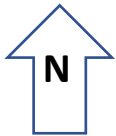


Pyramid S.P.-East Conant Unit
27AL2335

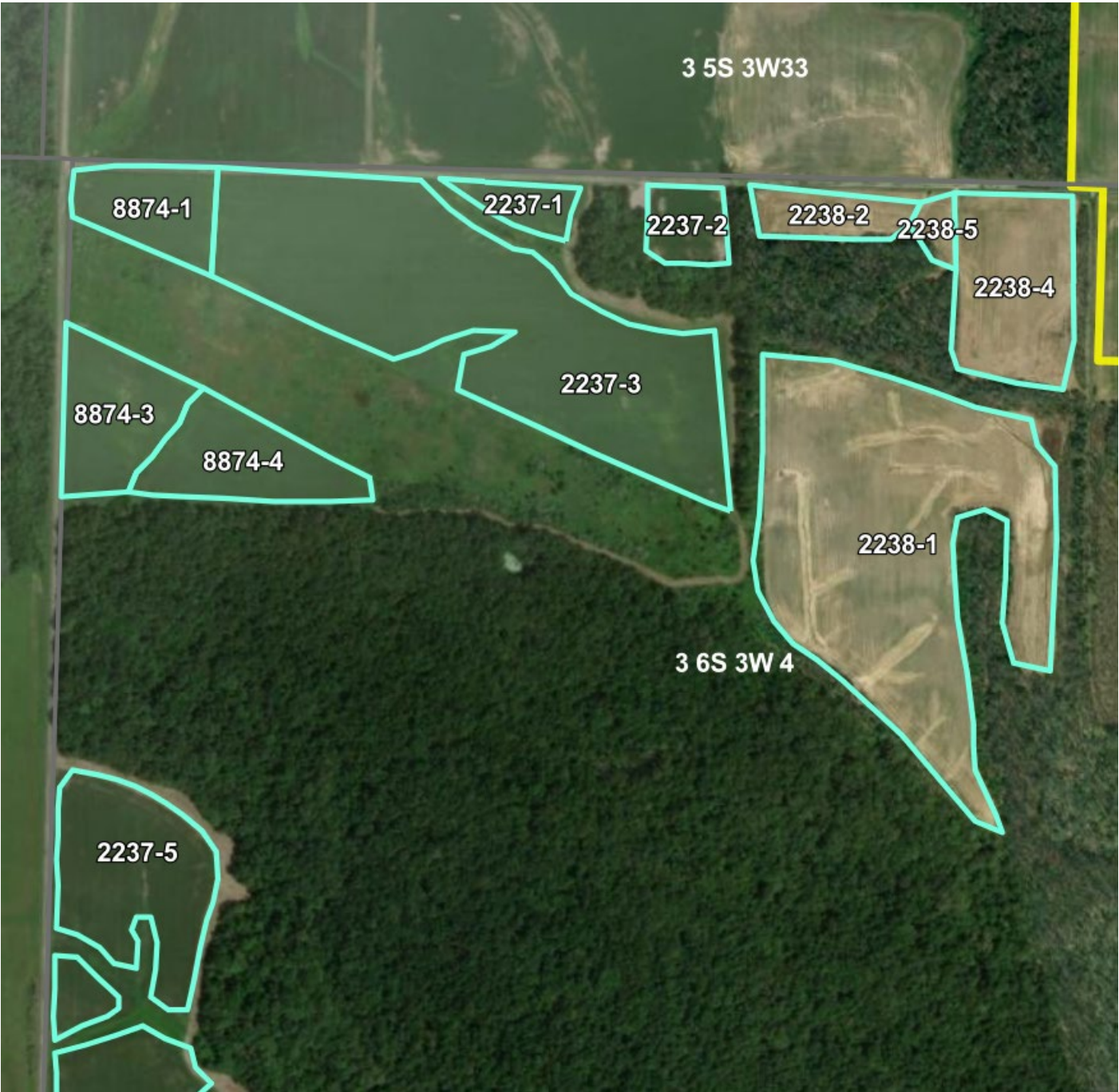


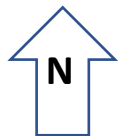
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IDNR AG Lease

