On Farmers' Ground

Final Farmer Report

EXAMPLE

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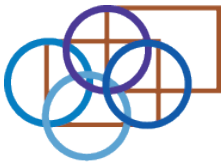
EXAMPLE OF COVER LETTER



Date

NAME
STREET
CITY

Dear NAME,

We would like to present you with this packet of information that we have compiled, based on the data you provided to us throughout your participation in the "On Farmers' Ground" study. The purpose of this letter is to give a brief explanation of each of the items contained in the packet.

The first part of the packet contains analyses of the feed and manure samples. For the feed analysis, we have also included tables which indicate recommended phosphorous levels in feed so that you can compare yours to the recommended levels.

The remaining documents consist of a series of maps, grouped into two sets. (1) The first set (maps #1-9) displays different kinds of information about all the fields on your farm. (2) The second set of maps shows areas on your farm that could be impacted by revisions to the USDA-NRCS 590 Nutrient Management Standard.

For the maps, we suggest that you familiarize yourself with the colors and patterns featured on the legends. This will allow you to best understand the information and help you with future decision-making on your farm.

If you have any questions about the information contained in this packet, feel free to contact me. I have included my contact information below.

On a personal note, we would like to thank you for your participation in the study. Your generous effort has provided us with very valuable information for understanding some of the constraints facing Wisconsin's dairy farmers, and how we can work towards a dairy industry that remains economically vibrant and environmentally sound into the future.

Sincerely,

FEED ANALYSIS

We analyzed your individual feed components (or TMR) for crude protein and phosphorus.

Feed Component	Amount fed per cow (lbs. fresh)	Dry Matter (% of total)	Crude Protein (% of DM)	Phosphorous (% of DM)
Hay (Dry/Baled)	15.0	88.8	16.9	0.32
Protein Mix	5.0	92.4	36.2	0.55
Grain Mix	17.0	83.8	15.9	0.61
Corn Silage	35.0	37.2	8.8	0.22
TOTAL DIET	**72.0 lbs.**	**62.8%**	**16.2%**	**0.41%**

Please pay particular attention to phosphorus.
Your cows need a certain level of dietary phosphorus based on milk production:

To Get This Milk Production:	You Need This Diet Phosphorus (% of DM):
55 lbs/day	0.32%
77 lbs/day	0.35%
99 lbs/day	0.36%
120 lbs/day	0.38%

Your dietary phosphorous level falls here.

Dietary phosphorus above your cows' requirements is simply excreted in manure.
As manure phosphorus increases, so does the land area you will need to spread manure. The following table gives examples of the acres needed to recycle manure phosphorous through your crops, depending on the level of phosphorous in your feed.

Dietary phosphorous (% of DM)	Manure phosphorous (lbs/cow/year)	Spreadable acres needed (per cow)	Acres needed on a 100 cow dairy
0.35 %	42	1.6	160
0.38 %	47	1.8	180
0.48 %	65	2.4	240
0.55 %	78	2.9	290

P levels over 0.38% exceed NRC recommendations

MANURE COLLECTION

During our first interview, we asked the following questions by season (fall, winter, spring, summer):

1) The number of hours each day that your lactating cows, dry cows, young heifers of less than 7months in age and mature heifers of greater than 7 months spent outside (in pastures, feed bunk areas, barnyards, etc.),
2) The amount of manure you normally collect from these outside areas, and
3) How many days you considered to be in each season

Manure collection was calculated by subtracting from total manure production of each cow type the amount of manure that appears to be deposited outdoors and is uncollected.

"**Apparent" Manure Collection for your farm**

Cow type	**Hours per day spent outside**				**Manure Collection**
	Fall	Winter	Spring	Summer	**% of total** produced
Lactating cows	3	2	3	10	82
Dry cows	24	0	0	24	58
Young heifers (<7mo.)	24	1	0	24	56
Older heifers (>7mo.)	24	0	0	24	58
Total manure collection for the herd					72%

MANURE ANALYSIS (liquid)

Recall that you took manure samples when you were emptying your manure pit. Here are the nitrogen (N) and phosphorous (P_2O_5) content of those samples:

MANURE N AND P_2O_5 ANALYSES

Manure pit status	Dry matter (%)	Organic matter (%)	Total N (lbs per 1000 gal)	Total P_2O_5 (lbs per 1000 gal)
Full	7.4	80.5	7.1	2.5
2/3 Full	6.9	80.4	6.8	2.2
1/3 Full	7.3	80.8	7.1	2.4
Empty	8.7	82.1	7.2	2.6
Yearly average	**7.6**	**80.9**	**7.1**	**2.4**

Crop availability of manure N and P_2O_5

Only part of the applied manure N and P_2O_5 is actually available to the next crop. The availability of N from manure depends on whether the manure is incorporated. If manure is *not* incorporated, N is lost as ammonia gas.

Here is the likely availability of the manure N and P_2O_5 you applied (based on yearly average from above table):

	Nutrients available to crops during cropping season, after application	
	N (lbs per ton)	P_2O_5 (lbs per ton)
Manure not incorporated	2.1	1.5
Manure incorporated within 3 days	2.8	1.5

MANURE ANALYSIS (solid)

Recall that you took manure samples at various times during 2003 and 2004. Here are the nitrogen (N) and phosphorous (P_2O_5) content of those samples:

MANURE N AND P_2O_5 ANALYSES

Month	Dry matter (%)	Organic matter (%)	Total N (lbs per 1000 gal)	Total P_2O_5 (lbs per 1000 gal)
March '03	17.7	85.8	11.7	3.6
May '03	18.8	89.6	13.8	5.1
July '03	14.6	85.0	6.5	3.9
September '03	17.2	63.6	8.2	3.1
January '04	16.9	87.6	9.1	5.2
Yearly average	**17.0**	**82.3**	**9.9**	**4.2**

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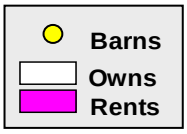
	Nutrients available to crops during cropping season, after application	
	N (lbs per ton)	P_2O_5 (lbs per ton)
Manure not incorporated	3.0	2.5
Manure incorporated within 3 days	3.9	2.5

Map Information and Legends

MAP #1: Farm Fields and their Ownership Status

This map displays each field on your farm, and whether you own it or rent it. This map also contains a scale bar in miles to give you some idea of the distances between fields. Finally, note the yellow dot on the map – using the aerial photos, we estimated this to be your main set of barns. The dot will appear on all of the maps in the packet, but it will only appear on the legend of this first map.



