HUTCHINSON
FARM MANAGEMENT, INC.

103 South Center Street • Geneseo, Illinois 61254
Phone (309) 944-2184 FAX (309) 944-2327

RECEIVED
JAN 13 1999
ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY
BOW/WPC/PERMIT SECTION

January 11, 1999

Mr. Eric Ackerman
Illinois Environmental Protection Agency
5415 North University
Peoria, IL 61614

Re: **Robert Andrews Swine Farm**

Dear Mr. Ackerman:

Enclosed please find a copy of a letter received January 8, 1999 from Bruce J. Yurdin of the Illinois Environmental Protection Agency regarding the Robert Andrews Swine Farm NPDES permit application he received March 2, 1998.

Please forward to Bruce J. Yurdin a copy of the Manure Management Plan and Engineering Study for Robert Andrews Swine Farm dated March 25, 1998, and forwarded to you prior to April 1, 1998. The Manure Management Plan and Engineering Study would answer most if not all of the questions raised by Mr. Yurdin in his January 6, 1999 letter.

All hogs at the Robert Andrews Swine Farm were liquidated and removed from the farm on August 28, 1998. We have had no hogs at the farm since that date. The Robert Andrews Swine Farm may or may not have hogs on the farm in the future. The economics of the hog business will dictate the type of animal and type of use each structure or building may have in the future. At the present time, no profit can be made from a swine enterprise with prices at 40 year record lows.

Robert Andrews and Hutchinson Farm Management, Inc. have been diligent in their efforts to comply fully with the Agreed Preliminary Injunction Order dated December 19, 1997 and signed by Robert Andrews. Our understanding of the requirement for a NPDES Permit was for the "reporting requirements" of any manure discharge in the future. In 1998, "reporting requirements" for manure discharges were added to the Illinois Livestock Waste Facilities Act. We want to ask the question if the NPDES Permit should continue to be a requirement for the Robert Andrews Swine Farm with the enacted changes in 1998 in the Illinois Livestock Waste Facilities Act.

The Robert Andrews Swine Farm was leased on a 50/50 livestock share lease to Charles Taets when the previous manure problems did occur. Robert Andrews terminated the livestock share lease with Chuck Taets and he gave up full possession of the farm on September 2, 1998. Subsequently, in the fall of 1998, Charles Taets declared bankruptcy and is no longer involved or associated with the Robert Andrews Swine Farm. In December of 1998, the north lagoon, the south lagoon, and the pit in the confinement finishing building were completely pumped of liquid hog manure and injected on the tillable acres of the Robert Andrews Farm.

Robert Andrews and Hutchinson Farm Management, Inc. felt the January 6, 1999 letter with a request for additional information be submitted to the Illinois Environmental Protection Agency after nine months of already providing the Manure Management Plan and Engineering Study dated March 25, 1998, to be burdensome and unreasonable. Robert Andrews and Hutchinson Farm Management, Inc. remain committed to fully cooperating and providing any information requested by the Illinois Environmental Agency. If Bruce J. Yurdin, after review of the Manure Management Plan and Engineering Study dated March 25, 1998, would have any questions or need additional information, we would certainly cooperate fully. We respectfully ask with the changes in the Illinois Livestock Waste Facilities Act if the NPDES Permit should still remain a requirement. We look forward to your response.

Sincerely,

HUTCHINSON FARM MANAGEMENT, INC.

R. Edward Kiefer

REK:cjm

Enclosure

cc: Bruce J. Yurdin
Chuck Gunnarson, IEPA/DLC
Jane McBride, Attorney General's Office
Robert Andrews
Clark Stojan, Attorney at Law
Reynolds Everett, Attorney at Law
Senator Todd Sieben

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276 Mary A. Gade, Director

217/782-0610

January 6, 1999

Robert Andrews Swine Farm
c/o Mr. Edward Keifer
Hutchinson Farm Management, Inc.
103 South Center Street
Geneseo, Illinois 61254

Re: Robert Andrews Swine Farm -- Geneseo
NPDES Permit No. IL0072842
Notice of Incomplete Submission

Dear Mr. Keifer:

The Application for Permit received March 2, 1998 for the above listed project has been reviewed and has been determined to be an incomplete submission for purposes of review towards the issuance of a NPDES Permit.

The following specific additional information must be submitted by March 1, 1999 in order that we may continue our review:

1. Please indicate the anticipated maximum number of animals that can be housed in the two confinement buildings, the gestation barn/feedlot and the Cargill/breeding unit. Please indicate the type of animal (i.e., piglets, feeders, sows, boars, etc.) and the average weight of such animals housed in these areas.

2. Please provide complete dimensions and the estimated capacities for each of the livestock waste handling structures. Please indicate the date that each of the structures was installed.