Crop Field

Site
Boundary





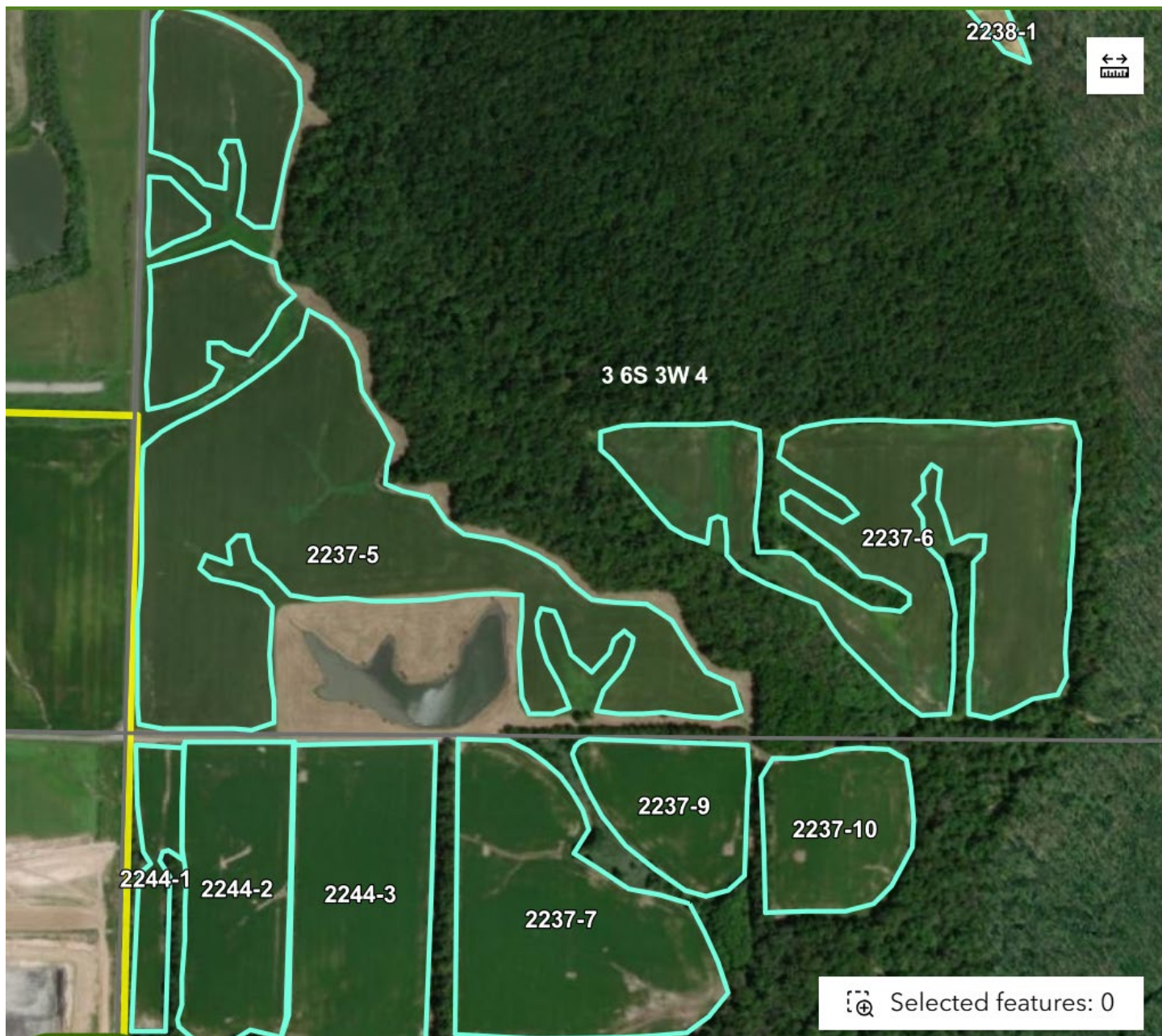
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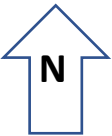
Pyramid S.P.-East Conant Unit
27AL2335

IDNR AG Lease

Crop Field

Site
Boundary





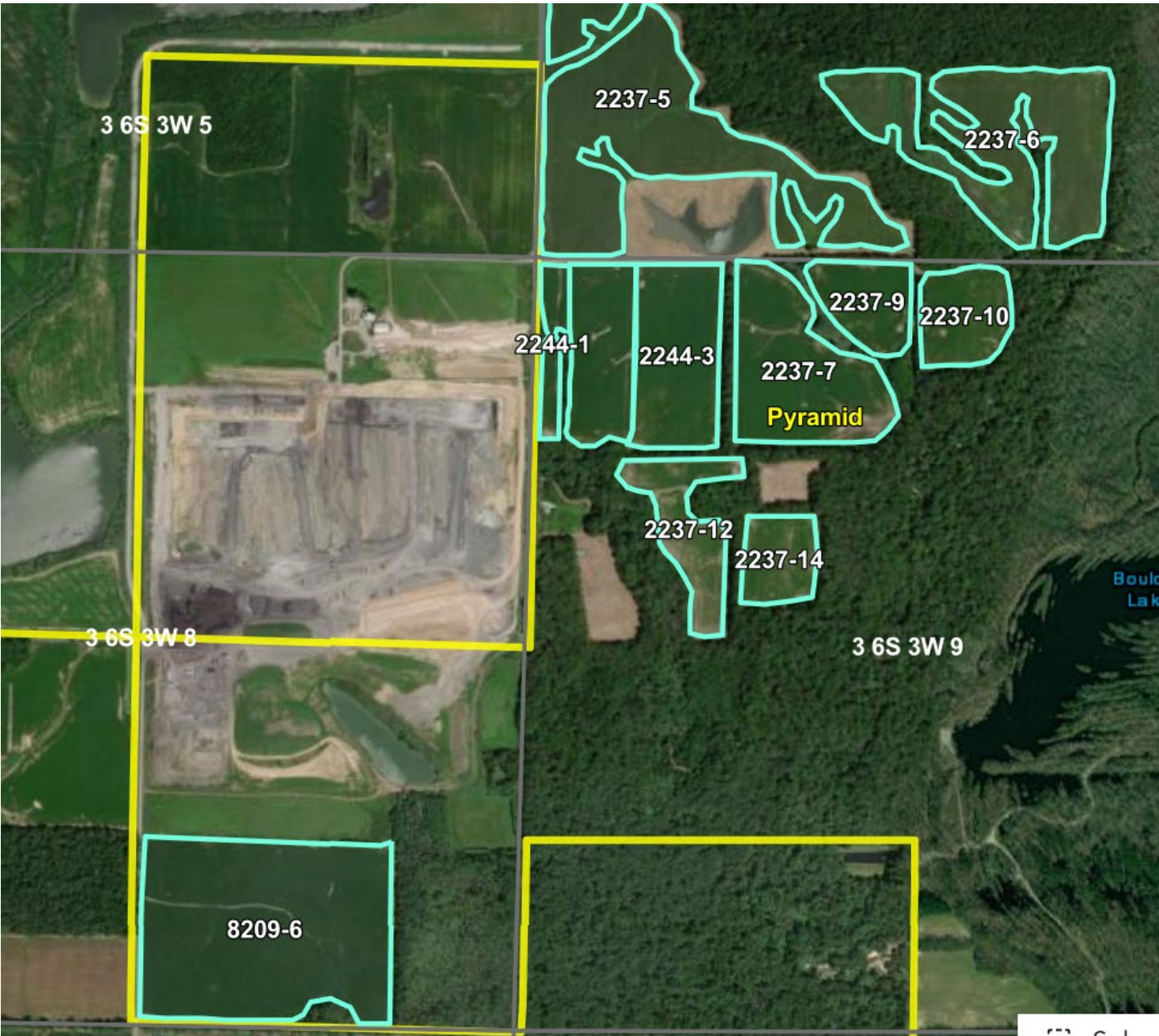
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27AL2335

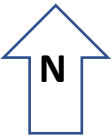
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IDNR AG Lease

