Documenting Management in Watersheds UW- Discovery Farms

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Discovery Farms

- Producer led
  - Steering committee, cooperating farms
- Credible water quality research
  - 46 surface, tile, and stream sites since 2002
- Communicating results
  - 100+ presentations per year
  - 160 publications on our website
  - Several articles and inserts in newspaper annually

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Surface Monitoring

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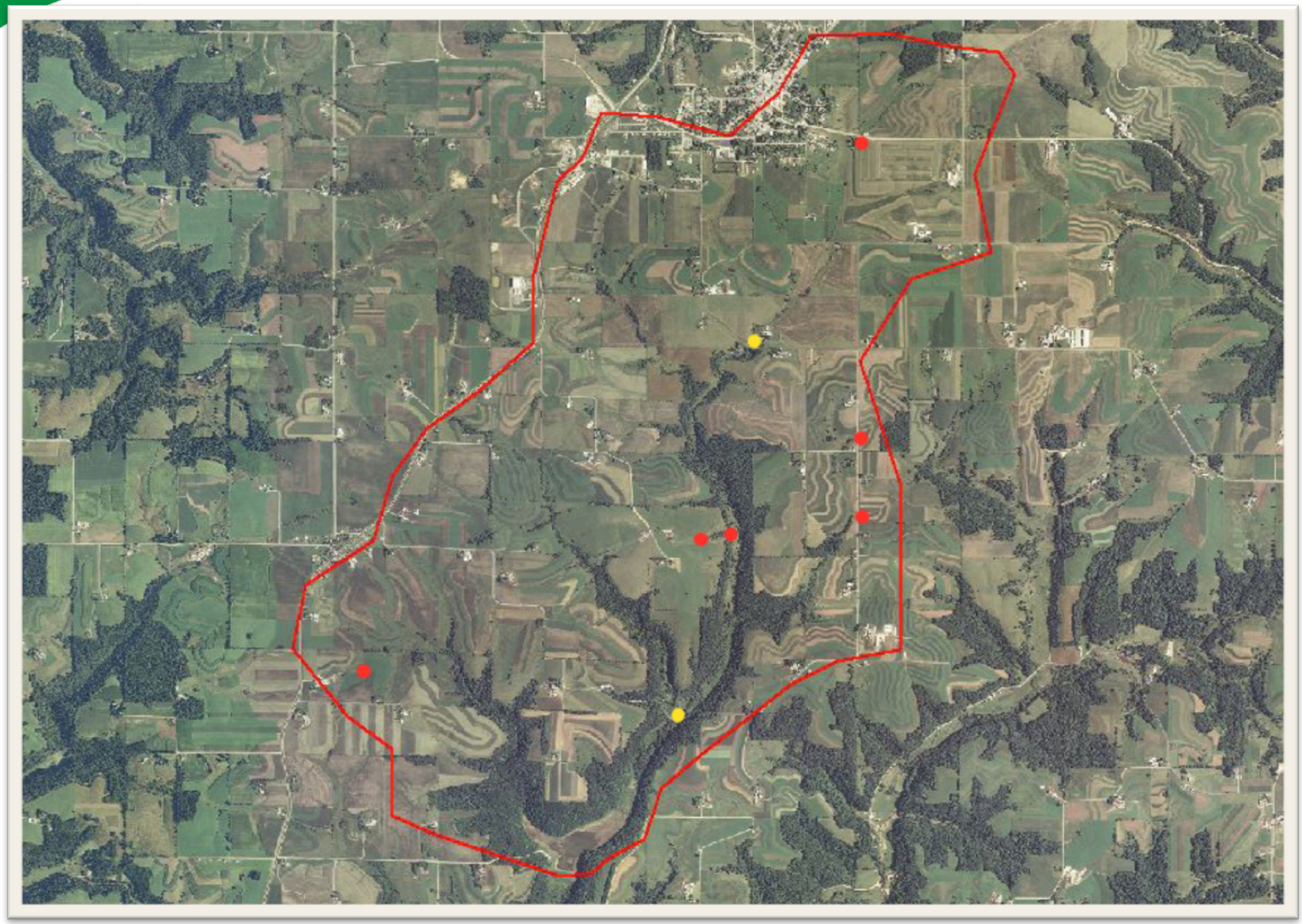