3. Please provide a plot plan drawing of the facility which depicts the arrangement of all of the livestock waste handling structures and buildings. Please also indicate (by narrative, flow arrows, elevations, contour lines, etc.) the manner in which surface runoff is drained from the site. Please also include details of drainage diversion structures (i.e., guttering on buildings, berms, concrete walls, ditches, etc.) used to prevent surface runoff from entering livestock waste handling structures. Please provide dimensions for all areas tributary to the livestock waste handling structures that do not have uncontaminated surface runoff diverted away from the livestock waste handling structures.

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4. Based on the anticipated maximum number of animals at the facility, please provide the following:

   A. Calculations indicating the amount of livestock waste produced at the site annually.

   B. Calculations indicating the number of acres required annually for livestock waste application such that the agronomic rate of nitrogen required by the crop grown will not be exceeded.

   C. Please indicate the number of acres for which access has been secured for land application of livestock wastes. Please identify these areas on a plat map and indicate the number of acres of each parcel of land that may receive livestock waste application.

   D. For those parcels not owned by Robert Andrews, please provide a letter from each different landowner of the cropland stating approval for the Robert Andrews Swine Farm to apply livestock wastes to the cropland.

   For all submitted calculations, please indicate any assumptions made and the source of all information used for the calculations and assumptions made.

If for any reason you cannot supply the above requested information within the time period allowed, please explain the reasons in writing and state when the information will be submitted. Failure to respond within the specified time period could be cause for Denial of your NPDES Permit. Include on all correspondence the above proposed NPDES Permit No.

Should you have any questions or comments regarding the above, please contact David Ginder at the above phone number and address.

Sincerely,

Bruce J. Yurdin
Manager, Watershed Unit, Permit Section
Division of Water Pollution Control