Crop Field

Site
Boundary





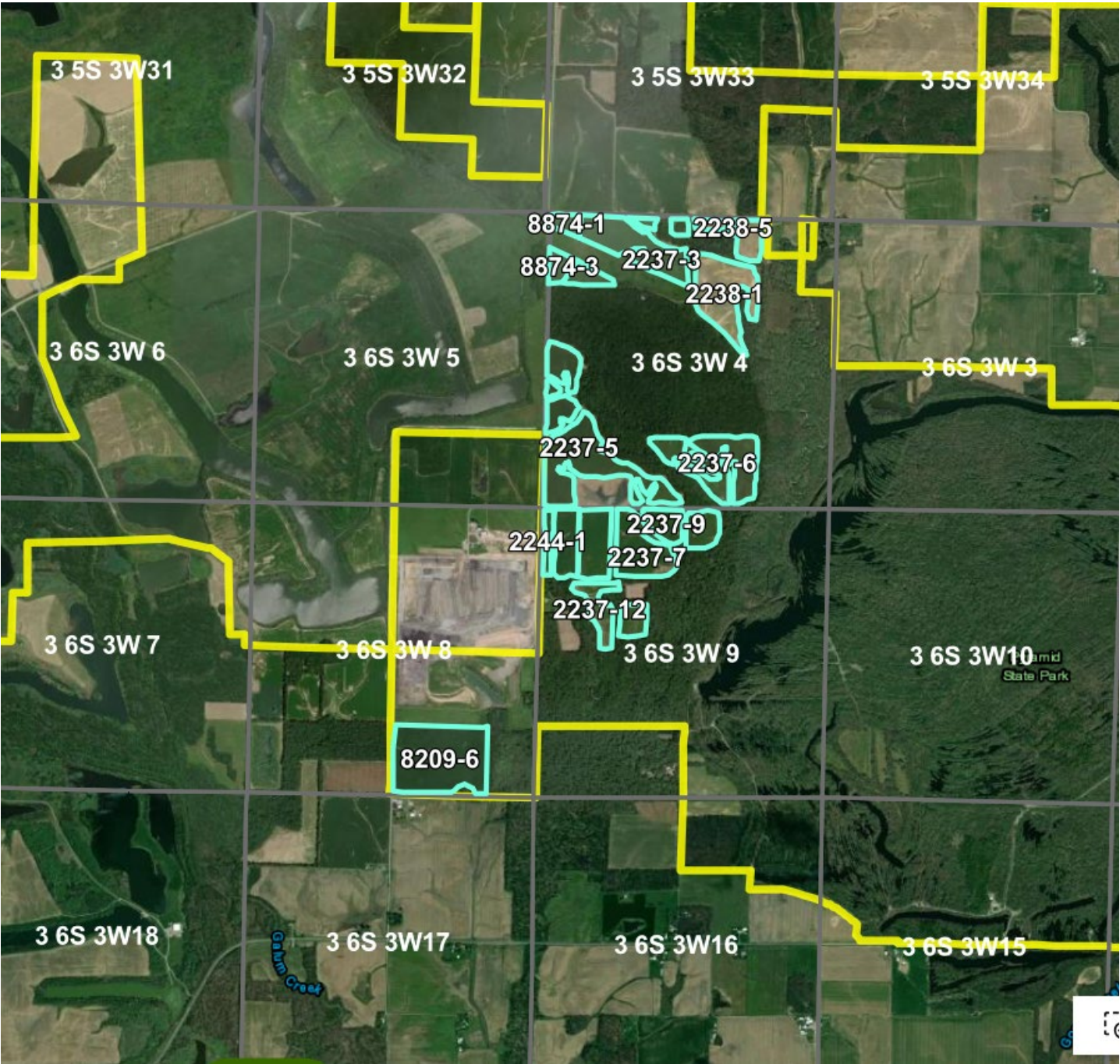
Pyramid S.P.-East Conant Unit
27AL2335

5/11/2026

IDNR AG Lease

Crop Field

Site
Boundary



ATTACHMENT B

Pyramid SP East Conant 27AL2335								
See associated map for field locations			Previously planted	Year				
Farm #	Tract Field #	Acres	2026	2027	2028	2029	2030	2031
4465	2237-1	1.70	IDLE	FOOD PLOT	IDLE	FOOD PLOT	IDLE	FOOD PLOT
4465	2237-10	8.70	SOYBEAN	CORN-COVER	SOYBEAN	CORN-COVER	SOYBEAN	CORN-COVER
4465	2237-12	10.70	SOYBEAN	CORN-COVER	SOYBEAN-COVER	CORN-COVER	SOYBEAN-COVER	CORN-COVER
4465	2237-14	6.70	SOYBEAN	CORN	SOYBEAN-COVER	IDLE	CORN	SOYBEAN-COVER
4465	2237-2	2.00	IDLE	SOYBEAN-COVER	IDLE	FOOD PLOT	IDLE	IDLE
4465	2237-5	54.40	CORN-COVER	SOYBEAN-COVER	CORN-COVER	SOYBEAN-COVER	CORN-COVER	SOYBEAN-COVER
4465	2237-6	31.30	CORN-COVER	SOYBEAN	CORN	SOYBEAN	CORN	SOYBEAN
4465	2237-7	21.30	SOYBEAN	CORN	SOYBEAN	CORN	SOYBEAN	CORN
4465	2237-9	8.10	SOYBEAN	CORN	SOYBEAN-COVER	CORN	SOYBEAN-COVER	CORN
4465	2238-2	2.70	IDLE	FOOD PLOT	IDLE	FOOD PLOT	IDLE	FOOD PLOT
4465	2238-4	7.40	IDLE	CORN	SOYBEAN-COVER	IDLE	FOOD PLOT	IDLE
4465	2238-5	1.00	IDLE	IDLE	FOOD PLOT	IDLE	FOOD PLOT	IDLE
4465	2238-6	28.70	SOYBEAN	CORN-COVER	SOYBEAN	CORN-COVER	SOYBEAN	CORN-COVER
4465	2244-1	12.60	SOYBEAN-COVER	CORN	SOYBEAN	CORN	SOYBEAN	CORN
4465	2244-1	4.10	FOOD PLOT	CORN-COVER	SOYBEAN-COVER	CORN-COVER	SOYBEAN-COVER	CORN-COVER
4465	2244-3	16.70	SOYBEAN	CORN-COVER	SOYBEAN	CORN-COVER	SOYBEAN	CORN-COVER
4465	8209-5	46.00	SOYBEAN-COVER	CORN	SOYBEAN-COVER	CORN	SOYBEAN-COVER	CORN
4465	8874-1	3.40	IDLE	SOYBEAN	CORN	SOYBEAN	CORN	SOYBEAN
4465	8874-2	26.00	SOYBEAN	CORN	SOYBEAN-COVER	IDLE	SOYBEAN-COVER	IDLE
4465	8874-3	5.00	IDLE	SOYBEAN	CORN	SOYBEAN	CORN	SOYBEAN
4465	8874-4	5.20	SOYBEAN	SOYBEAN-COVER	IDLE	CORN-COVER	SOYBEAN-COVER	IDLE
Total Acres		303.70						
Yearly Totals								
Crop			2027	2028	2029	2030	2031	
Leased Acres	CORN		128.10	39.70	88.00	46.40	88.00	
	CORN-COVER CROP		68.90	54.40	74.10	54.40	68.90	
	SOYBEAN		39.70	88.00	39.70	88.00	39.70	
	SOYBEAN-COVER CROP		61.60	109.00	54.40	100.10	61.10	
			0.00	0.00	0.00	0.00	0.00	
			0.00	0.00	0.00	0.00	0.00	
			0.00	0.00	0.00	0.00	0.00	
			0.00	0.00	0.00	0.00	0.00	
Total Leased Acres			298.30	291.10	256.20	288.90	257.70	
Non-Leased Acrers	IDLE		1.00	11.60	41.10	6.40	41.60	
	FOOD PLOT		4.40	1.00	6.40	8.40	4.40	
			0.00	0.00	0.00	0.00	0.00	
			0.00	0.00	0.00	0.00	0.00	
Total Non-Leased Acres			5.40	12.60	47.50	14.80	46.00	
Total Acres			303.70	303.70	303.70	303.70	303.70	

Cover Crop Percentages					
Total Leased	298.30	291.10	256.20	288.90	257.70
Total Cover Crop Acres	130.50	163.40	128.50	154.50	130.00
Crop	0.44	0.56	0.50	0.53	0.50

**AGRICULTURAL/WILDLIFE & HABITAT LAND LEASE
Lease Requirements and Services**

**Pyramid SP East Conant Unit
27AL2335**

The list below includes those actions required as part of the lease in addition to lease payments. **Non- adherence to cropping plan and lease requirements and services may be cause for termination of the farm lease.**

- DOUBLE CROPPING PROHIBITED
- IDNR may require the Lessee under this contract to leave all or a certain portion of the crops in the field standing without being harvested as determined below. If Lessee fails to comply with this requirement, IDNR will receive the rent per acre from Lessee as set forth in Section 2.1.2 for each acre the Lessee harvested in violation of the cropping plan.