MAP #2: Slope of Fields

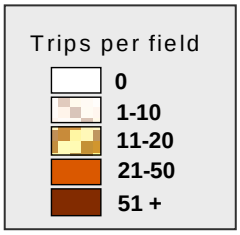
MAP #3: Cropping Cycle, 2003 and 2004

Displays the crop or other land use for each field in both 2003 and 2004. When compared side by side, they give a visual picture of the ongoing crop rotations on your farm. They also provided us with the information to determine any legume credits that may be applicable on your farm.

MAP #4: Total Manure Spreading Trips

MAP# 5: Manure-Spreading Trips, by season

For each field, the color or pattern indicates the number of times you went to that field to spread manure from October '03 through September '04. If you spread a single load on more than one field, each field was counted as receiving one trip.



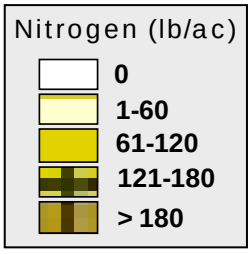
The seasons are broken down as follows:

- Fall: Oct. & Nov. 2003
- Winter: Dec. 2003, Jan., Feb., & March 2004
- Spring: April and May 2004
- Summer: June, July, Aug., & Sept. 2004

MAP #6: Available Nitrogen (various sources), Oct. '03 → Sept. '04

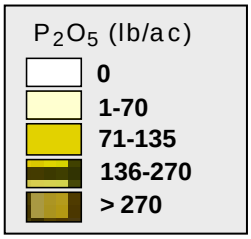
MAP #7: TOTAL Available Nitrogen, Oct. '03 → Sept. '04

The three images in Map #4 detail the amount of nitrogen potentially available to the crops in each field from three different sources: manure, commercial fertilizer, and legume credits. Map #5 simply combines these three and gives you total N per field for the year. The exact same color scheme is used for the P_2O_5 maps later. Note that the levels of available nitrogen relate to corn requirements, which may in turn relate to the 590 Standard:



- 1-60 lb/ac is well below corn requirements
- 61-120 lb/ac is below corn requirements
- 121-180 lb/ac is the normal range of corn requirements
- > 180 lb/ac likely exceeds corn requirements

MAP #8: P_2O_5 Inputs (various sources), Oct. '03 → Sept. '04
MAP #9: TOTAL P_2O_5 Inputs, Oct. '03 → Sept. '04



The two images in Map #6 detail the amount of P_2O_5 provided to each field from manure and commercial fertilizer for the entire crop year. Map #7 simply combines these two and gives you total P_2O_5 per field for the year. Note again the relationship between P_2O_5 levels and crop requirements:

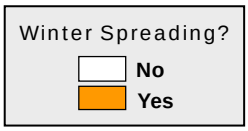
- 1-70 lb/ac is up to 1 year's needs for a standard crop rotation
- 71-135 lb/ac equals 2 years' needs for a standard crop rotation
- 136-270 lb/ac equals 3-4 years' needs for a standard crop rotation
- > 270 lb/ac likely exceeds 4 years' needs for a standard crop rotation

NOTE: THE FOLLOWING MAPS SHOW AREAS ON YOUR FARM POTENTIALLY IMPACTED BY THE USDA-NRCS 590 NUTRIENT MANAGEMENT STANDARD

While useful for planning purposes, these maps are meant to show our best estimate of what the proposed state "590 Rule" will mean on your land. Because the 590 Standard has not been finalized or formally approved yet, it is impossible to know with certainty what types of lands might be restricted for manure application, particularly in the winter months. Once the 590 Standard is adopted, you should determine the impacts on your farm on a field-by-field basis with the help of an agronomic consultant.

Base Map for Overlays: Fields that received manure in WINTER '03-'04

This map simply displays which fields received any manure at all in December, January, February, or March. Its purpose is to serve as the base map for the transparencies which follow. Read on for more information.



Overlay #1: Bodies of Water Close to Your Farm

Overlay #2: Winter Manure-Spreading Buffers

This transparent sheet is meant to be laid on top of the base map, in order to see where the water buffers which would be imposed by the 590 Standard would lie. As currently written, the 590 Standard would require a 300-foot buffer zone around perennial streams and rivers, and a 1000-foot buffer zone around ponds, lakes, and reservoirs. No manure would be allowed to be spread inside of the buffer zones when the ground is frozen or covered by snow.

