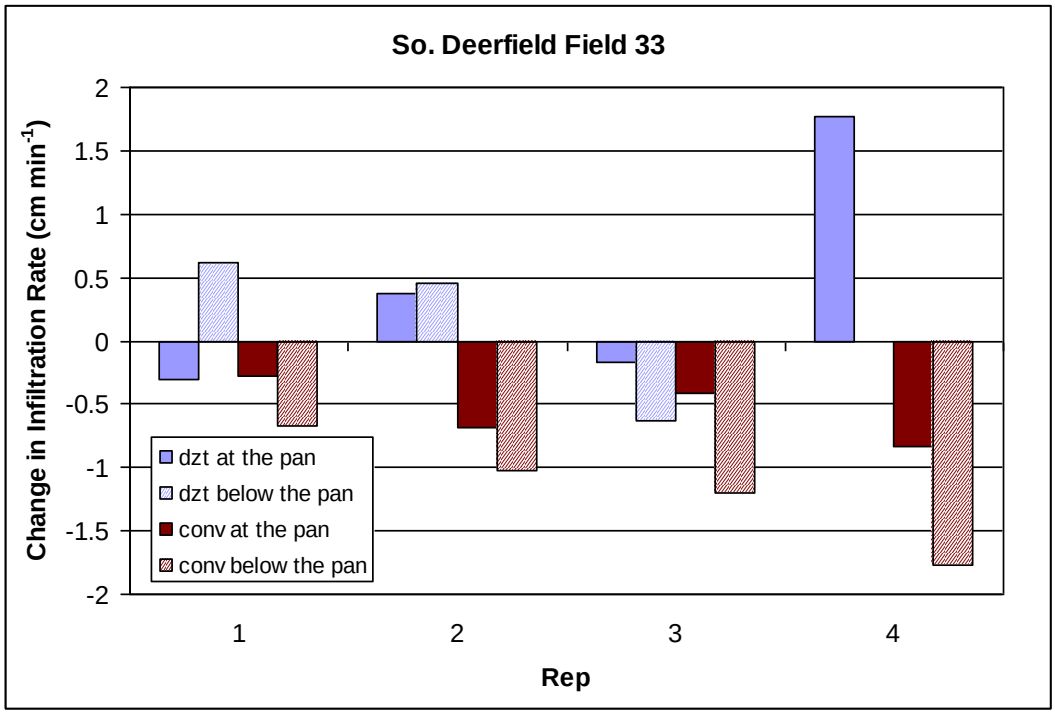

Figure 10. Change in infiltration rate from pre-plant to post harvest for the replicated deep zone tillage and conventional tillage plots at the University of Massachusetts Agronomy Research Plots, So. Deerfield, MA. Striped bars indicate measurements made below the plow pan, while solid bars indicate measurements made above the plow pan. Pan depth was determined with a penetrometer.