- If Lessee fails to follow the detailed services and or dates listed in the Required Services, IDNR may cause these services to be performed at Lessee's cost. IDNR is not required to provide notice to Lessee prior to causing the services to be performed if Lessee has not completed the services as listed in the Required Services. Services performed shall be in accordance with the University of Illinois established rates located at <http://www.farmdoc.illinois.edu/manage/machinery/> or the Iowa State University Extension and Outreach Iowa Farm Custom Rate Survey located at <https://www.extension.iastate.edu/agdm/crops/pdf/a3-10.pdf>
- If field conditions (due to weather) do not allow for the designated crop (see cropping plan) to be planted by the counties crop insurance final planting date (as determined by the USDA Risk Management Agency *), the Lessee must contact the Site Superintendent (by email). The Lessee shall be allowed to plant an alternative crop or may be required to plant a cover crop for soil health, soil and water conservation, and wildlife benefits. Cover crop selection will be reviewed and approved by the Site Superintendent, District Wildlife Biologist, and Agricultural Lease Program Manager prior to planting. The field may be left idle if prior approved by the Site Superintendent, District Wildlife Biologist, and Agricultural Lease Program Manager. In the event a field is to be left idle, the following management practices are prohibited without approval; mowing, tillage, chemical application and/or fertilizer application.
- * <https://www.rma.usda.gov/rmalocal/illinois>

ATTACHMENT B

Required Action List

Field Number	Action	Crop Year	Acres Applied	Is IDNR providing materials? (Y/N)	IDNR materials to be provided (if applicable)
All	Lessee shall not use any neonicotinoid treated soybean seed with Imidacloprid, Thiamethoxam, Clothianidin, Acetamiprid, Thiacloprid, Dinotefuran or Nitempyram insecticides	2027 - 2031	All	NA	NA
All	The use of Dicamba or its equivalent is not allowed .	2027 - 2031	All	NA	NA
All	Lessee MUST follow and adhere to label directions when applying Atrazine herbicide or their equivalent	2027 - 2031	All	NA	NA
Weed Control	Weed Control: Lessee must monitor and address the following invasives within and immediately adjacent to the ag field. Invasives include Johnson Grass, Wild Parsnip and Sericea Lespedeza. Addressing found invasives includes but is not limited to mowing prior to flowering to prevent additional seed production and/or appropriate herbicide application to kill the identified invasive before it goes to seed. Controlling noxious weeds shall be a high priority, especially Johnson grass and wild parsnip. Tenant shall control weeds in and immediately adjacent to all crop fields, including terraces. In the event Johnson grass or other noxious weed control is unacceptable to IDNR. Contact the Site Superintendent or District Wildlife Biologist before mowing or spraying.	2027 - 2031	All	NA	NA
Food Plots followed by idle Fields	Fields/years designated as food plots must be planted to grain sorghum at a planting rate of 4-5 lbs. of grain sorghum per acre and buckwheat at 25 lbs. per acre. These fields will not be harvested. The field will be left idle the following year. The tenant will be	2027 - 2031	All designated food plot acres	NA	NA