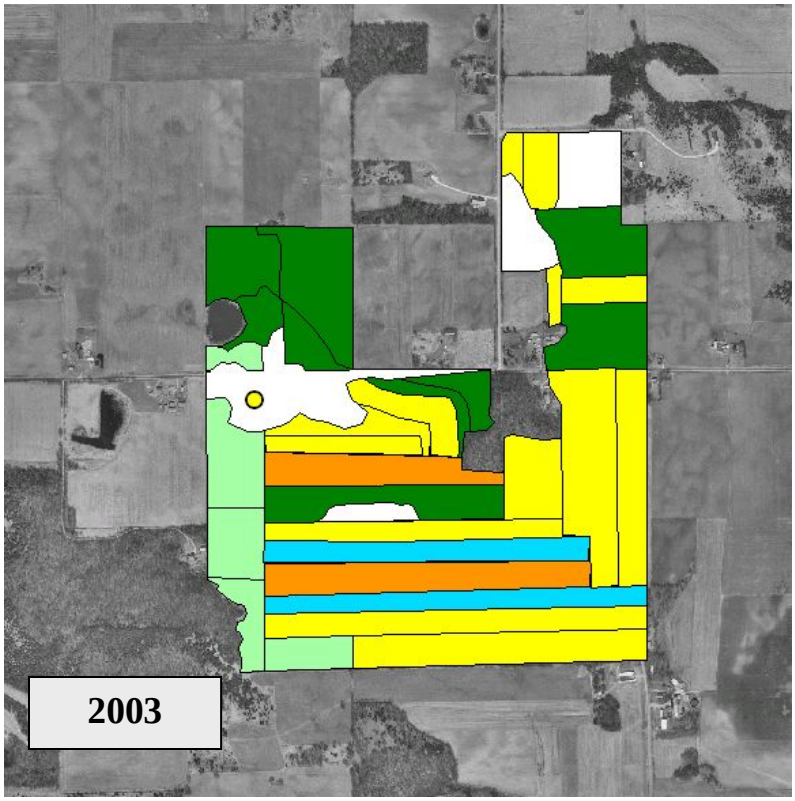
Overlay #3: Winter Manure Land Affected by Buffers

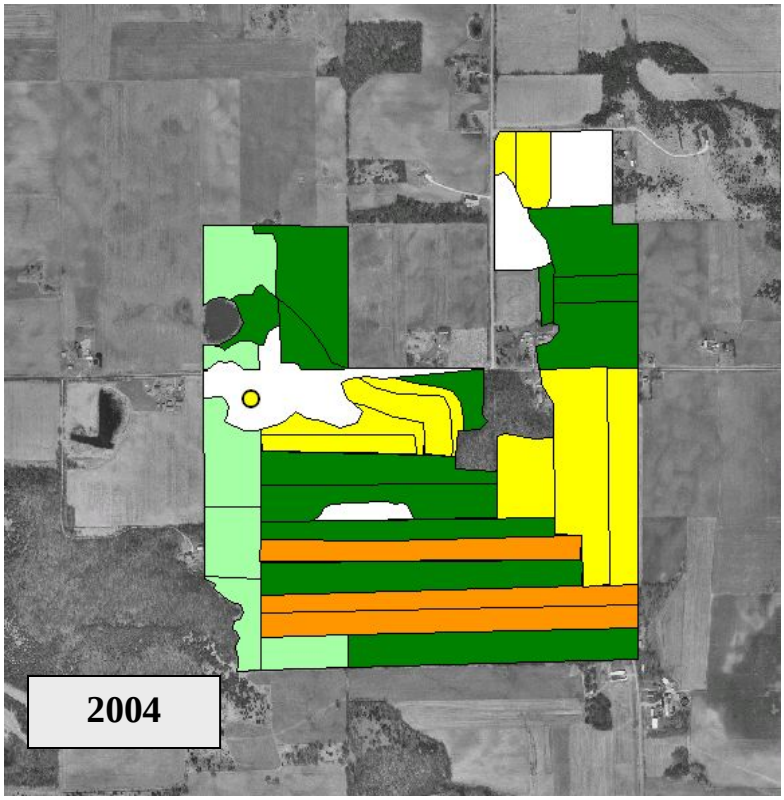
The final transparent sheet displays parts of your farm where manure was spread within the "No Manure-Spreading Buffer".

