

Soil Conservation Practices for Vegetable Farms



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key concerns

key practices

Pollution

Erosion

Flooding

Compaction



Nutrient Management

Soil cover (all kinds)

Buffers (permanent sod)

Tillage (minimize)

RAPS requirements / expectations

- 25-foot buffer to ditch, pond, stream, etc.
- 25-foot setback of manure piles and nutrient applications
- 100-foot setback from (private) 200-foot (public) wells
- No visible erosion (!)
- Flood risk mitigation
- Maintain “soil health”

$$A = R K L S C P$$

Universal Soil
Loss Equation

$$A = RKLSCP$$

A = average annual soil loss in t/a (tons per acre)

R = rainfall erosivity index

K = soil erodibility factor

LS = topographic factor. L is for slope length, S is for slope

C = cropping factor

P = **soil conservation practice factor... you can manage**

Gully erosion – pre-plant



Sheet erosion – pre-plant



Gully (and sheet) erosion – post-plant



Nutrient-rich leachate – thus the setbacks



Flood water receding, with soil and nutrients.



Goal: avoid soil nudity
...so many ways to cover it up.



Buffer (sod) by river, plus winter rye in early April



Buffer (sod) by field in summer



Over-winter cover: dead Japanese millet, late April.



Organic minimum-till into J. millet, late April.



Over-winter cover: dead oats early May.



Over-winter cover: dead oats mid-May.



Over-wintered rye late April.



Over-winter rye left in strips, early May.



Deep zone tillage strips in rye, early May.



Slit-till squash into crimp-killed rye, mid-August.



Weed mat between plastic beds early June.



Landscape fabric between plastic beds mid-July.



Annual ryegrass strips between plastic, early June.



Annual ryegrass strips between bare beds, early June.



Seeding annual ryegrass strips, early June.



Strips tilled into annual ryegrass, early July.





Annual ryegrass/crabgrass strips, mid-August.



Interseeded ryegrass late October.



Spring-seeded annual ryegrass **alleys**, mid-June.



Spring-seeded white clover alleys, mid-August.



Hay mulch early summer.



Hay mulch between plastic.



Hay mulch between after a couple months.



Round bale hay mulch, in mid-August.



What have you tried/what are you doing on your farms to conserve soil in vegetable production systems?



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