ATTACHMENT B

Field Number	Action	Crop Year	Acres Applied	Is IDNR providing materials? (Y/N)	IDNR materials to be provided (if applicable)
	responsible for weed control prior to planting and if weeds are determined to be a problem during the growing season to ensure a successful crop.				
Cover Crop Fields	Plant the following cover crop mix on designated fields as indicated on the cropping plan. - Cover crop post-soybean harvest should be a legume (crimson clover or hairy vetch) drilled at 12-15 lbs./acre or broadcast at 15-20 lbs. per acre or winter peas drilled at 60-75 lbs./acre or broadcast 80 lbs./acre. - Cover crop post-soybean harvest followed by an <u>idle</u> year should be planted to winter wheat at 50 lbs./acre. - Cover crop post corn harvest should be a cereal grain (winter oats, wheat or rye), drilled at 50 lbs./acre or broadcast at 60-80 lbs./acre. - Approved seeding methods; pre-harvest aerial or broadcast (highboy), drill or broadcast post-harvest. Cannot terminate prior to March 15, cannot roller crimp past May 15.	2027 - 2031	All designated cover crop acres	NA	NA
Non-Cover Crop Corn and Bean Fields	A minimum of 12 rows of standing crop shall remain unharvested along the longest field edge for non-cover crop corn and bean fields. Lessee may harvest any remaining standing crop after March 1 or as soon as determined by IDNR personnel. Unharvested rows to be left should be no closer than 1 combine width adjacent to the edge of wildlife habitat (forest or grassland field) and no farther	2027 - 2031	All non-cover crop corn/bean acres	NA	NA

ATTACHMENT B

Field Number	Action	Crop Year	Acres Applied	Is IDNR providing materials? (Y/N)	IDNR materials to be provided (if applicable)
	than 5 combine widths from the habitat edge.				
Soybean or Corn-Cover Crop followed by an Idle Year	In fields/years designated as <u>soybean or corn -cover crop followed by an idle year</u> , the tenant shall plant winter wheat at 50 lbs./acre after harvest and no later than Oct 31. The wheat will not be harvested the following year and will sit idle until the next planting year.	2027 - 2031	All acres designated as soybean-cover crop or corn-cover crop followed by an <u>idle</u> year	NA	NA

ACCEPTABLE SERVICES IN LIEU OF CASH PAYMENTS

All lease items are an example and are non-inclusive items (items **MUST** be approved by the Site Superintendent, District Wildlife Biologist and Agricultural Lease Program Manager) to be used by the Lessee on/or for the benefit of the lease site.

The following service items (labor) are considered acceptable as the Department's lease payment if provided directly by the Lessee, using equipment listed on the equipment list (Attachment G) contained within the prospective Lessee's bid packet. The Comprehensive Environmental Review Process (CERP) must be utilized for any management activity that could potentially affect threatened & endangered species-natural areas and nature preserves, wetlands, cultural resources and other management activity that affects soil disturbance, water flow including quality and air quality. Refer to the Department's CERP manual for applicable exemptions and procedures (will be provided to the awarded Lessee upon request). If the Lessee is requested to perform any of the acceptable services listed below, the Lessee shall be reimbursed in accordance with the University of Illinois established rates located at <http://www.farmdoc.illinois.edu/manage/machinery/> or Iowa State Extension at 2026 Iowa Farm Custom Rate Survey, <https://www.extension.iastate.edu/agdm/crops/pdf/a3-10.pdf>. **Lessee shall receive prior Agency approval for acceptable service projects which may exceed an accumulative total of 10% of the lease value or \$10,000.**

Application of Chemicals - purchased by the site for control of noxious, exotic and invasive weeds, vegetation control, brush and general agricultural purposes. The Lessee shall provide a copy of his current valid state applicators license to Site Manager.

Clearing Projects- renovation of wildlife management lands by removing brush or trees.

Construction and Maintenance - of field access roads for wildlife management purposes.

Installation or Maintenance of Culverts - for field access roads, water management and hunter parking lots. (Lessee must obtain all applicable permits are acquired from State, county or township jurisdictions.)

Fertilizer & Agriculture Lime Application - on food plots, sunflower fields, waterfowl management fields, grass & legume and other wildlife management plantings.

Field Tillage, Preparation & Planting Services - provided for wildlife food, legume and grass plantings.

Labor - for boundary fencing, to install boundary "No Hunting" signs and regulations signs, controlling noxious weeds or brush, for repair and maintenance of water control for wetland management programs (i.e., tubes, gates, emergency pump rental), brush-pile construction, fire and hunter access trails, removal of fences on or along crop fields, tree planting and direct seeding preparation and planting.

Mowing - for specific wildlife management purposes; access, vegetation control, hunting strips and field renovation.

Minor Hazard Removal – removal of stumps, foundations or equipment.

Repair and Maintenance of Drainage Structures - (terraces, waterways, water control structures, trenches, etc.)

Hauling Rock and/or Spreading of Rock - purchased by the Agency.

Timber Stand Improvement (TSI) - TSI labor provided by the Lessee to benefit wildlife management objectives as prescribed in the wildlife management plan (will be provided to awarded Lessee upon request).

Wetland Developments - labor required to construct wetlands and ponds planned and approved through the site's annual plan of work process.

Attachment D

Letter of Irrevocable Credit "Sample"

Program Manager
Agriculture/Wildlife & Habitat Lease
Management II Department of Natural Resources
One Natural Resources Way
Springfield, Illinois 62702

RE: Irrevocable Letter of Credit
Number: _____ Date: _____
Expiration Date: _____
IDNR Lease Number: _____

To Whom it may Concern:

We hereby establish in your favor our Irrevocable Letter of Credit No. _____ for the following specific payment:

The sum of _____ for cash rent

Up to the sum of _____ for real Estate Taxes, penalties, and interest.

We hereby authorize you to draw on us for the account of _____ up to an amount of _____ with an expiration date of January 31, 2028, for the 2027 CASH RENT and an estimated amount of _____ with an expiration date of January 31, 2029, for the 2027 REAL ESTATE TAXES due and payable in 2028.

