Tillage & Field Preparation

Shallow plow (3-4”) to prevent bringing up more weed seeds
BCS Hand Tractor
Rototiller
Rotary plow
Power harrow
Flail mower
Sickle bar mower
Brush hog
Snow thrower
Chipper/shredder
Water pump
Pressure washer
Soil Compaction

Plow pan

Photo courtesy of Michigan State University
Deep Zone Tillage
Fuel Savings

Plow & harrow
4.5 gallons fuel

Zone-tiller
1.25 gallons fuel

Reduced fuel consumption by 72%-77%
Time Savings

Plow & harrow

1.5 hours @ 5 mph

Zone-tiller

0.5 hours @ 3.5 mph

Reduced field prep time by 66%- 83%
No-Till
Season Extension

- Plastic mulch
- Row covers
- Low tunnels
- Caterpillar tunnels
- High tunnels
- Greenhouses
Low tunnels
## Cover Crops

- **Winter rye**  
  - Sept-October  
  - cool soil germination

- **Oats**  
  - August  
  - Winter kills

- **Tillage radishes**  
  - August  
  - Winter kills/< compaction

- **Sun hemp**  
  - before Aug  
  - Winter kills/OM/N

- **Pearl Millet**  
  - before mid-Aug  
  - Frost sensitive/dry catch

- **Sorghum-sudangrass**  
  - late spring/summer  
  - winter kills/OM/smother

- **Buckwheat**  
  - late spring/summer  
  - winter kills/OM/smother

- **Annual ryegrass**  
  - late spring/summer  
  - very competitive/mow

- **Clover**  
  - Spring  
  - N-source

- **Field pea**  
  - Spring  
  - N-source

- **Hairy vetch**  
  - Spring/summer  
  - N-source

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*NE SARE Pub. - Managing Cover Crops Profitably*
Winter rye
Buckwheat
Field pea and buckwheat
Equipment Wish List
Manual Mulch Layer
Drop Spreader

Drop seeder with rollers
Brush Hog
**Outside tools**
- Shovels
- Rakes
- Sledge
- Hoes
- Pruning tools
- Posthole digger
- Post pounder
- Rock bar
- Chainsaw
- Weedwacker
- Gas hedge trimmer
- Lawn mower
- rototiller
- Measuring tape – 100’ and 300’

**Irrigation supplies**
- Pump
- Lay flat
- Drip tubing
- Filter assembly
- Fertilizer injector
- Sprinklers

**Flammables**
- Gas cans
- Motor oil
- Grease
- Waste oil, antifreeze containment
- Diesel tank
- Paint, spray paint
- Flammable cabinets
- Plastic spill containment

**Chemicals**
- Locked chemical cabinet
- Disposable measuring
- Lab scale
- Personal protective equipment
- Safety signage
- Backpack sprayers – SP systems
- Separate herb and insect
- Wands and nozzles
- Boom sprayer – three point, PTO driven

**Tractor and field prep**
- 40 to 50 HP, 4WD Tractor
- Quick release bucket
- Pallet forks
- Cultivating tractor
- 2 bottom moldboard plow
- Disk harrow
- Field conditioner – cultamulcher?
- Subsoiler – single shank
- 8’ drop spreader/spin spreader?
- PTO rototiller
- Brushhog
- Separate insect./herbicide sprayers
- Bed-maker/plastic layer

**4WD Truck**

**Field work**
- Seed planter – no-till?
- Transplanter
- Harvest baskets
- Field scale
- Harvest knives
- Plot markers
BE GOOD TO THE LAND AND THE LAND WILL BE GOOD TO YOU.