MAP #1: Farm Fields

MAP #2: Slope of Fields

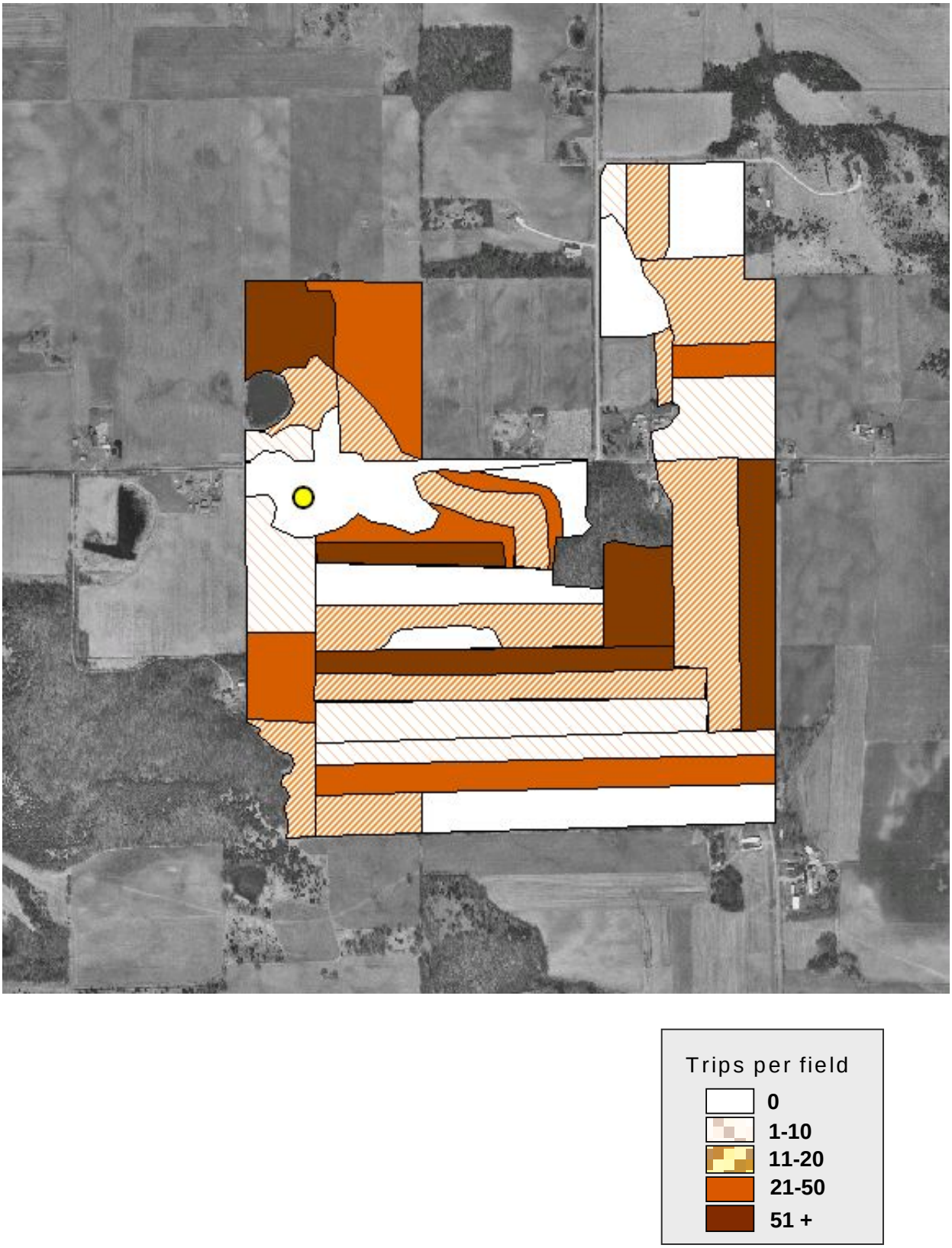
MAP #3: Cropping Cycle, 2003 and 2004



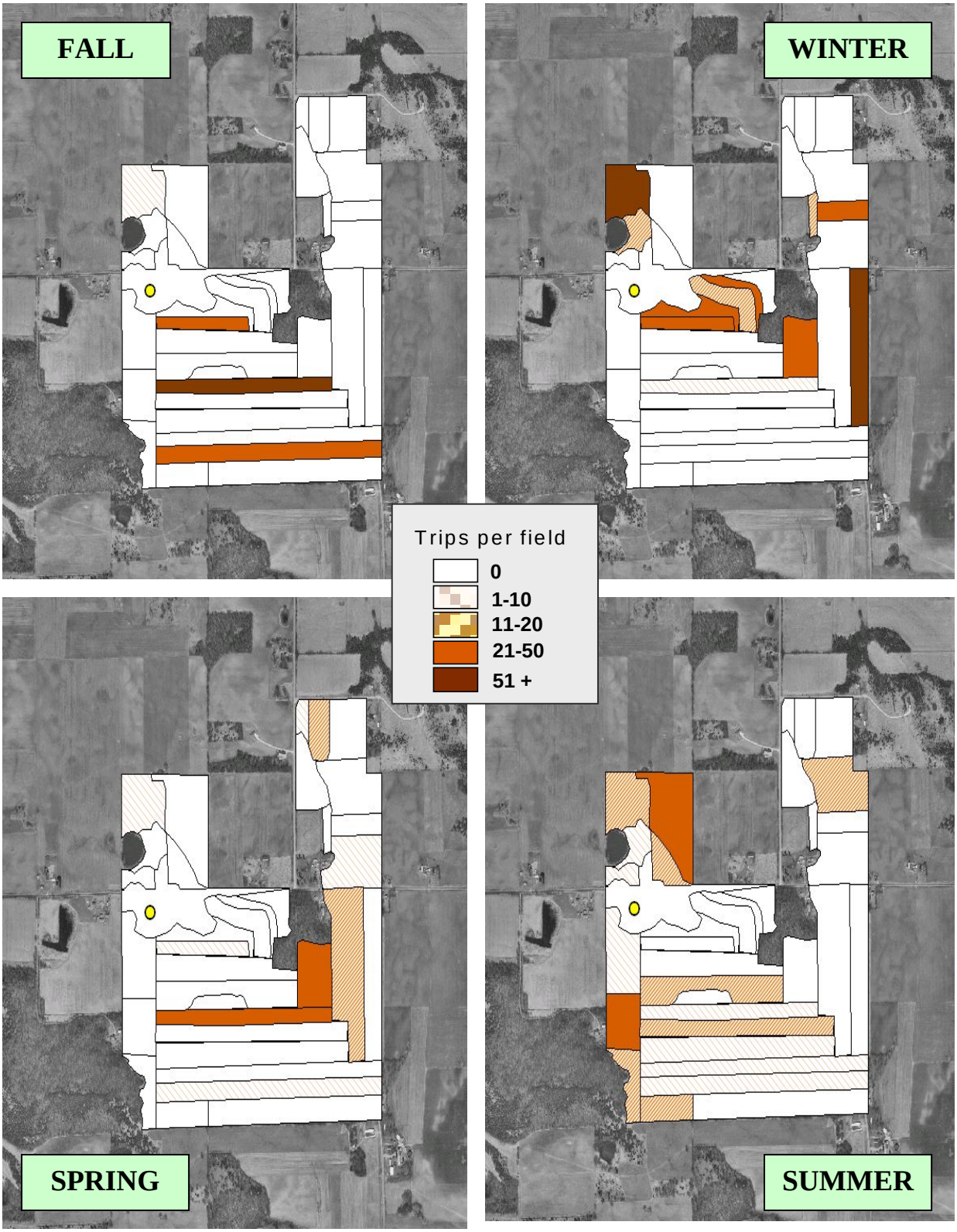


Corn
Hay
Soybeans
Small Grains
Barns, Concrete, Trees, etc
Pasture/CRP/Fallow