Available by your draft(s) at sight accompanied by the following documents:

Your signed statement certifying "The amount drawn represents sums owed by _____"

Draft(s) drawn under this credit must be marked:

Drawn under the Bank Letter of Credit No. _____ dated _____, 20____.

We hereby agree with you that all draft(s) drawn under and in compliance with the terms of this credit will be duly honored on delivery of documents as specified if presented at this office on or before of January 31, 2028, for the 2027 CASH RENT and January 31, 2029, for the 2027 REAL ESTATE TAXES due and payable in 2028.

Sincerely,

Agricultural Chemical Application Report

[illegible]

Agricultural Fertilizer Application Report

[illegible]

[illegible]

[illegible]

The Agronomy Handbook can be accessed at the following web address:

<http://extension.cropsi.illinois.edu/handbook/>.

Relevant information from the Handbook related to soil levels is also attached here in “Attachment H”.

IDNR Ag Lease - Min Soil Test Levels for Ag Fields

Soil pH Maintenance Levels – 6.2 goal, 6.0 – 6.5 acceptable

Table 8.3. Suggested limestone rates based on soil type, pH, cropping system, and 9-inch depth of tillage.

Soil type ^a	Soil pH value																						
	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0	6.1	6.2	6.3	6.4	6.5	7.0	
Tons of typical limestone ^b to apply to grain farming systems																							
A	8.0	8.0	8.0	8.0	8.0	8.0	7.8	7.0	6.3	5.5	4.8	4.0	3.3	2.5	1.8	1.0	Optional						
B	8.0	8.0	7.5	7.0	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5	1.0	Optional						
C	6.6	6.3	5.9	5.5	5.1	4.8	4.4	4.0	3.6	3.3	2.9	2.5	2.1	1.8	1.4	1.0	Optional						
D	4.0	3.8	3.6	3.4	3.2	3.0	2.8	2.6	2.4	2.2	2.0	1.8	1.6	1.4	1.2	1.0	Optional						
E	4.0	3.6	3.2	2.8	2.4	2.0																	
Tons of typical limestone ^b to apply to forage farming systems (alfalfa, clover, lespedeza)																							
A	11.0	11.0	11.0	11.0	11.0	11.0	11.0	10.3	9.6	8.9	8.1	7.4	6.7	6.0	5.3	4.6	3.9	3.1	2.4	1.7	1.0	Optional	
B	11.0	11.0	11.0	10.4	9.9	9.3	8.8	8.2	7.7	7.1	6.6	6.0	5.4	4.9	4.3	3.8	3.2	2.7	2.1	1.6	1.0	Optional	
C	10.0	9.6	9.1	8.7	8.2	7.8	7.3	6.9	6.4	6.0	5.5	5.1	4.6	4.2	3.7	3.3	2.8	2.4	1.9	1.5	1.0	Optional	
D	6.0	5.8	5.5	5.3	5.0	4.8	4.5	4.3	4.0	3.8	3.5	3.3	3.0	2.8	2.5	2.3	2.0	1.8	1.5	1.3	1.0	Optional	
E	6.0	5.4	4.9	4.3	3.8	3.2	2.7	2.1	1.6	1.0													

Note: If plowing is less than 9 in., reduce the amount; if it is more than 9 in., increase it. A chisel plow, disk, or field cultivator rather than a moldboard plow may not mix limestone deeper than 4 to 5 in.; for no-till or pasture systems, use the equivalent of a 3-in. tillage depth (one-third of the amount suggested).

^aSoil A: Dark-colored silty clays and silty clay loams (CEC > 24). Soil B: Light- and medium-colored silty clays and silty clay loams; dark-colored silt and clay loams (CEC 15–24). Soil C: Light- and medium-colored silt and clay loams; dark- and medium-colored loams; dark-colored sandy loams (CEC 8–15). Soil D: Light-colored loams; light- and medium-colored sandy loams; sands (CEC < 8). Soil E: Muck and peat. Soil color is usually related to organic matter. Light-colored soils <2.5% organic matter; medium-colored soils 2.5–4.5% organic matter; dark-colored soils >4.5% organic matter.

^bTypical limestone: 10% of the particles are greater than 8-mesh; 30% pass an 8-mesh and are held on 30-mesh; 30% pass a 30-mesh and are held on 60-mesh; and 30% pass a 60-mesh. A calcium carbonate equivalent (total neutralizing power) of 90%. Effective neutralizing value (ENV) of this material is 46.35 for 1 year after application, and 67.5 for 4 years after application. To correct the rate of application based on the ENV of the material available, follow calculations in the worksheet on page 98.

Table 8.4. Efficiency factors for various limestone particle sizes.

Particle sizes	Efficiency factor	
	1 yr after application	4 yr after application
Greater than 8-mesh	5	15
8- to 30-mesh	20	45
30- to 60-mesh	50	100
Passing 60-mesh	100	100

Table 8.5. Amount of elemental sulfur needed to reduce soil pH.

Soil pH	Soil group ^a			
	A	B	C	D
Elemental sulfur (lb/A) needed to reach pH 5.0				
6.4	2,700	2,100	1,400	700
6.2	2,400	1,800	1,200	600
6.0	2,150	1,625	1,075	550
5.8	1,925	1,450	950	475
5.6	1,700	1,275	850	425
5.4	1,225	925	625	300
5.2	775	575	375	200
Elemental sulfur (lb/A) needed to reach pH 4.5				
6.4	4,000	3,000	2,000	1,000
6.2	3,800	2,800	1,900	950
6.0	3,525	2,650	1,775	925
5.8	3,300	2,475	1,650	825
5.6	3,075	2,300	1,525	775
5.4	2,600	1,950	1,300	650
5.2	2,150	1,625	1,075	550
5.0	1,375	1,050	700	350

^aSoil A: Dark-colored silty clays and silty clay loams (CEC > 24). Soil B: Light- and medium-colored silty clays and silty clay loams; dark-colored silt and clay loams (CEC 15–24). Soil C: Light- and medium-colored silt and clay loams; dark- and medium-colored loams; dark-colored sandy loams (CEC 8–15). Soil D: Light-colored loams; light- and medium-colored sandy loams; sands (CEC < 8).