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Nutrient management data

- 9,200 acres completed total
- 2,200 in watershed
  - 12 farms,
  - 65% of ag acres
- Watershed area
  - 4,975 acres (7.75 sq. mi)

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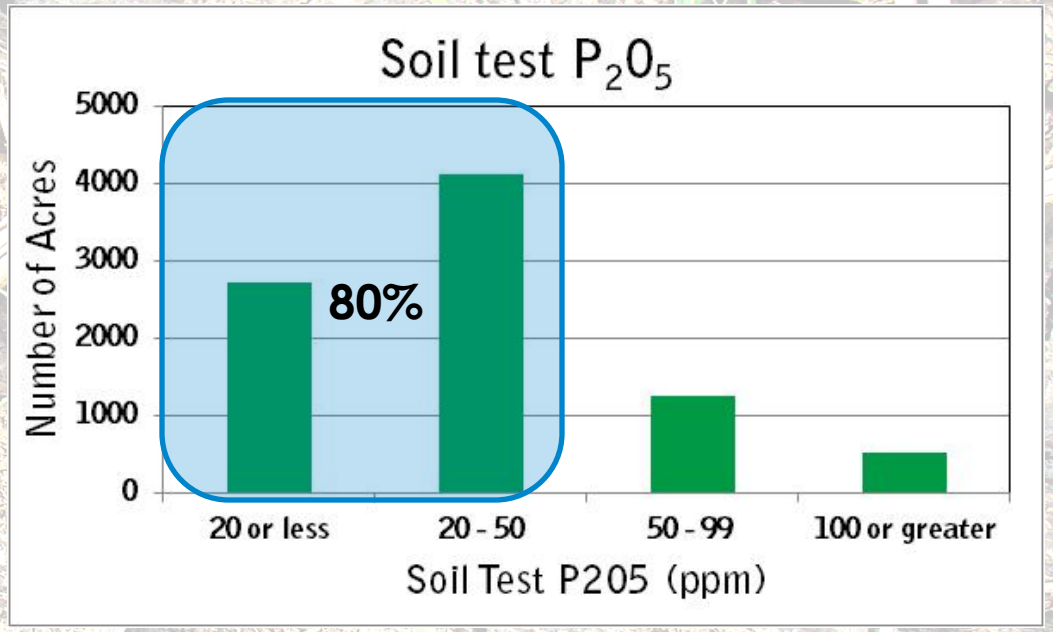
Soil Test Values

- 11 farms, 776 fields, 8620 acres
- Average field size: 11 acres
- All use manure regularly