BY:DPG:72842rl.doc

cc: DWPC, FOS, Peoria
Records
Chuck Gunnarson, IEPA/DLC

IEPA - PEORIA REGION

To: Bruce Yurdin/
Dave Ginder

MANURE MANAGEMENT PLAN & ENGINEERING STUDY

for

ROBERT ANDREWS SWINE FARM
CHARLES TAETS – FARM OPERATOR
GENESEO, IL
March 25, 1998

I. GENERAL INFORMATION

II. MANURE STORAGE & NITROGEN PRODUCTION

III. PLANT AVAILABLE NITROGEN

IV. FIELD IDENTIFICATION

V. CROP AND NITROGEN APPLICATION TABLE

VI. WASTE DISPOSAL RECORD

VII. APPENDIXES

A. Field locations and maps:

B. Application agreements, if any:

C. Manure Laboratory Analysis

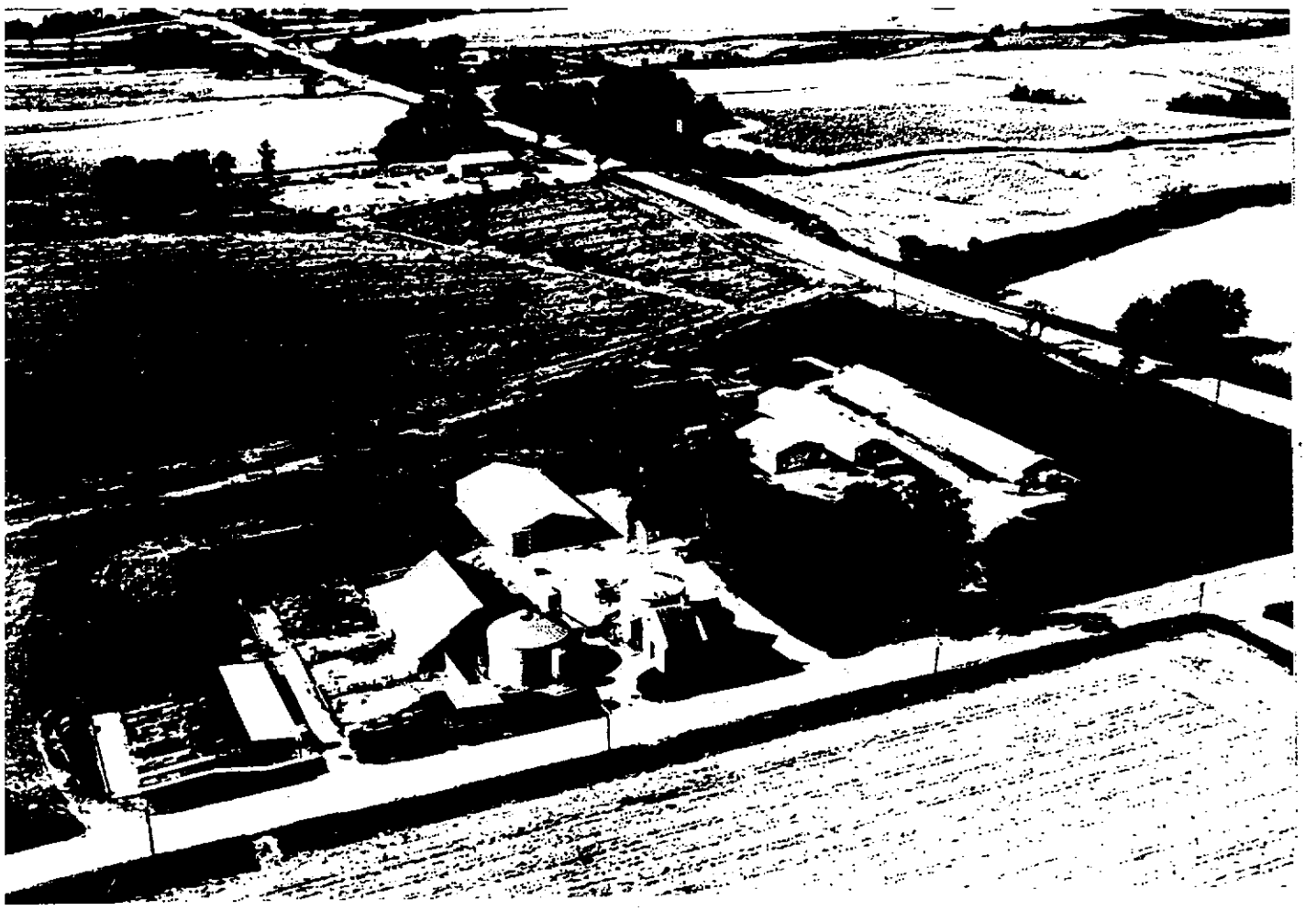
D. Reference Tables - Standard Values

E. General Application Statements

letter exp. Situation for mgmt. plan & LMFA + pit not covered!

Prepared by: Steve Wiedman, PhD., CCA, CPAg
Mowers Soil Testing PLUS, Inc.
117 E. Main St
Toulon, IL 61483
ph 309-286-2761

AERIAL VIEW OF FARMSTEAD



NITROGEN CALCULATIONS for Robert Andrews Swine Farm
Geneseo, IL

Plant Available Nitrogen Calculation: analysis= 8-4-8 with 2% NH4-N
36-24-35 with 24% NH4-N

Lagoon:	8 # N/1000 gal	less 20 % storage loss =	6.4 # N
	6.4# N	less 20 % application loss =	**5.1 # N**
Pit:	36 #N/1000 gal	less 20 % storage loss =	28.8 # N
		less 20 % application loss =	**23.0 # N**

Total Nitrogen available per year:

1,050,550 gal x 8 # N/1000 gal = 8404 # total N produced annually
less storage loss (20 %)= 6723.5 # total N
110,000 gal x 36 # N/1000 gal = 3960 # total N
less storage loss (20%) = 3168 # total N
TOTAL = 9891.5 # N

Plant Available Nitrogen over 4 Years/1000 gal:

# Organic N available	3	12

	Mineralization factors			Lagoon PAN/ yr	Pit PAN/yr
