

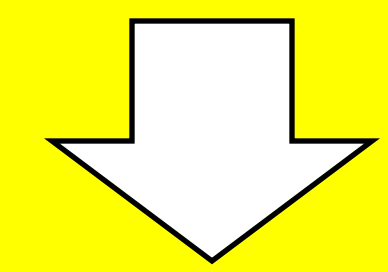
Eliminating Tillage in Organic Farming Systems: Progress and Obstacles

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Introduction



- Tillage important organic weed-control tool (1)



Negative consequences of tillage (2)



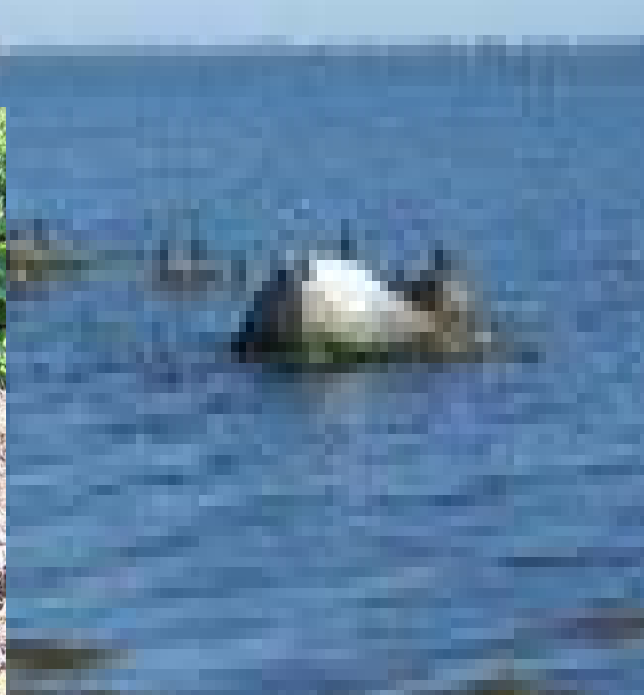
- Soil biology decline
- Karlen et al. (1994)



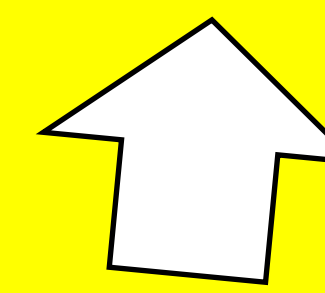
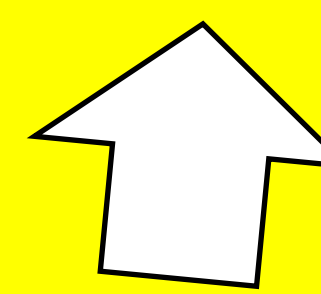
- Soil erosion
- Triplett & Dick (2008)



- Evaporation
- Greb (1983)



- Soil quality decline
- Karlen et al. (1994)



Organic Conservation-Tillage Systems

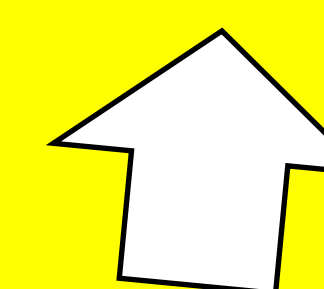
Previous Research (3)



- Cover-crop (CC) mulches major component
- Madden et al. (2004)



- Creamer & Dabney (2002)



Conservation-till CC kill options (4)



- Mowing, rolling, others
- Ashford & Reeves (2003)

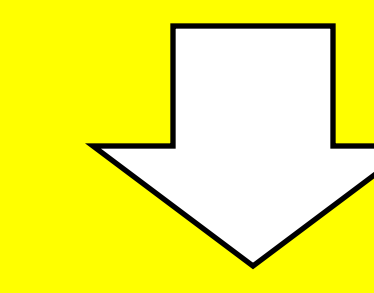


- Kornecki et al. (2009)

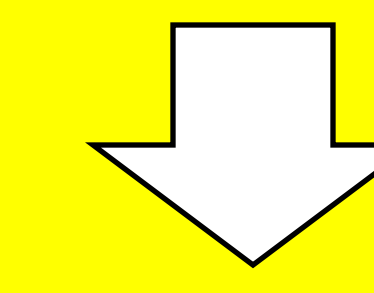
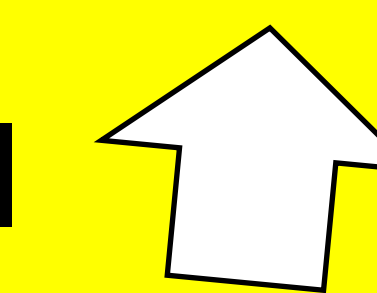
Ongoing Research (5)



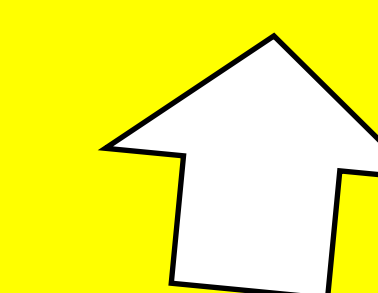
- CC mulch selection



- CC Kill method comparisons



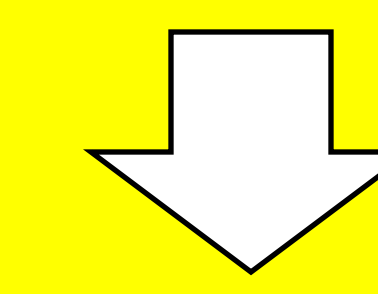
- CC Termination timing



- System integration

Relevant Session(Author[s])

- Reduced Tillage in Organic Systems - A8 (all authors)
- Organic and Sustainable Systems for Pest Management: II - A8 (Frey et al.)
- Management and Impact of Cover Crops: I S6 (Munoz et al.)
- Management and Impact of Cover Crops: II S6 (Parr et al.)



References

- Ashford, D.L., and D.W. Reeves. American J. Alt. Agric. 18:37-45.
- Creamer, N.G., and S.M. Dabney. 2002. American J. Alt. Agric. 17:32-40.
- Greb, B.W. 1983. In H.E. Dregne and W.O. Willis (ed.) Agron. Monogr. 23, ASA, Madison, WI.
- Karlen, D.L., et al. 1994. Soil and Tillage Res. 32:313-327.
- Kornecki, T.S., et al. 2009. Renewable Agric. Food Systems 24:165-173.
- Madden et al. 2004. HortTech. 14:243-250.
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