

Agronomy "Crib" Notes

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Barry Fisher, NRCS State Soil Health Specialist

Victor Shelton, NRCS State Agronomist/Grazing Specialist

Tony Bailey, NRCS State Conservation Agronomist



So You Want to Be a Pit Master...12 tips for Success

Springtime lends great opportunities to show the many benefits of cover crops and soil health by using soil pits. Late fall can also be good to show the benefits of oats and radish and other cover crops planted in September and earlier. Aim for pre-Thanksgiving soil pits. Revisit those same fields in spring (end of March into April). Many SWCD's have hosted workshops and tours showcasing eye popping and jaw dropping roots that are extending the rhizosphere deep into the soil profile. Few educational tools can be as effective at demonstrating the benefits of a highly functioning conservation cropping system, the benefit of cover crops in a rotational tillage or conventional till system, or even the negative impacts of conventional till on soil health. To best use these subterranean classrooms I thought it might be good to offer some tips to use them as effectively as possible.



Now that's a pit!

1. Position the pit to optimize sunlight for the time of day it is to be used.
2. Wider is better—if possible, make it a couple of buckets wide so it is easily accessible for people to get into the pit and more visible to those who remain topside.
3. Try to stair-step or ramp one or both ends to invite more of the attendees to come on down.
4. Keep the pit to 5 feet deep or less. **OSHA regulations and USDA policy prohibits workers or site visitors from entering an excavated pit over 5 feet deep without approved reinforcement or sloping sidewalls to a 1:1.** Safety must be our number one concern.
5. Where possible, extend the pit across more than one plot, treatment, or land use. The differences can be quite dramatic.
6. Try to dig the pit right before it will be used (as in when everyone arrives). It doesn't take long with a backhoe and then a good spot can be chosen. Remember that healthy soil has improved water infiltration so expect water to find its way into the bottom of the pit. Having a water pump or some pallets on hand can make a more inviting and enjoyable experience.
7. **Always locate utilities and tile lines prior to digging** (although it seems inevitable to find a tile where ever we dig).
8. Bring a camera and or a video recorder. Dan Perkins (Cover Crop Guy from Jasper Co SWCD), has some great videos posted on the web. Annual ryegrass going deep. <http://youtu.be/392tTeC7hKU>



Crusty Old Agronomists still get excited about a growing rhizosphere!



Under Cover Crop Guy and Pit Boss- Dan Perkins

9. Tools to have on hand

- A notebook to record: date of pit, cover crop type, seeding method, date, crop before and ahead of cover crop, tillage type, and rooting depth. This information is invaluable to narrate pictures and helping remember what really happened.
- Small trowel for picking at roots.
- Pocket knife for more refined picking.
- Hand sprayer with water to wet sides of pit to make the roots show up better.
- Large yardstick or ruler with bold numbers that will show up on pictures and videos to record root depths.
- Tile spade or pitch fork for digging at sides of pit.
- Soil penetrometer to confirm compaction and hardpan layers.
- Hand lens for viewing earthworm eggs (cocoon) and fungi.



10. Target soil pit demonstrations for first time cover crop audiences. Seeing-is-believing for continued cover cropping success.
11. Allow about 1 hour at each soil pit for conversation and exploring.
12. Encourage the farmers to talk about their cover crop goals, then speak from the pit for awhile, pointing out interesting things. Allow for questions. Have fun!



Measure above and...



...Below ground

Mark your Calendar!

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