Year 1				**5.1**	**23.0**
Year 2	0.5			**6.6**	**29.0**
Year 3	0.5	0.25		**7.4**	**32.0**
Year 4	0.5	0.25	0.125	**7.7**	**33.5**
Year 5				**5.1**	**23**

Verified Crop Yields:

		N req'd./A
Corn	**144 bu/A**	180
Soybeans	**49 bu/A**	245
Oats	**60 bu/A**	70

Maximum manure application/acre/year if applied every year on year 4 & after:

		gal/A		*N use/bu*	*PAN*
Lagoon	Corn after Corn	23,377	(year 4)	1.25 #N/bu	7.7 # N
	Corn after SB	18,181	(year 4)		
	Soybeans	31,818	(year 4)	5 #N/bu	
	Oats	9,091	(year 4)		
Pit	Corn after Corn	5,373			33.5 # N
	Corn after SB	4179			
	Soybeans	7313			
	Oats	2090			

V. Crop & Nitrogen Application Table

Robert Andrews Swine Farm
Geneseo, IL

			Field ID	Acres	Crop N	N Credits	N needed	gal./ acre applied	Total gal. applied	# N per 1000 gal	Manure N/acre	Fertilizer needed
YEAR 1		1998										
	Sp		North - 2	21	180	0	180	4348	91304	23	100	80
			North - 1	21	180	25.5	154.5	13348	280300	5.1	68	86
	Su		South - 1	21	180	0	180	19048	400000	5.1	97	83*
	Fall		South - 1	21	180	97	83	3609	75789	23	83	0
			South - 2	21	70	0	70	13725	288235	5.1	70	0
YEAR 2		1999										
	Sp		North - 3	21	180	0	180	4348	91308	23	100	80
			North - 3	21	180	100	80	13725	288235	5.1	80	10
	Su		South - 2	21	180	0	180	19048	400000	5.1	97	83*
	Fall		South - 2	21	180	97	83	13725	290835	5.1	83	0
			South - 4	27	180	0	180	10381	280300	5.1	53	127*
YEAR 3		2000										
	Sp		South - 4	27	180	53	127	3704	100000	23	85	42*
			South - 4	27	180	138	42	8235	222253	5.1	42	0
	Su		South - 3	21	180	0	180	19048	400000	7.4	141	39*
	Fall		South - 3	21	180	141	39	5270	110675	7.4	39	0
			North - 1	21	70	0	70	9459	198649	7.4	70	0