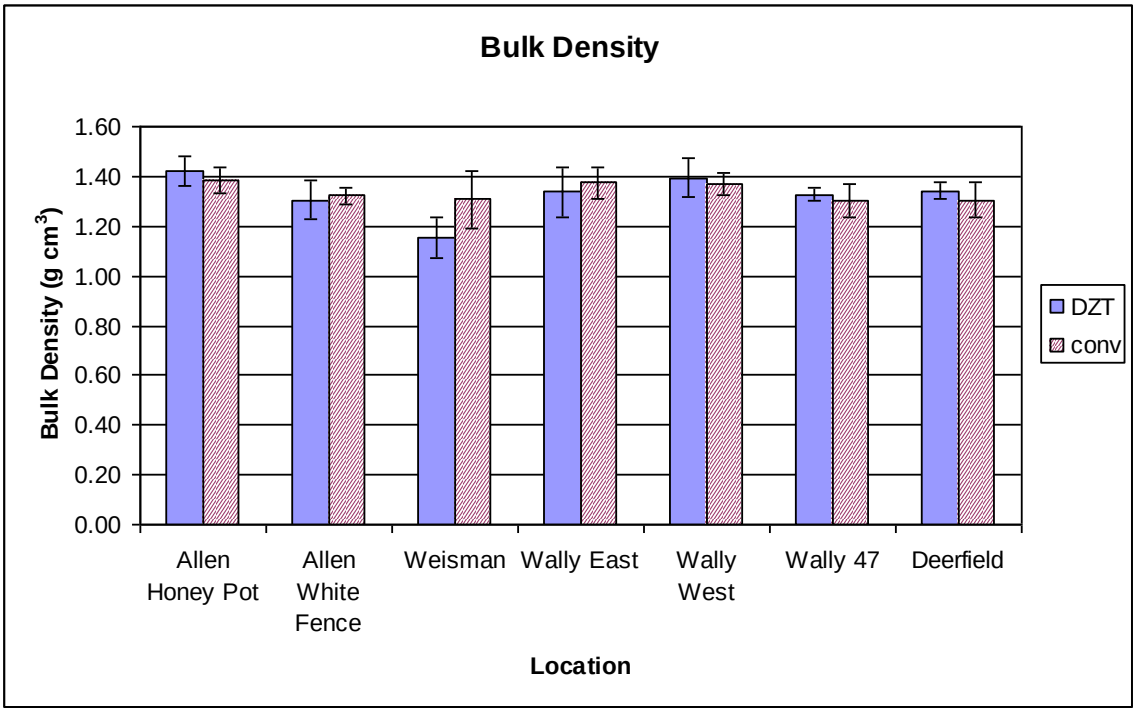

Figure 11. Bulk density of all plots in Massachusetts, deep zone tillage fields are solid, while conventional tillage fields are striped. The standard error of the mean is indicated by the error bars.

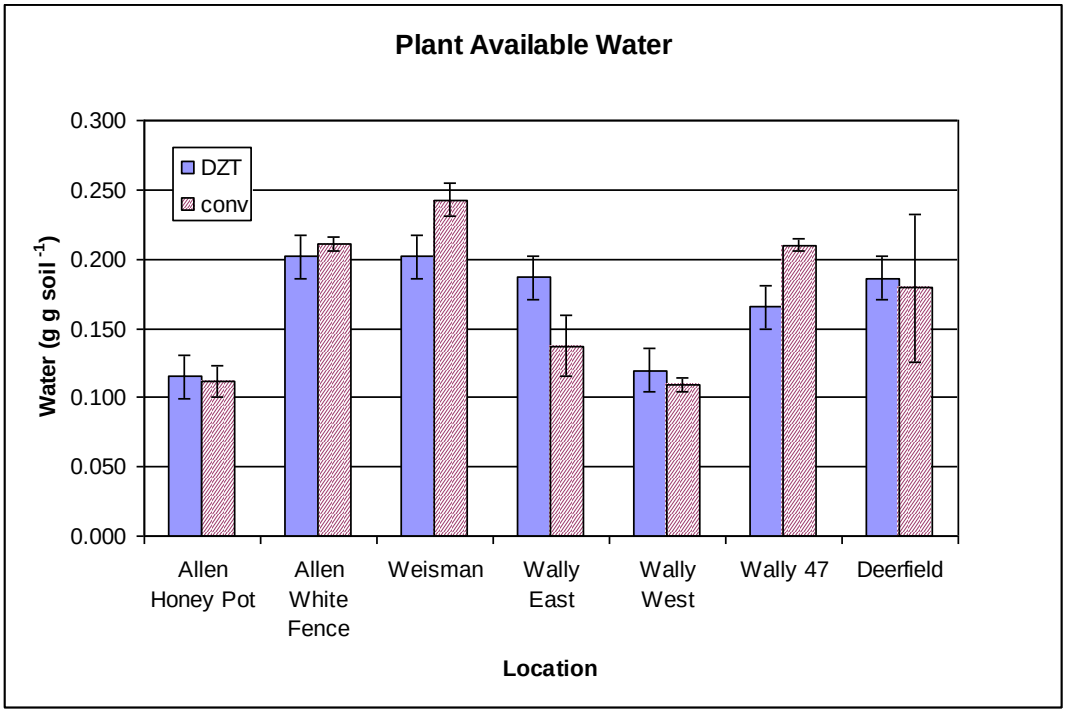

Figure 12. Plant available water for all Massachusetts sites. Deep zone tillage plots are solid bars and conventional tillage plots are striped bars. The standard error of the mean is indicated by the error bars.