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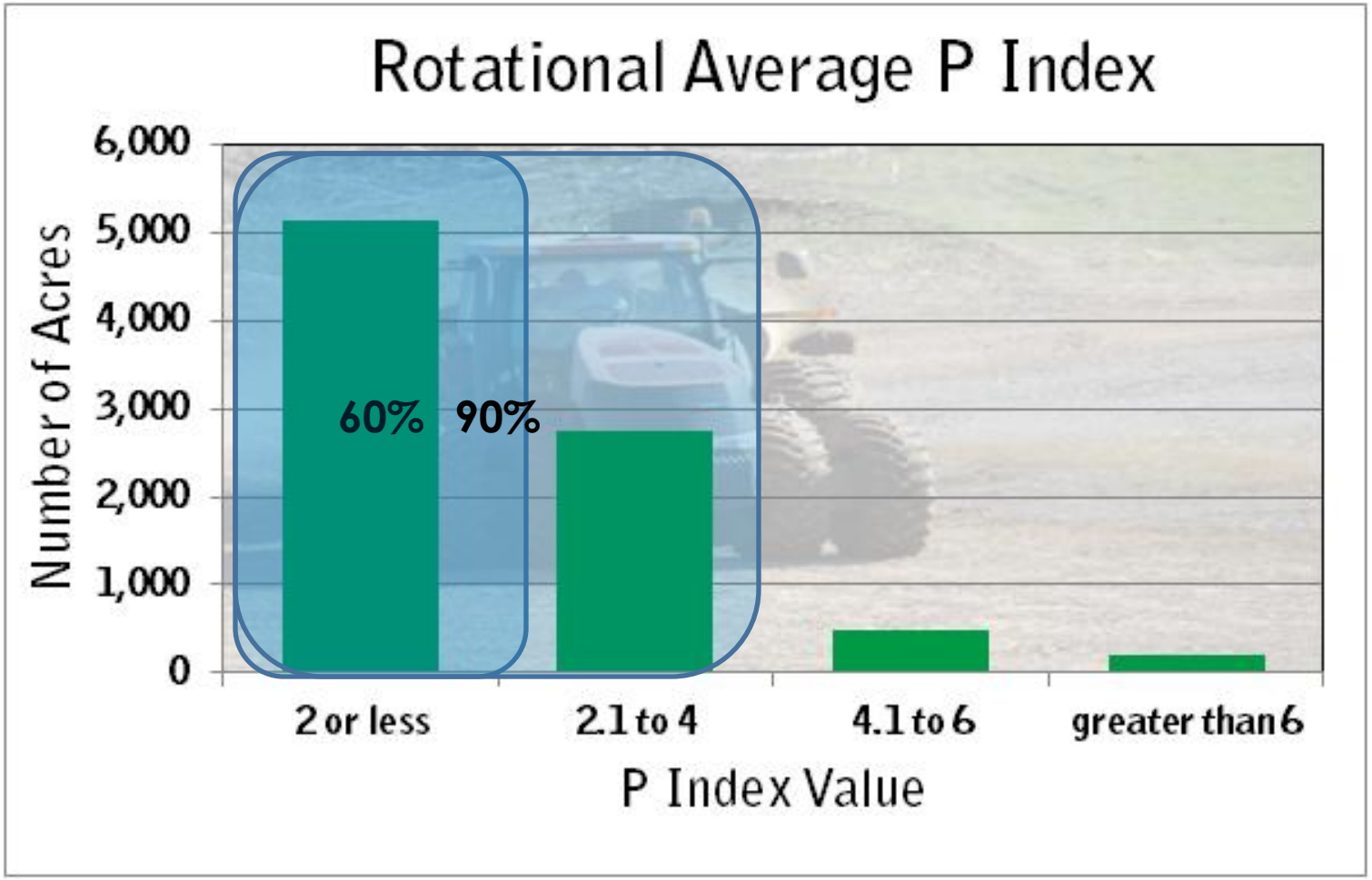
Phosphorus Index Values



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Predicted Soil Loss

7 out of 628 fields were greater than 4 tons/acre

82% of fields less than 2 tons/acre

65% less than ½ T value

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Walkover data

- 15 farms, 3,195 acres already walked (65% of total)
- 1,800 acres left, 77% farmland, 23% woodland

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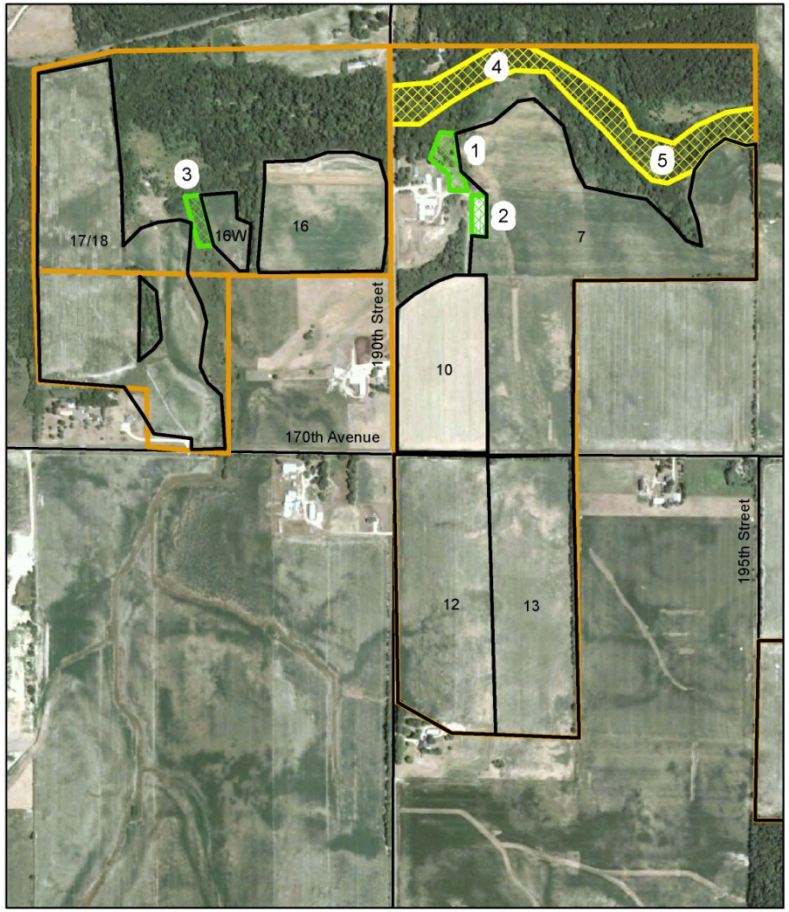
Farm Walkover for Soil & Water Management