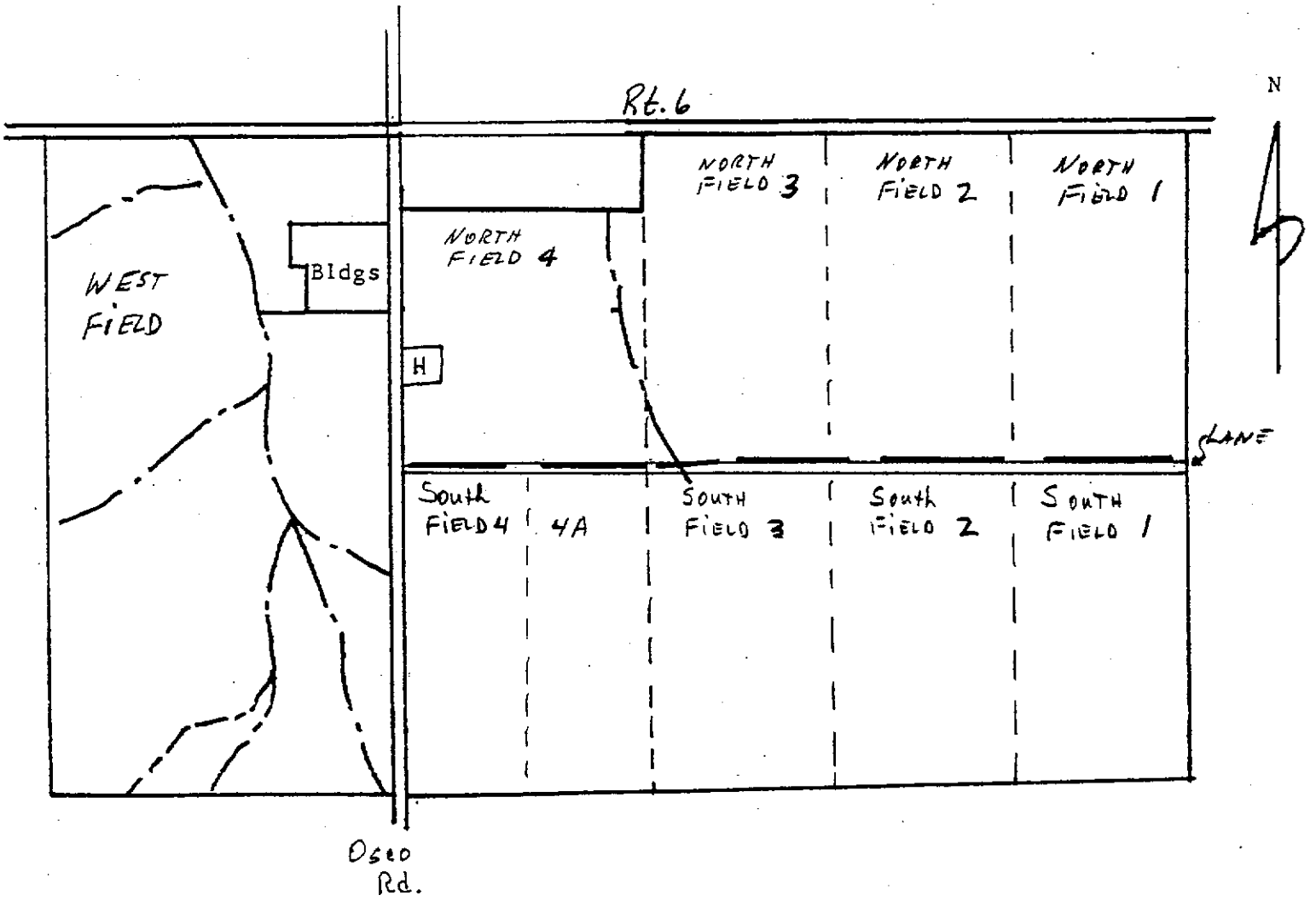
VI WASTE DISPOSAL RECORD

for Robert Andrews Swine Farm
Geneseo IL

Date	Field ID	Applic. Method	# of Loads	Total gal.	Applied Acres	Total gal applied/A	# N/A applied	
4/20/98	*South 40*	*broadcast*	*10*	*25000*	*5*	*5000*	**25.5**	Example