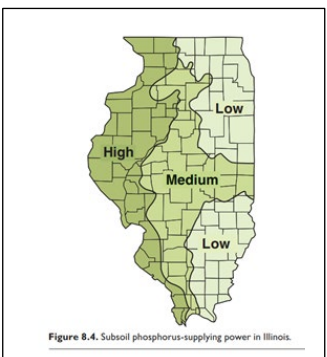
Phosphorus (P) Maintenance Levels

	Soil P Supplying Regions			Units
	High	Medium	Low	
Minimum Soil Level	30	40	45	lbs/ac
Recommended Levels Corn/Beans	40	45	50	lbs/ac
Recommended Levels Wheat/Oats	60	67.5	75	lbs/ac

Potassium (K) Maintenance Levels

	Soil K Exchange Capacity Regions		Units
	High (>12 mEq)	Low (<12 mEq)	
Minimum Soil Level	300	260	lbs/ac
Above with No Addition	400	360	lbs/ac
Levels >100 lb. above Min	Replace Yield K	Replace Yield K	lbs/ac
Levels Below Minimum	Replace Yield K + Build to Min		

- Adjustments needed based on location and timing of sampling. See Attachments.



Phosphorus (P) Maintenance Levels

Illinois Agronomy Handbook (Ch 8, 100)

Minimum soil test levels required to produce optimal crop yields vary depending on the crop to be grown and the soil's P-supplying power. Near maximal yields of corn and soybeans are obtained when levels of available P are maintained at 30, 40, and 45 pounds per acre for soils in the high, medium, and low P-supplying regions, respectively. Since these are minimal values, to ensure soil P availability will not restrict crop yield it is recommended that soil test results be built up to 40, 45, and 50 pounds per acre for soils in the high, medium, and low P-supplying regions, respectively. This is a practical approach because P is not easily lost from the soil, other than through crop removal or soil erosion. To compensate for the higher P requirements of wheat and oats, it is suggested that 1.5 times the amount of expected P removal be applied prior to seeding these crops.

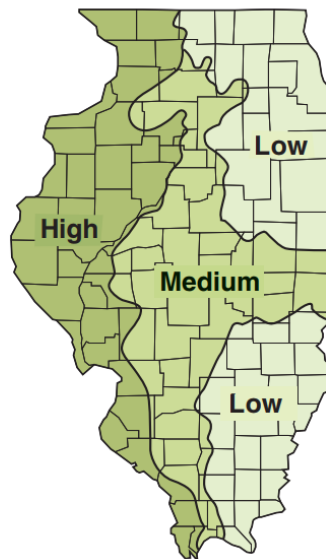


Figure 8.4. Subsoil phosphorus-supplying power in Illinois.

Table 8.6. Maintenance fertilizer required for various crops.

	P_2O_5	K_2O
Grains		
Corn	0.43 lb/bu	0.28 lb/bu
Oats	0.38 lb/bu ^a	0.20 lb/bu
Soybean	0.85 lb/bu	1.30 lb/bu
Grain sorghum	0.42 lb/bu	0.21 lb/bu
Wheat	0.90 lb/bu ^a	0.30 lb/bu
Biomass		
Alfalfa, grass, or alfalfa-grass mixes	12.0 lb/ton	50.0 lb/ton
Corn silage	2.7 (0.53) ^b lb/ton	7.0 (1.4) ^b lb/ton
Corn stover	7.0 lb/ton	30 lb/ton ^c
Wheat straw	4.0 lb/ton	30 lb/ton ^c

To obtain total nutrient removal by the crop (maintenance rate), multiply value by the expected yield.

^aValues given are 1.5 times actual P_2O_5 removal for oats and wheat.

^bValues in parentheses correspond to pounds per bushel.

^cValue will vary depending on amount of precipitation received between the time of physiological maturity and the time the material was baled and by the potassium fertility level of the soil.

When soil test levels are between the minimum and 20 pounds above the minimum (40 to 60, 45 to 65, and 50 to 70 for the high, medium, and low P-supplying regions, respectively), apply enough to replace expected removal by the crop. When soil test levels are below the desired values (40, 45, and 50 for the high, medium, and low P-supplying regions, respectively), it is suggested that enough fertilizer be added to build the test to the desired goal and to replace what the crop will remove (as described in the previous paragraph). At this test level, the yield of the crop will be affected by the amount of P applied that year. On average, Illinois soils require 9 pounds of P_2O_5 per acre to increase the P_1 soil test by 1 pound. The recommended rate of buildup for P is thus nine times the difference between the soil test goal and the actual soil test value. For a typical 4-year buildup program, divide the rate by 4 to determine the annual rate. Because the 9-pound rate is an average for Illinois soils, some soils will fail to reach the desired goal in 4 years with P_2O_5 applied at this rate, and others will exceed the goal.

Potassium (K) Maintenance Levels

Illinois Agronomy Handbook (Ch 8, 103)

Soils with a CEC less than 12 milliequivalents per 100 grams are classified as having low capacity, while soils with values equal to or greater than 12 milliequivalents per 100 grams are considered to have high capacity. Tests on soil samples that are taken before May 1 or after September 30 should be adjusted downward as follows: subtract 30 for the dark-colored soils in central and northern Illinois; subtract 45 for the light-colored soils in central and northern Illinois and for fine-textured bottomland soils; subtract 60 for the medium- and light-colored soils in southern Illinois.



Figure 8.7. Cation-exchange capacity of Illinois soils. The darkest areas are sands with low capacity.

Table 8.6. Maintenance fertilizer required for various crops.

	P ₂ O ₅	K ₂ O
Grains		
Corn	0.43 lb/bu	0.28 lb/bu
Oats	0.38 lb/bu ^a	0.20 lb/bu
Soybean	0.85 lb/bu	1.30 lb/bu
Grain sorghum	0.42 lb/bu	0.21 lb/bu
Wheat	0.90 lb/bu ^a	0.30 lb/bu
Biomass		
Alfalfa, grass, or alfalfa-grass mixes	12.0 lb/ton	50.0 lb/ton
Corn silage	2.7 (0.53) ^b lb/ton	7.0 (1.4) ^b lb/ton
Corn stover	7.0 lb/ton	30 lb/ton ^c
Wheat straw	4.0 lb/ton	30 lb/ton ^c

To obtain total nutrient removal by the crop (maintenance rate), multiply value by the expected yield.