Note: Property without risk concerns may not be shown.

0 500 1,000 2,000 Feet

Legend
- Property Boundary
- Field Boundary
- low risk
- medium risk
- high risk



Farm Walkover for Soil & Water Management

Participant:
Date:

Beneficial Practices:

- ✓ Reduced tillage - leaving corn stalk residue on soil surface.
- ✓ Rotating crops.
- ✓ Maintaining grassed waterway in steeper slopes of field 7 on home farm.
- ✓ Maintaining grass buffer between field edges and the top slope in wooded areas bordering Dry Run Creek.
- ✓ No cattle access or low numbers in concentrated flow areas around livestock facilities.
- ✓ Current soil tests and practicing nutrient crediting.
- ✓ No cattle access within perennial stream and riparian area.

Water Quality Risk Evaluation:

Low Risk
1. Cattle access to concentrated flow area in northeast area of farmstead.
2. Silage bags bordering concentrated flow.
3. No grass buffer between field 16W and concentrated flow to west.

Medium Risk
4. Streambank erosion and bank cuts within perennial stream - east of 190th St. bridge.
5. Tree, bush and plant characteristics in riparian area provide limited soil holding ability with open soil and limited sod forming plants.

High Risk
None located.

Suggestions:

- ✓ Build a small berm between silage bags and concentrated flow to reduce potential for removing sediment and nutrients during high runoff events.
- ✓ Leave a buffer at least five feet wide between annual crops planted in field 16W and concentrated flow area west of field.
- ✓ Continue limiting cattle access to stream and riparian corridor.

Technical assistance by: Todd Prill, UW-Discovery Farms, (715) 225-0862, discovery.farms.prill@gmail.com.

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Walkovers: Verification Tool 2

Areas evaluated

- Upland areas
- Livestock/pasture areas
- Concentrated flow (waterways)
- Buildings and facilities
- Manure management
- Feed storage areas

25 miles
6% of land area
266 acres
96% in good shape

Waterway or stream corridor

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Walkovers: Verification Tool 2

27 acres in need of improvement

- Most challenging: livestock areas, upland area, waterways

290 more acres that could be nutrient and sediment sources but are currently managed well

28 Changes Recommended to 11 farmers

5 changes made immediately

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Implementation & Documentation

Used by all farmers

- Manure and Legume Crediting
- Waterways
- Soil testing
- Minimum tillage >30% residue

Used by half or more of farmers

- Retention dams
- Cover crops (30% or more acres)
- No till
- Permanent pasture
- Contour farming

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Multiple answers to the same question

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To Do List

- Complete walkovers
- Complete nutrient use assessment
- Demonstrate nutrient use efficiency
- Continue making changes
- Develop methodology for self-assessment that stays after Discovery Farms project is over

What's next

- Jefferson, Dodge, Rock County area: New core farms
  - Grain focus or livestock focus
  - Tile drainage
  - Use of tillage and precision technology tools
- Assessing environmental sustainability
- Multi-state efforts

Questions and comments?

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