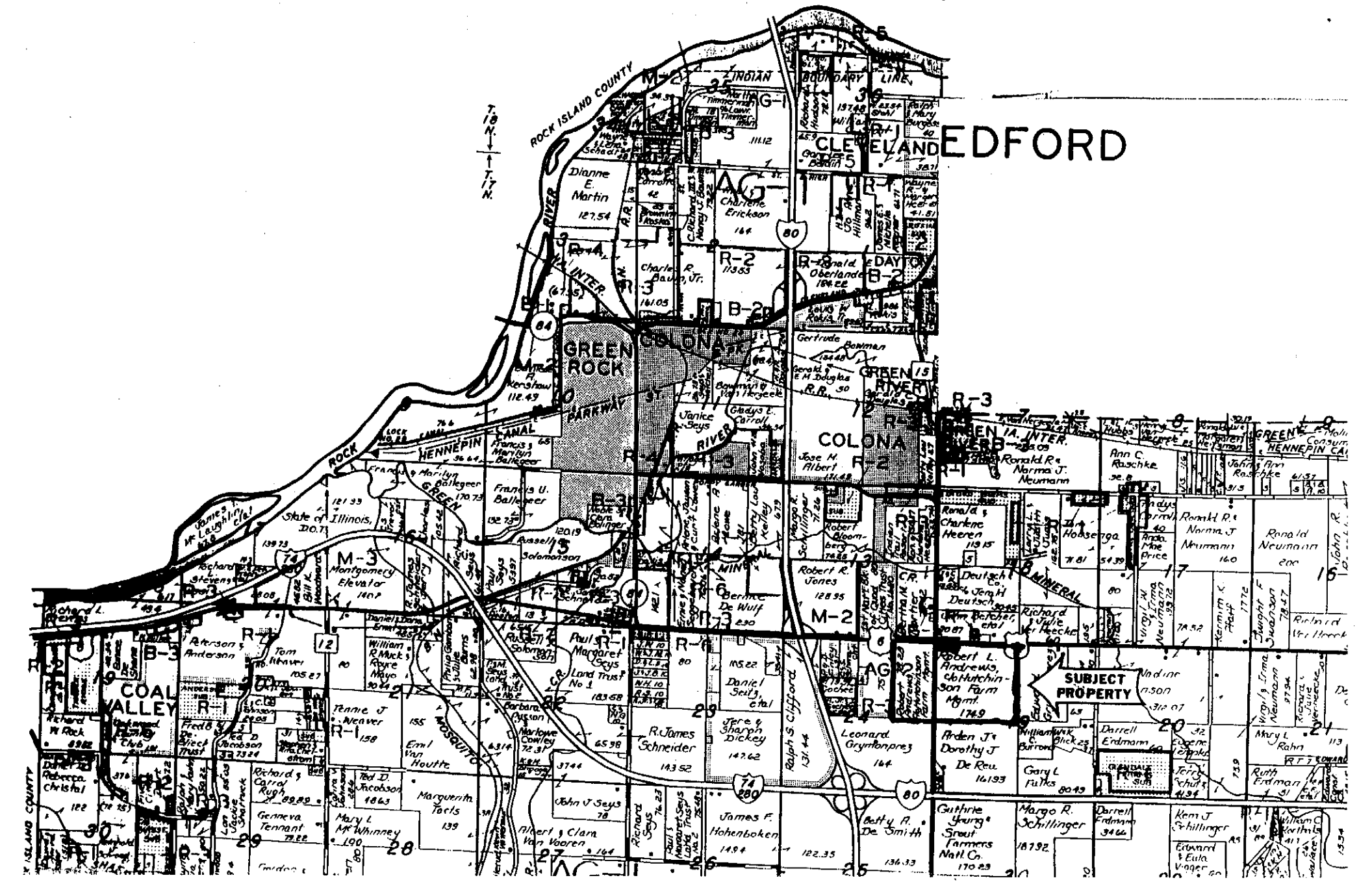
FIELD ID

ANDREWS SWINE FARM

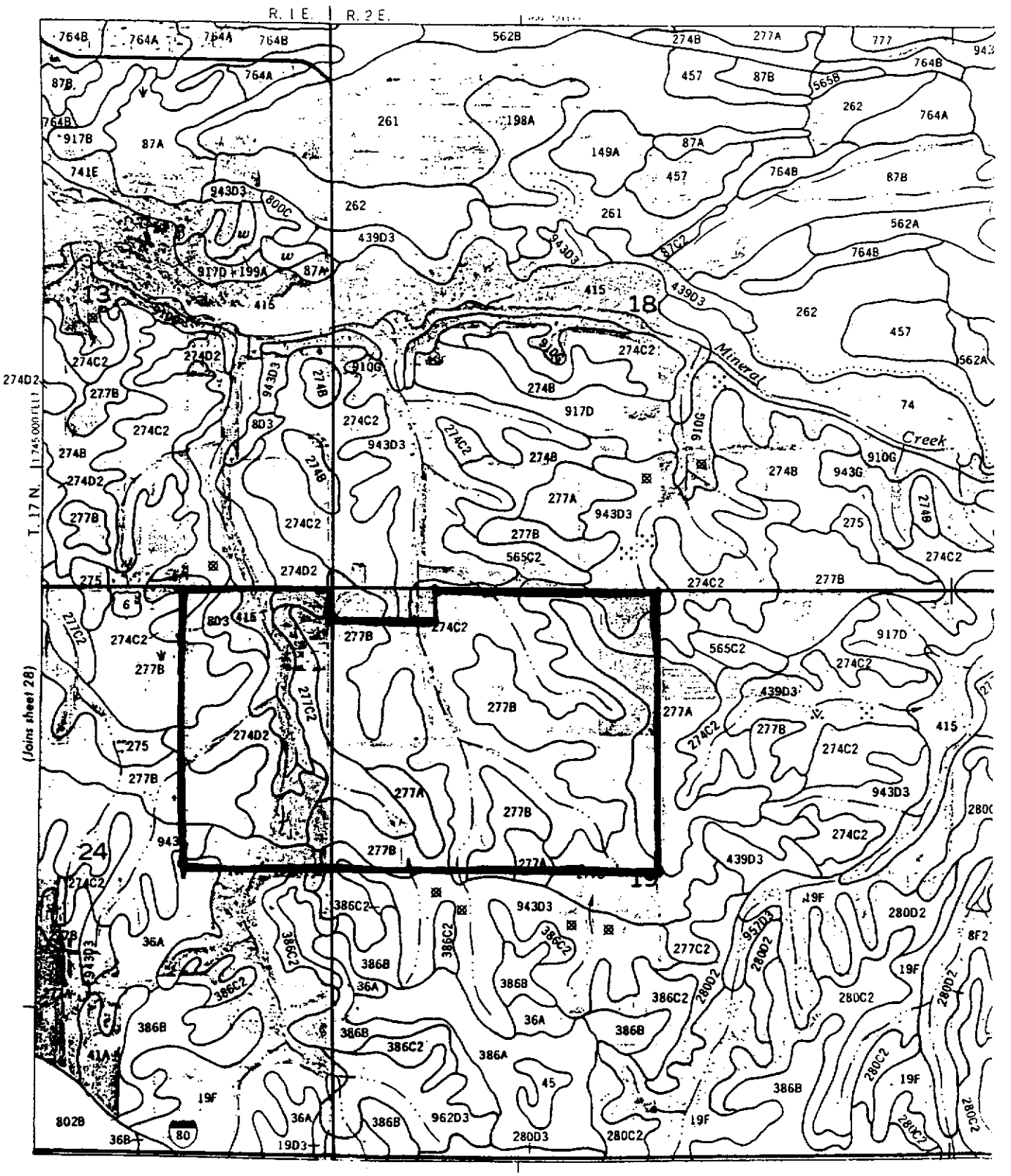


Location Map

COLONA T.17-18N.-R.1E.