MAP #4: Total Manure-Spreading Trips, Oct. 2003 → Sep. 2004



Map #5: Manure Spreading Trips, By Season



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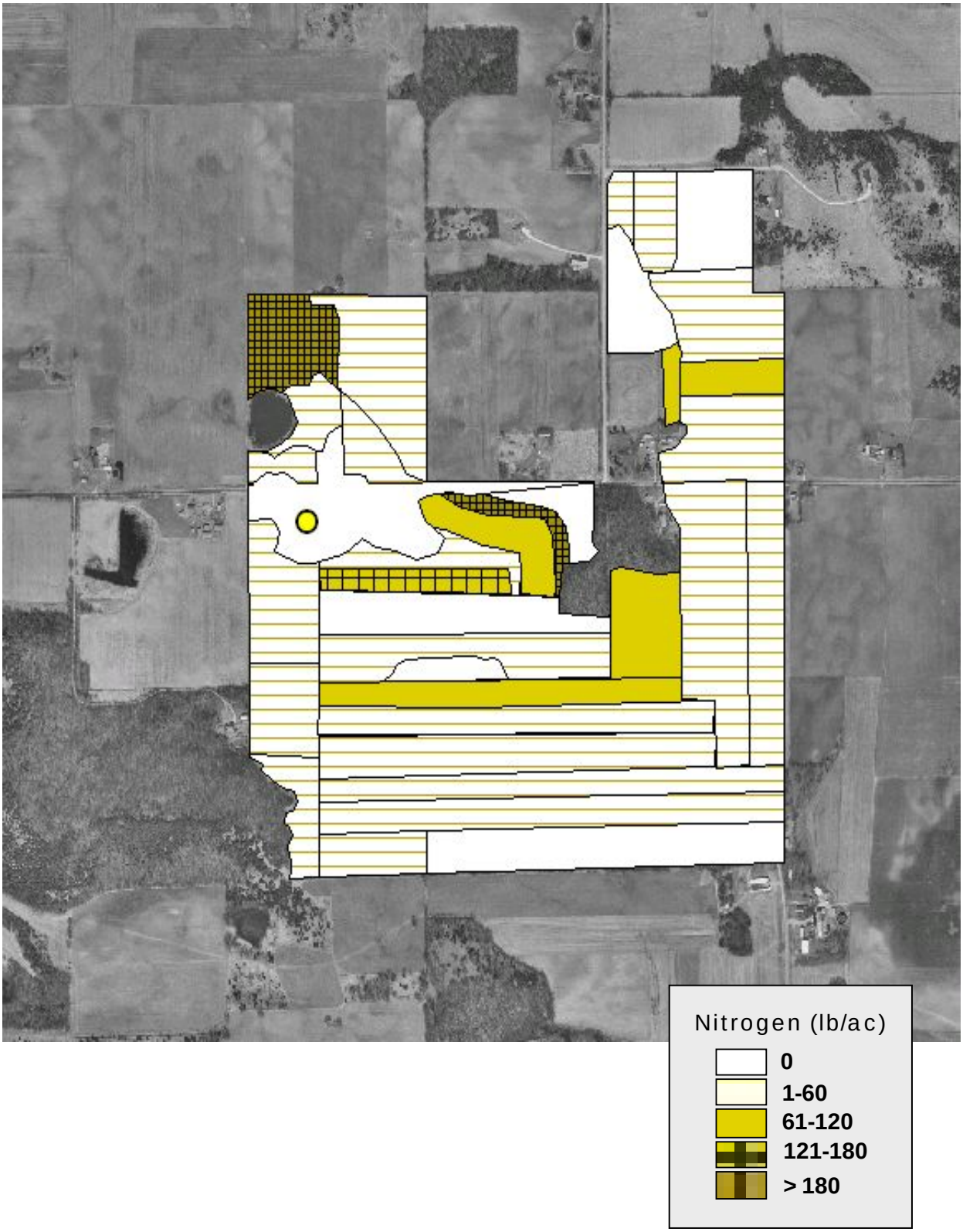
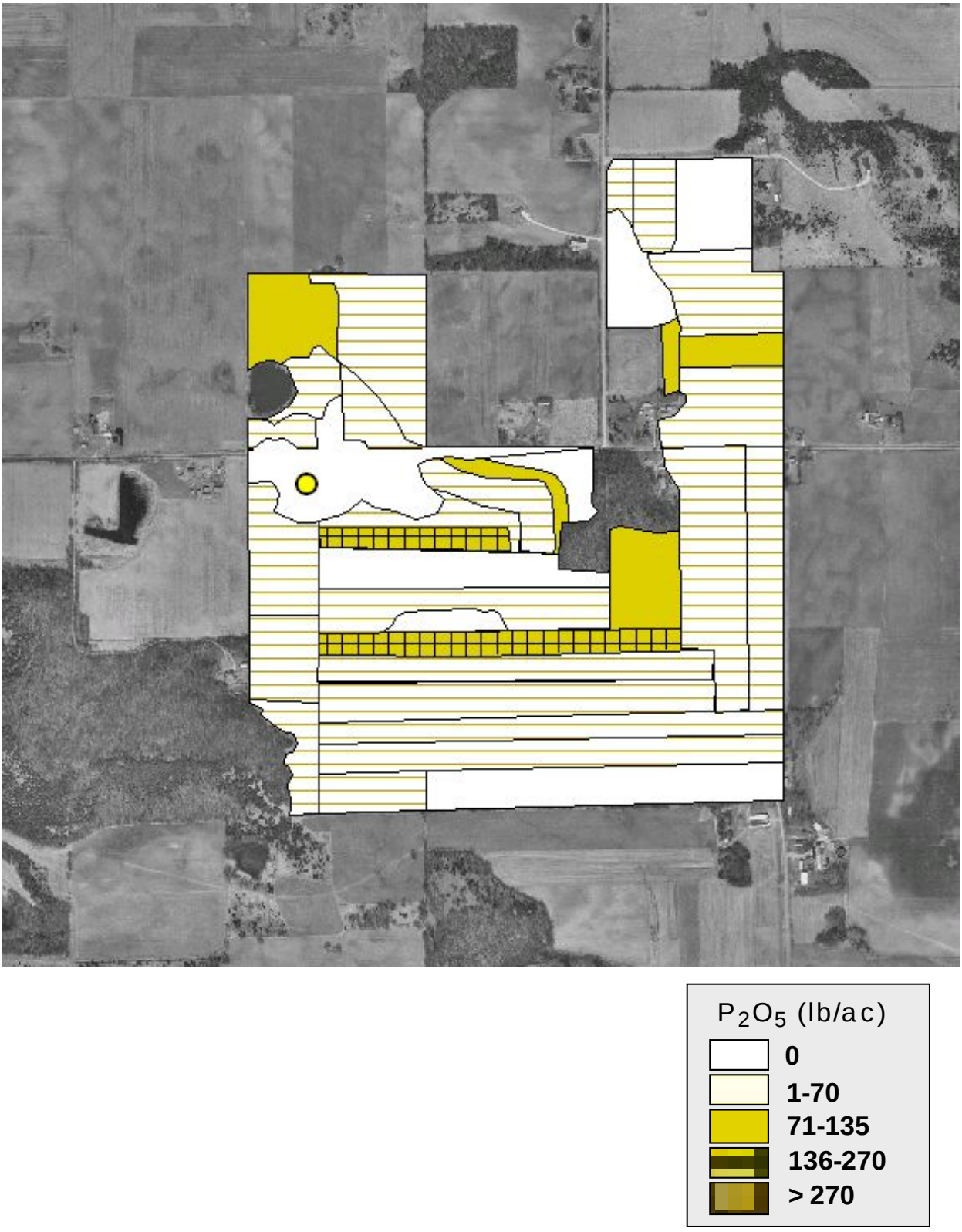
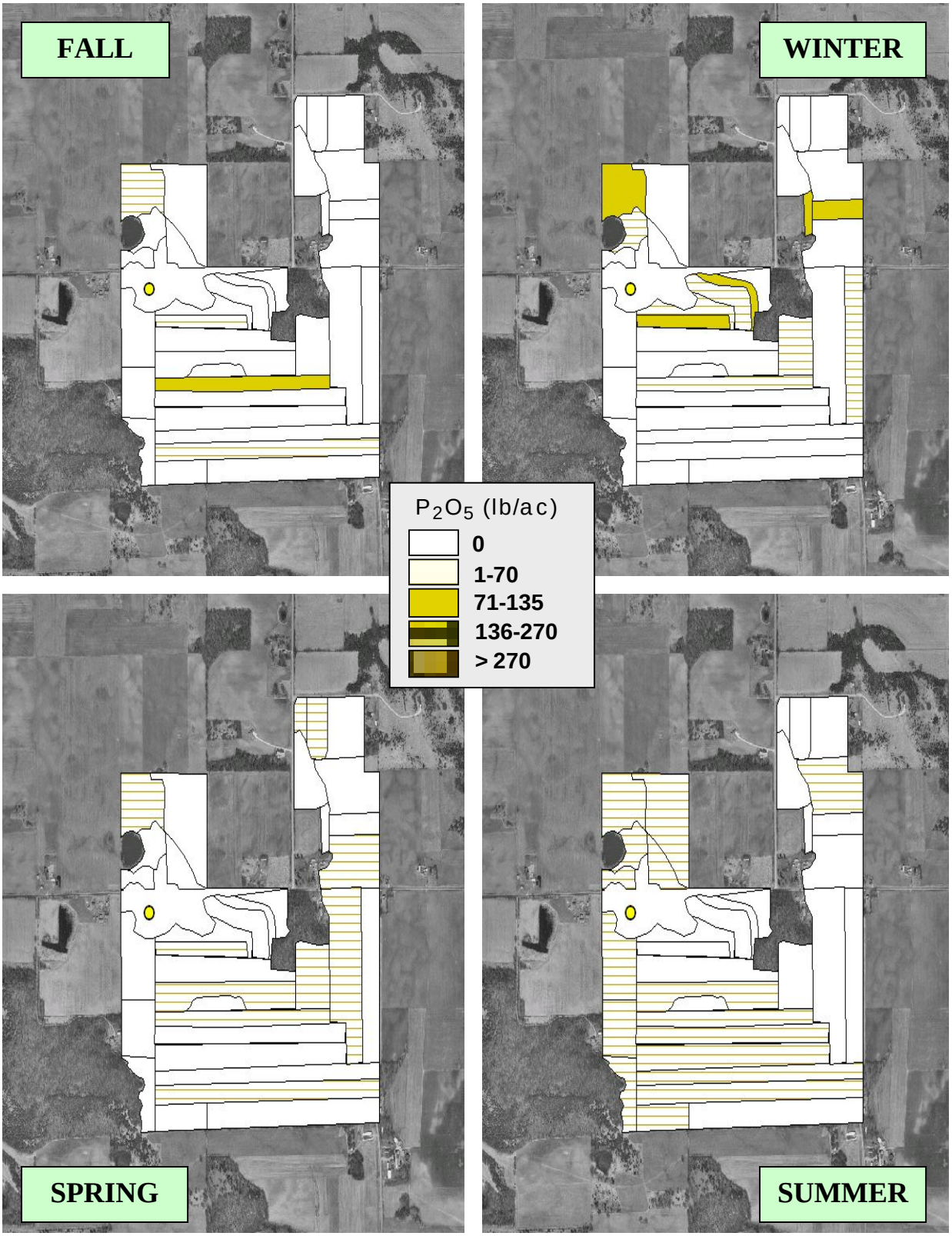


