

Cover Crops

for the Southeast

Why Cover Crops?

Cover crops improve soil quality

- A. Increase soil organic matter (SOM)
- B. Reduce soil erosion – wind and rain
- C. Improve soil structure and quality
- D. Improve soil tilth
- E. Enhance soil biological diversity
- F. Remediate subsoil compaction

Cover crops improve soil fertility

- A. Supply nitrogen (legumes)
- B. Reduce nutrient leaching
- C. Increase nutrient cycling
- D. Move nutrients from sub-soil to top-soil
- E. Improve fertilizer use efficiency

Cover crops reduce pest problems

- A. Suppress weeds
- B. Reduce diseases
- C. Reduce nematodes
- D. Provide habitat and food for beneficial organisms

Other benefits from cover crops

- A. Reduce labor
- B. Reduce fuel use
- C. Reduce land preparation
- D. Help with timely planting
- E. Reduce irrigation requirement
- F. Reduce total production costs
- G. Improve water quality

Challenges

- 1. Cost of establishment
- 2. May be difficult to kill
- 3. May compete with your crop for resources
- 4. Not a cash crop, lose income
- 5. Require more management



Cereal rye



Crimson clover



Lupin



Sorghum-sudangrass



Buckwheat

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Uses of Cover Crops

| | Reduce Compaction | Residue Persistence | Erosion Control | Weed Control | Nematode Control | Attract Beneficials | Scavenge Nitrogen | Scavenge P & K | Forage Quality |
|---------------------|-------------------|---------------------|-----------------|--------------|------------------|---------------------|-------------------|----------------|----------------|
| Legumes | | | | | | | | | |
| Austrian Winter Pea | F | F | VG | G | G | VG | F | F | VG |
| Iron Clay Cowpea | G | F | E | E | G | VG | F | G | G |
| Crimson Clover | F | G | VG | VG | F | VG | G | G | E |
| Hairy Vetch | F | F | G | G | F | E | F | G | G |
| Lupin | G | F | G | G | E | E | F | G | P |
| Red Clover | VG | F | G | VG | F | VG | G | VG | E |
| Sunn Hemp | E | G | VG | E | E | F | F | F | P |
| Velvet Bean | G | G | VG | VG | E | F | G | G | G |
| White Clover | F | F | VG | VG | P | G | F | F | E |
| Cereals | | | | | | | | | |
| Black Oat | F | G | VG | E | E | P | VG | F | G |
| Rye | G | E | E | E | G | F | E | VG | G |
| Oat | P | G | VG | E | P | P | VG | F | G |
| Ryegrass | G | VG | VG | VG | G | F | VG | G | VG |
| Sorghum-Sudangrass | E | VG | E | VG | VG | G | E | G | VG |
| Winter Wheat | G | VG | VG | VG | F | F | VG | VG | VG |
| Other | | | | | | | | | |
| Canola/Rapeseed | G | G | VG | VG | VG | G | VG | F | G |
| Mustards | G | F | VG | VG | VG | G | G | VG | G |
| Radish | VG | F | VG | E | VG | F | E | VG | G |
| Buckwheat | F | P | F | E | F | E | P | E | P |

E=Excellent; VG=Very Good; G=Good; F=Fair; P=Poor/None



Hairy vetch



Winter Pea



Sunn hemp



Canola



White Clover

Adapted from *Managing Cover Crop Profitably 3rd Edition*



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