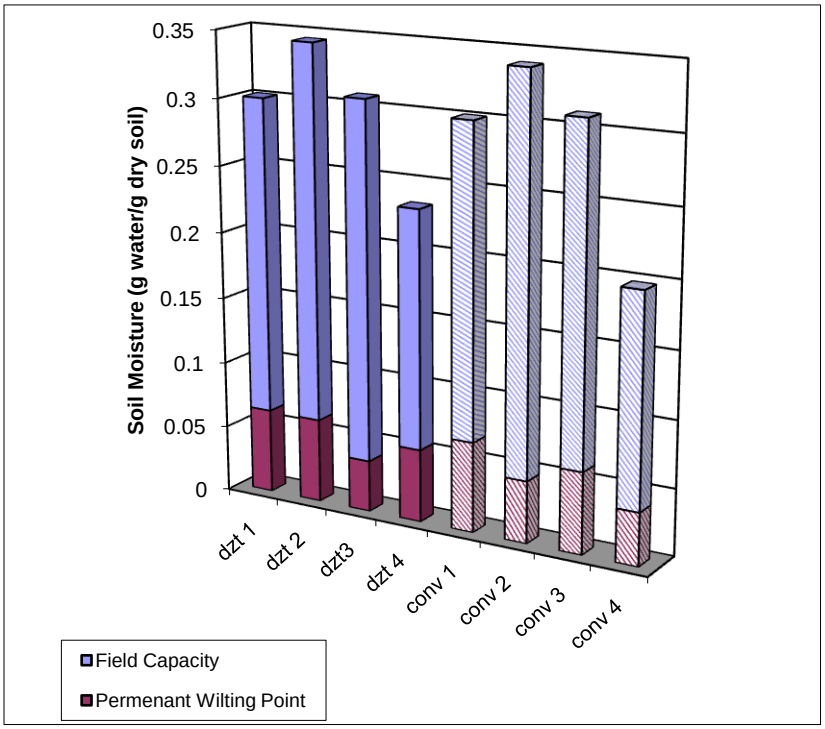

Figure 13. Plant available water for the four Deerfield research plots. Deep zone tillage plots are shown in solid bars and conventional tillage in striped bars. Water remaining in the soil at permanent wilting point (15 bar or 1500 kPa) is indicated by the lower portion of each bar while the entire bar indicates water at field capacity. Plant available water is the difference between the two measurements and is represented by the upper portion of each bar.

Figure 14. Unverferth Zone Builder

Figure 15. Conventionally tilled sweet corn, Freeville, 2010.

Figure 16. DZT sweet corn, Freeville, 2010.

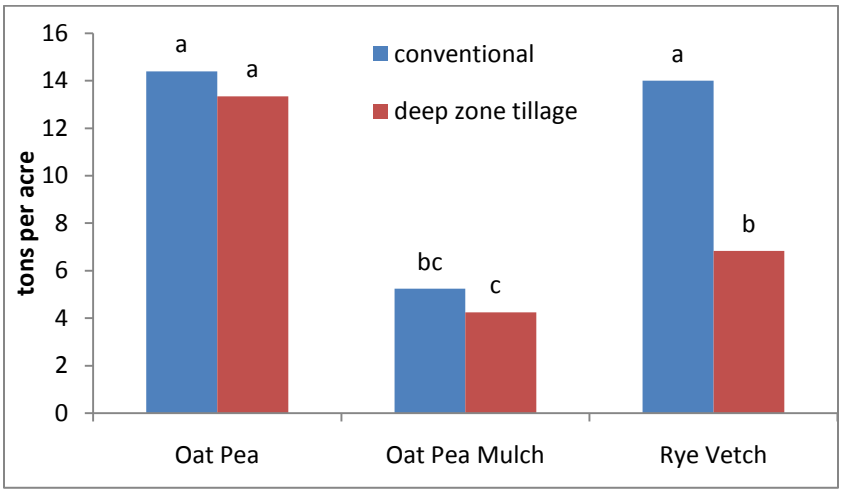

Figure 17. Total marketable yield of organic peppers (cv 'Ace') grown with three mulch and two tillage treatments, Freeville, NY 2010.