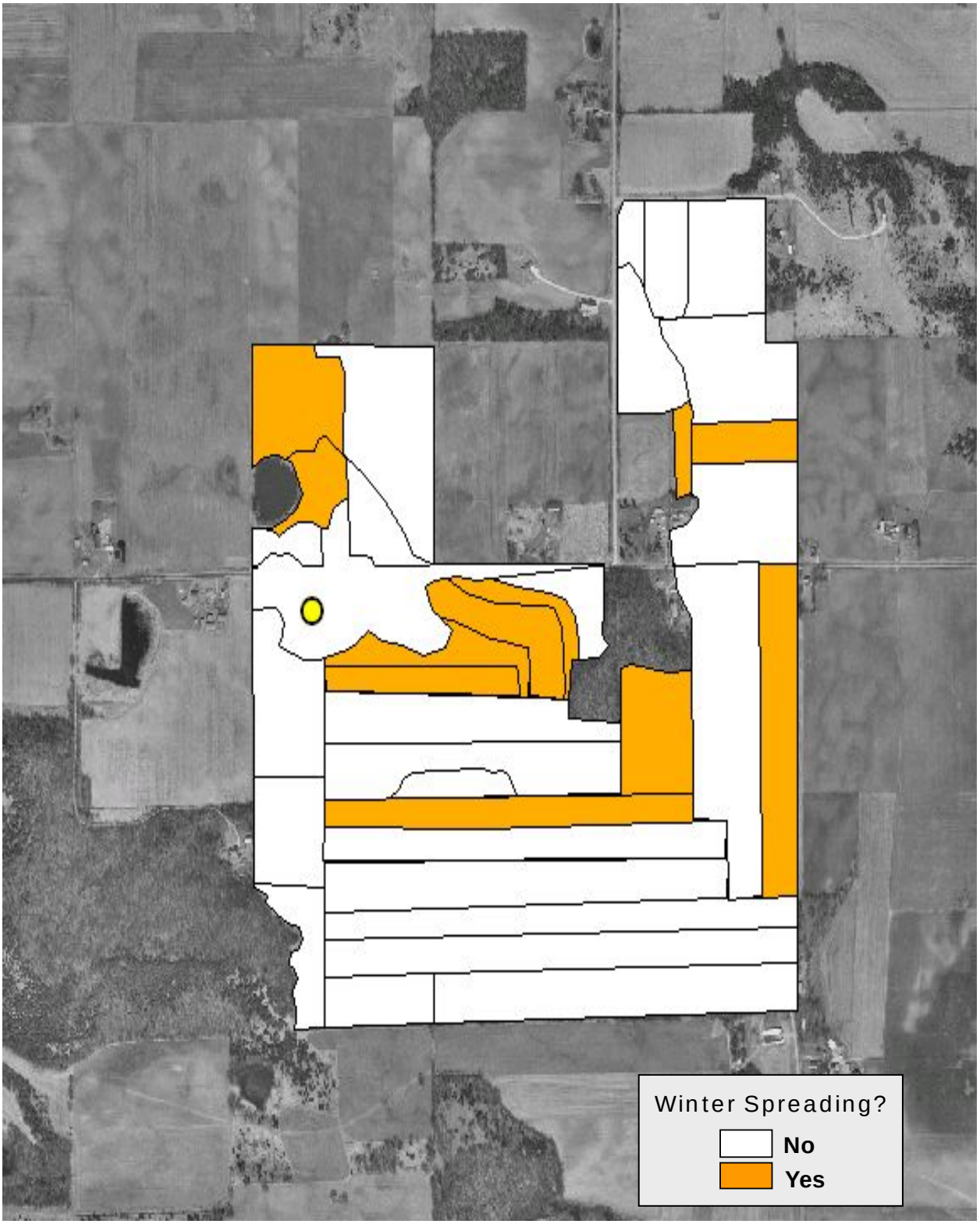
MAP #8: P_2O_5 Inputs (from manure), Oct. '03 → Sep. '04