ROCK ISLAND COUNTY
T. 18 N.
T. 17 N.
INDIAN BOUNDARY LINE
CLEVELAND
EDFORD
DAYTON
GREEN ROCK
COLONA
GREEN RIVER
ROCK RIVER
HENNEPIN CANAL
PARKWAY
M.R. & I. INTER.
C.B.Q.
C.R.I. & P.
MINERAL
SUBJECT PROPERTY
COAL VALLEY
MOSQUITO
Robert L. Andrews, c/o Hutchinson Farm Mgmt.
Leonard Grymonpre
Margo R. Schillinger
Guthrie Young Strout Farmers Nat'l Co.
Arden J. & Dorothy J. De Reu
Gary L. Fultz
Darrell Erdmann
Kent J. Schillinger
Ronald Neumann
Ann C. Raschke
Ronald R. & Norma J. Neumann
Robert R. Jones
Jose M. Albert
Janice Seys
Gladys L. Carroll
Gertrude Bowman
Ronald Oberlander
Charlene Erickson
Dianne E. Martin
Charles R. Bauer, Jr.
Francis U. Ballegeer
Francis & Marilyn Ballegeer
Bernice De Wulf
Daniel Seys, et al
R. James Schneider
Tere & Sharon Dickey
Paul & Margaret Seys Land Trust No. 1
Barbara Dyson
Marlowe Cowley
Emil Van Houtte
Marguerite Faris
John V. Seys
Albert & Clara Van Vooren
James F. Hohenboken
Betty R. De Smith
Richard Seys
Paul & Margaret Seys Living Trust No. 2
Jeanne Seys
Ralph S. Clifford
Jerry Lee Kelley
Robert Bloomberg
Richard & Julie Deutsch
Jenji Deutsch
Richard & Julie Verheecke
Ronald & Charlene Heeren
Ronald R. & Norma J. Neumann
Ann Mae Price
Hobsenga
Virgil H. & Erma Neumann
Kenneth K. Hart
Dwight F. Swanson
Richard Verheecke
Mary L. Rahn
Ruth Erdmann
Terry Schutt
Darrell Erdmann
Margo R. Schillinger
Kent J. Schillinger
Edward & Eula Vogel
William C. Kerthils
Richard & Julie Verheecke
Richard & Carol Rugh
Richard W. Rock
Rebecca Christal
Fred & Ted D. Jacobson
Tom Weaver
Peterson & Anderson
William R. Mack & Rayne Mayo
Dennie J. Weaver
Geneva Tennant
Mary L. McWhinney
Richard & Carol Rugh
Richard Stevens
James McLaughlin
State of Illinois, D.O.T.
Bill K. Hoadley
Montgomery Elevator
Russell & Solomonson
Daniel & Donna Ernst
Philip Gordon
Scottie Farms
Richard Seys
Paul Seys
Jerry Lee Kelley
Alene A. Mace
Arlene Susan Curt Lawson
Margo R. Schillinger
Robert Bloomberg
Gerald & E.M. Douglas
Bowman & Van Hoegeek
Charles R. Bauer, Jr.
Ronald Oberlander
Charlene Erickson
Harry J. Barnes
Richard & Mary Burgess
Richard Hudson
Timmerman & Lawn. Timmerman
Wayne & Lorna Schadrack
Gordon Barton
Gordon Barton
Dromin Ansen
Charles & Nicholas Dromin
Harry J. Barnes
Richard & Mary Burgess
Wayne & Lorna Schadrack
Gordon Barton
Wayne R. & Margaret Ickert
Hillmar Co.
Ansel
Richard & Mary Burgess
Richard Hudson
Timmerman & Lawn. Timmerman
Wayne & Lorna Schadrack
Gordon Barton
Gordon Barton
Dromin Ansen
Charles & Nicholas Dromin
Harry J. Barnes

Soils Map



This map is compiled on 1973 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Civil/ndular grid ticks and land division corners, if shown, are approximately positioned

ORAL APPLICATION AGREEMENTS

Dave DeSmith has 10 acres of hay. He plans to harvest one cutting of hay then plant field to corn. Dave DeSmith would like us to apply liquid hog manure on the 10 acres in late May or early June before he plants the field to corn.

Dave DeSmith has 10 acres of winter wheat that will be harvested in early July. He would like us to apply liquid hog manure on the 10 acres in July or August.

Dave DeSmith is a farmer located within one mile of the Robert Andrews Swine Farm.

MOWERS
SOIL TESTING *PLUS*, INC.

FERTILITY AND PEST MANAGEMENT

117 E. MAIN STREET
P.O. BOX 518
TOULON, ILLINOIS 61483-0518
PHONE (309) 286-2761
1-800-354-8197
FAX (309) 286-6251

Report Date: March 18, 1998

Hutchinson Farm Management
103 S. Center St.
Geneseo, IL 61254

Re: Manure Analysis in pounds per 1000 gallons
S13-98 Chuck Taets

Sample No.	TKN*	Phosphate (P2O5)*	Potash (K2O)*
Taets	8	4	8

Comments: Ammonia Nitrogen (NH3N) - 2

* Only 50-60% of nitrogen is available the first year after application if incorporated at time of application. If left on the surface, then only 25-30% is available. Another 20% may become available in following years.

** 90% of phosphate and potash are available in the first year.

Call our office if you have any questions regarding these results.

Sincerely,

Steve Wiedman, Ph.D., CPAg
Laboratory Manager
Mowers Soil Testing *PLUS*, Inc.

Swine Building Systems Design
P.O. Box 280
Fayette, IA 52142

February 19, 1998

Ed Kiefer
Hutchinson Farm Management Inc.
103 S. Center St.
Geneseo, IL 61254

Dear Ed,

You asked me to obtain volumes of two earthen storages on the Chuck Tates/Robert Andrews property.

Storage A-----You gave me top dimensions of 47' x 92' with a depth of 8 ft and an inside slope of 1 to 2.5.
The volume to the top is 16,617 cu ft or 124,300 gallons.
The volume assuming the top 2 ft is freeboard and not used would be 9294 cu ft or 69,520 gallons.

Storage B----- You gave me top dimensions of 60' x 93' with a depth of 10 ft and an inside slope of 1 to 2.5.
The volume to the top is 25,881 cu ft or 193,600 gallons.
The volume assuning the top 2 ft is freeboard and not used would be 16,185 cu ft or 121,060 gallons.

