No-till Management of Cover Crops

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Partial funding provided by the Risk Management Agency of the USDA
No Till Management of Cover Crops

Steve Groff
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Holtwood, PA
“Soil is meant to be covered”

-Steve Groff
“Top 10”

Cover Crop Management Ideas I’ve ever used
Cover Crop Management Ideas

#10

Cover Crop Mixtures
Cover Crop Mixtures

- Diversity
  - Biomass
  - Root growth
- Guard against failure of one species
- Complementary
Mixtures

- vetch/rye - 25lbs/35lbs
- Vetch/crimson clover/rye - 20lbs/4lbs/35lbs
- Crimson clover/rye - 8lbs/35lbs
- vetch/oats - 25lbs/1bu
- Radish/vetch/rye - 10lbs/25lbs/35lbs
- Radish/crimson clover - 10lbs/8lbs
Cover Crop Mixtures

- Above ground diversity is a mirror of below ground diversity.
- Microorganisms are like cattle—they need a balanced diet.
Cover Crop Management Ideas

#9

Understand the Biology of Cover Crops
Cover Crop Biology

- C/N ratio
- Insect changes
- Planting dates
- Challenges
There is a time to kill

Biological pumping: roots bringing up nutrients

If you built habitat, they will come- earthworms are last
Cover Crop Management Ideas

#8 Freeze Seeding (not “frost seeding”)
Freeze Seeding

- Late fall
- Late winter
- Additional Planting window
Cover Crop Management Ideas

#7

Plant vetch out of season
Plant vetch in July

- Plant after wheat
- Winterkills
- 50lbs. N in the spring
- Soil tilth!
Cover Crop Management Ideas

#6

Equipment Modifications
Equipment

- Planter
- Drill
- Rolling Stalk Chopper
Cover Crop Management Ideas

#5
Timely Seeding
On Time

- As soon after harvest as possible
- Priority
- Plan
Cerrado Region Brazil
Plan ahead!
Cover Crop Management Ideas

#4

Explore Cover Crop Possibilities for my Farm
Explore

- Internet
- Field Days
- Connect with other farmers

Winter Lentils
Cover Crop Field Days
Cover Crop Management Ideas

#3

Cooperating with Researchers
Researchers

- University
- NRCS
- Global
Cover Crop Management Ideas

#2

Plant Cover Crops for Erosion Control
Grand Canyon
Erosion Control

- Significantly reduce soil movement
- Better infiltration
- Increased aggregation
Cover Crop Management Ideas

#1
Forage Radishes as a Cover Crop
Forage Radish

- Break up compaction
- Control winter annuals
Bio-drilling
No piece of steel can benefit the soil like roots from a good cover crop.
Cover Crop Management Ideas

Bonus
They are Beautiful!
Steve Groff

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Cover Crop Specifics for Vegetable Systems

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Hairy Vetch 20-25 lbs per acre
Rye - 2 bushel per acre
Crimson Clover 6-10 lbs per acre
35 lbs rye
25 lbs hairy vetch
No-Tillage Sweet Corn
No N Applied
Over 50% of Pumpkins in Lancaster County are now no-tilled
Transplanting
Steve Groff

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