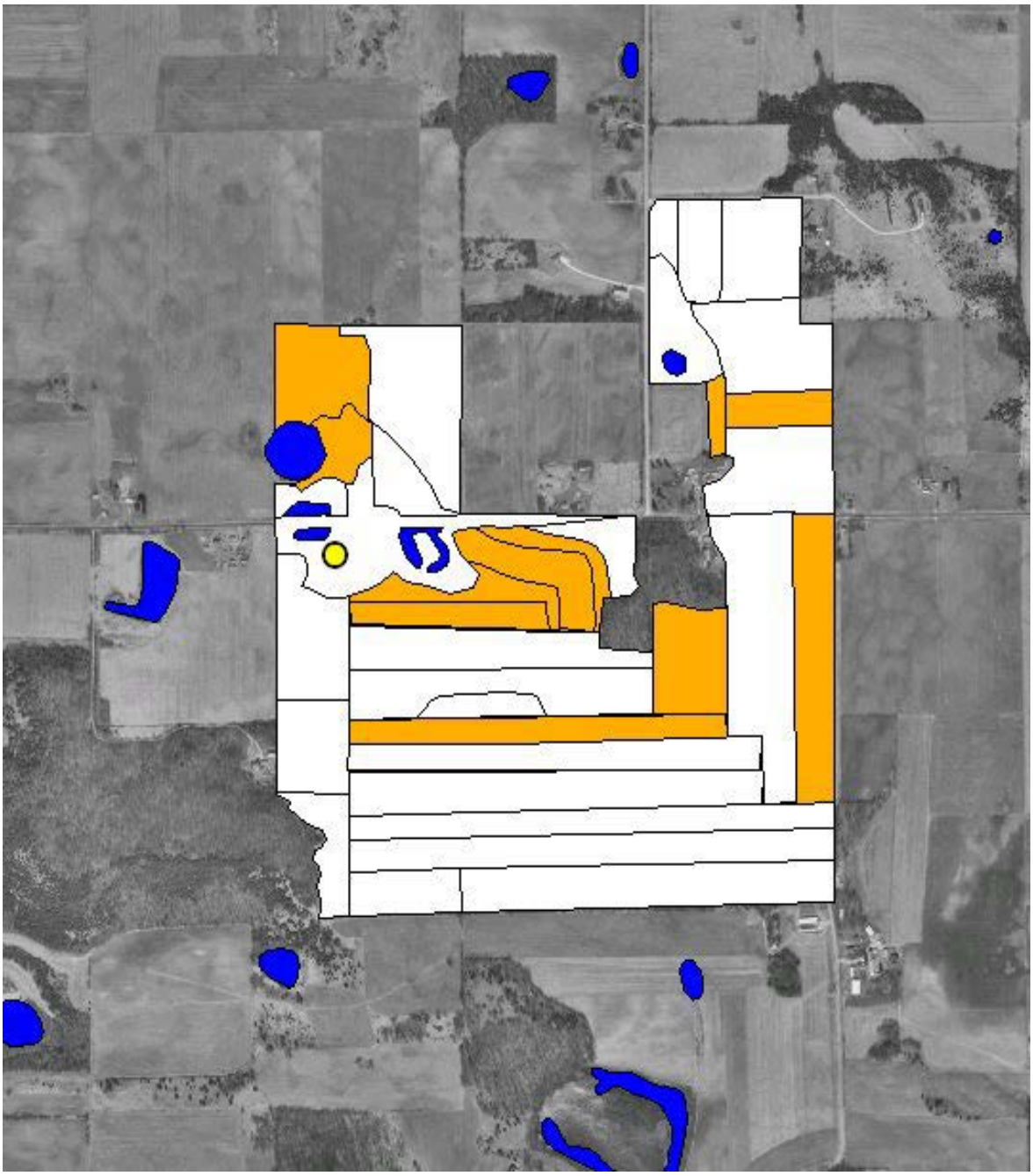
MAP #9: P_2O_5 Inputs from Manure, By Season