Note when figuring a lagoon design you take into account the amount of organic or volatile solids entering. Where the barn storage is you have a 2' deep concrete settling basin which can reduce the total solids entering to 1%. Normally manure solids are about 70% volatile. The same holds true where the 8' deep settling tank is located prior to the earthen storage.

This is important because the regular lagoon design is the sum of the treatment volume (based on volatile solids entering) and the sum of the total manure and the sum of the solids which accumulate in the storage if it is not all emptied out.

Sincerely,

Dan

Daniel J. Meyer, P.E.,
License #062-043139

Table 10-1. Nitrogen losses during handling and storage.
Typical losses between excretion and land application adjusted for dilution in the various systems. These values are in addition to land application losses, Table 10-2. Based on Purdue University data.

System	Nitrogen lost, %
Solid	
Daily scrape and haul	20-35
Manure pack	20-40
Open lot	40-55
Deep pit (poultry)	25-50
Litter	25-50
Liquid	
Anaerobic pit	15-30
Above-ground storage	10-30
Earth storage	20-40
Lagoon	70-85

Table 10-2. Nitrogen losses during land application.
Percent of nitrogen applied that is lost within 4 days of application. For handling and storage losses, see Table 10-1.

Application method	Type of waste	Nitrogen lost, %
Broadcast	Solid	15-30
	Liquid	10-25
Broadcast with immediate cultivation	Solid	1-5
	Liquid	1-5
Knifing	Liquid	0-2
Sprinkler irrigation	Liquid	15-40

Plow down solid manure as soon as possible to minimize nitrogen loss and to begin release of nutrients for plant use. Most losses occur in the first 24 hr after application, so incorporate manure into the soil as soon as possible. Injecting, chiseling, or knifing liquids into the soil minimizes odors and nutrient losses to the air and/or to runoff.

Nitrogen loss as ammonia from land is greater during dry, warm, windy days than during humid or cold days. Ammonia loss is generally greater during the spring and summer months.

Poultry and veal calf manures are highly alkaline, so ammonia losses are greater than from other manures. It is especially important that poultry and veal calf manure be incorporated into the soil as soon as possible. Uniform application prevents local concentrations of ammonium or inorganic salts that can reduce seed germination and yields.

Apply manure as near planting date as possible so more nutrients will be available to plants, especially in areas of high rainfall and with soils in which nitrate is lost by leaching or denitrification. Lowered germination and reduced seedling growth could occur, however, if planting takes place immediately after heavy manure applications, because of high salt concentrations near the soil surface.

As an alternative, late fall or winter applications may be desirable because of greater labor availability and better soil trafficability. Even though fall-winter applications may result in a 25%-50% total nitrogen loss (from leaching and denitrification), fall applications allow soil microorganisms time to more fully decompose manure and release nutrients for the following cropping season. This is especially advantageous for solid manure, which contains high levels of organic matter.

With liquid manure, much nitrogen loss by leaching or denitrification can be stopped with a nitrification inhibitor. These products inhibit the action of certain soil bacteria that convert ammonium nitrogen to nitrate nitrogen that can be easily leached by water movement through the soil or converted to nitrogen gas during denitrification. Thus, these products eliminate potential N losses from manure and/or commercial fertilizer, especially with fall applications.

Recent research has confirmed that the addition of a nitrification inhibitor to liquid swine manure reduced N losses and increased corn yields. This beneficial effect was more evident with fall manure applications than with spring applications, unless soil conditions were extremely wet in spring and favorable for denitrification.

Inhibitors can be added to manure:

- Through an open hatch prior to manure loading.
- Through a separate aspirator or gravity flow tube with vacuum systems.
- Into a manure pump at the time of loading.

Nitrification inhibitors work best when the rate of nitrogen added to the soil is equal to plant needs. Therefore, analyze manure samples to insure proper application of N. Nitrification inhibitors are volatile compounds, so immediate incorporation in the soil is vital.

Soil Characteristics

Light textured soils decompose organic matter faster than heavy textured ones because of better air and moisture movement and distribution. But heavier textured soils retain more nutrients in the upper soil profile.

Soil physical properties—water infiltration rate, holding capacity, texture, and total exchange capacity—affect waste application rates. For instance, heavy textured soils have slow water infiltration rates, so limit liquid waste applications to avoid runoff. Coarse textured soils, because of high permeability, accept higher liquid application rates without runoff. However, most coarse textured soils have very low exchange capacity, so if possible, apply animal wastes throughout the growing season to reduce nitrogen leaching.

Crop Nutrient Removal

Apply manure so nutrients added do not greatly exceed crop needs. See Table 10-3. Manure nutrients, especially nitrogen, are utilized more efficiently by grasses and cereals than by legumes. Legumes get most of their nitrogen from the air, so additional nitrogen is not usually needed.