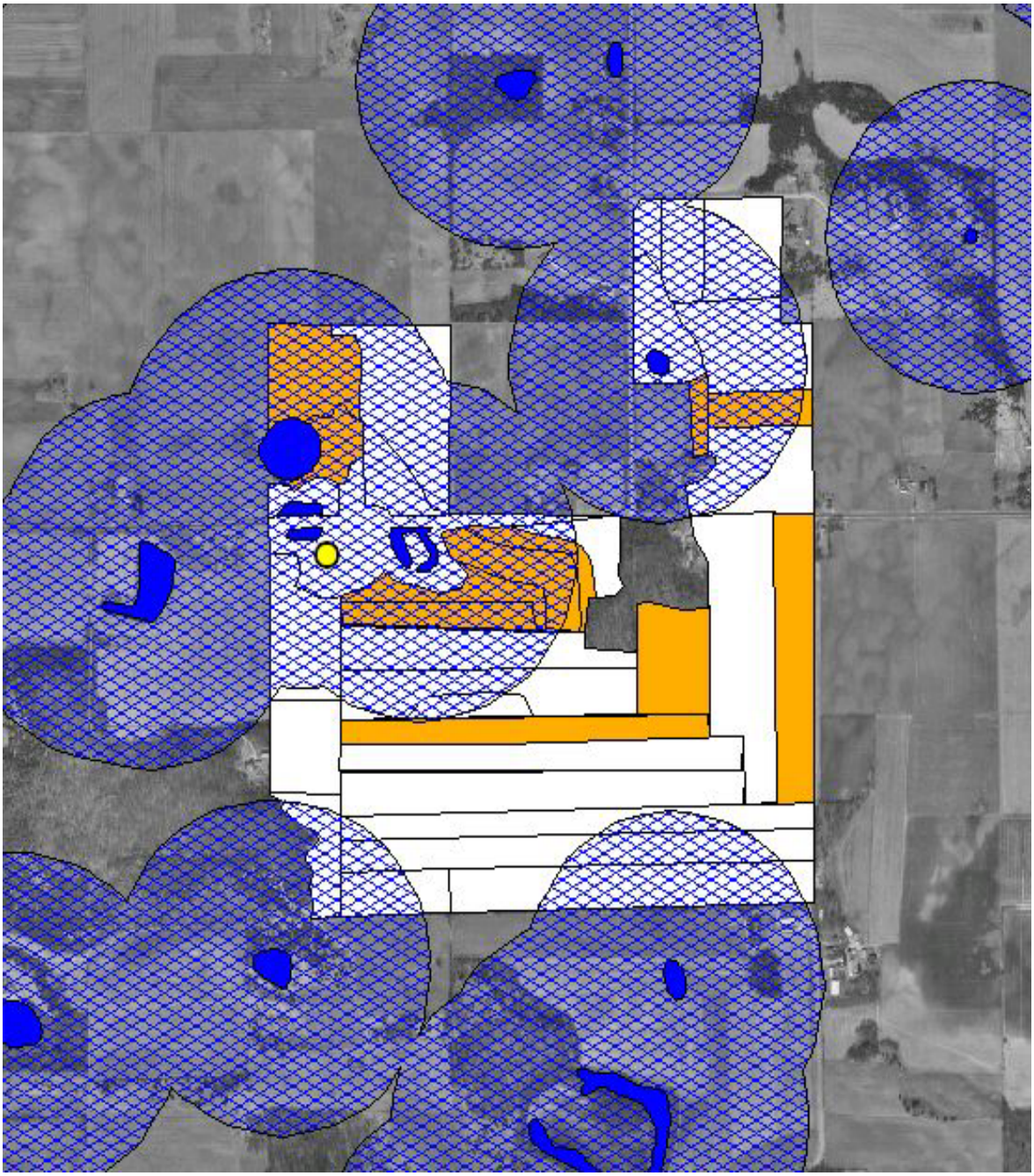
Base Map for Overlays:Fields that received manure in WINTER ’03-‘04



Overlay #1: Bodies of Water Close to Your Farm



Overlay #2: Winter Manure Spreading Buffers According to 590 Standard



Overlay #3: Winter Manure Land Affected by Buffers = 36 acres (61%)