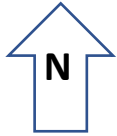
^aValues given are 1.5 times actual P₂O₅ removal for oats and wheat.

^bValues in parentheses correspond to pounds per bushel.

^cValue will vary depending on amount of precipitation received between the time of physiological maturity and the time the material was baled and by the potassium fertility level of the soil.

Minimum soil test levels required to produce optimal crop yields vary depending on the crop to be grown and the soil's CEC. As with P, the only significant loss of soil-applied K is through crop removal or soil erosion, so to ensure that K availability will not limit crop yields it is recommended that soil test levels be slightly higher than that required for maximum yield. For corn and soybean, it is recommended to have 260 and 300 pounds of exchangeable K per acre for soils in the low and high CEC regions, respectively.

No K additions are suggested if test levels are above 360 and 400 for the low and high CEC regions, unless crops that remove large amounts of K (such as alfalfa or corn silage) are being grown. When soil test levels are between the minimum and 100 pounds above the minimum (260 to 360 and 300 to 400 for the low and high capacity, respectively), apply enough to replace what the crop to be grown is expected to remove using values from Table 8.6. When soil test levels are below the desired values (260 and 300 for the low and high capacity, respectively), it is suggested that enough fertilizer be added to build the test to the desired goal and to replace what the crop will remove (as described in the previous paragraph). On average most Illinois soils require 4 pounds of K₂O per acre to increase the K exchangeable soil test by 1 pound. The recommended rate of buildup for K is thus 4 times the difference between the soil test goal and the actual soil test value. For a typical 4-year buildup program, divide the rate by 4 to determine the annual rate.



Pyramid S.P. East Conant Unit
27AL2335
Soil Sample Locations

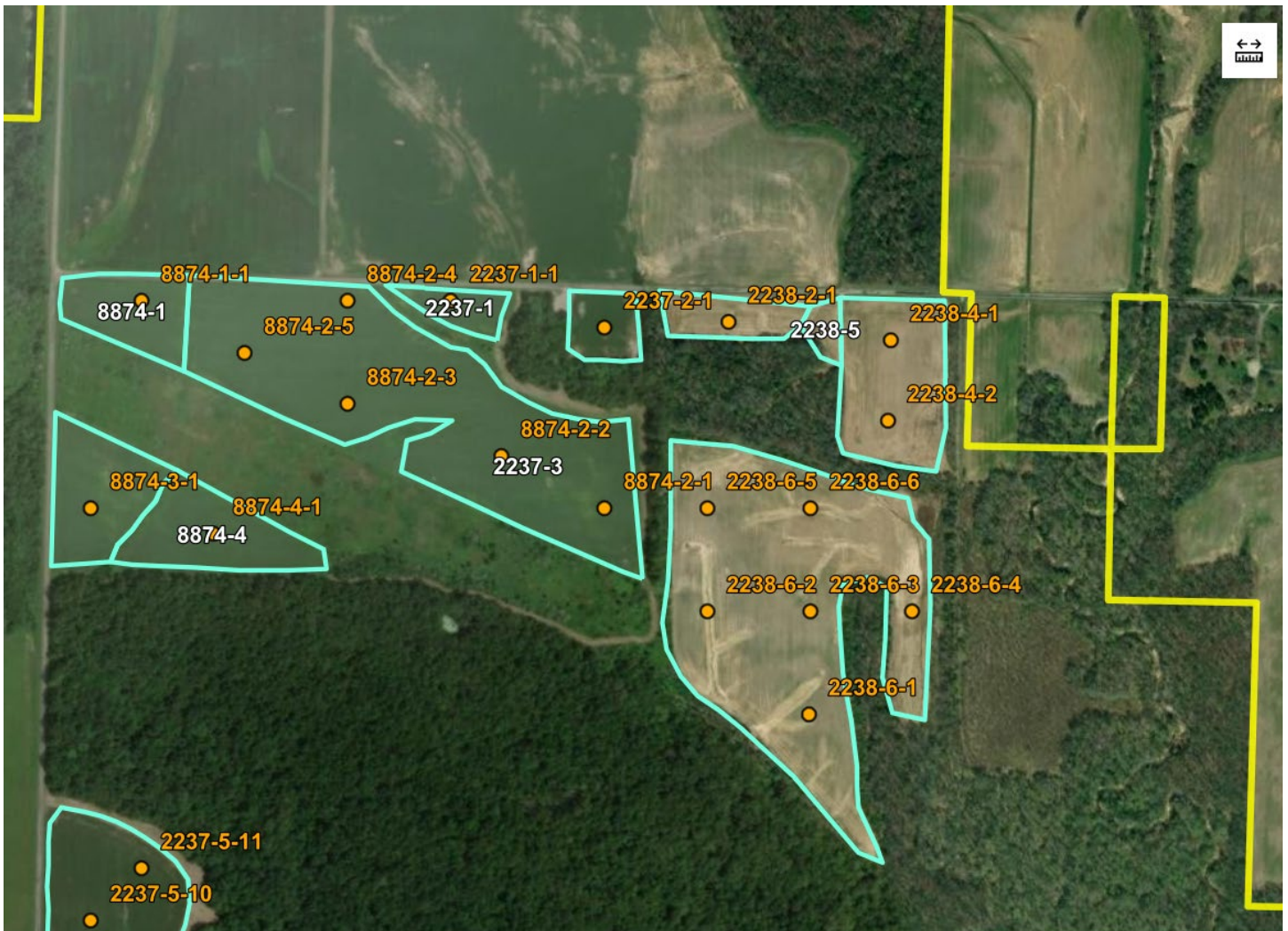
5/11/2026

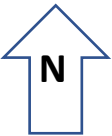
IDNR AG Lease

Crop Field

Site
Boundary

Soil Sample
Locations





Pyramid S.P. East Conant Unit
27AL2335
Soil Sample Locations

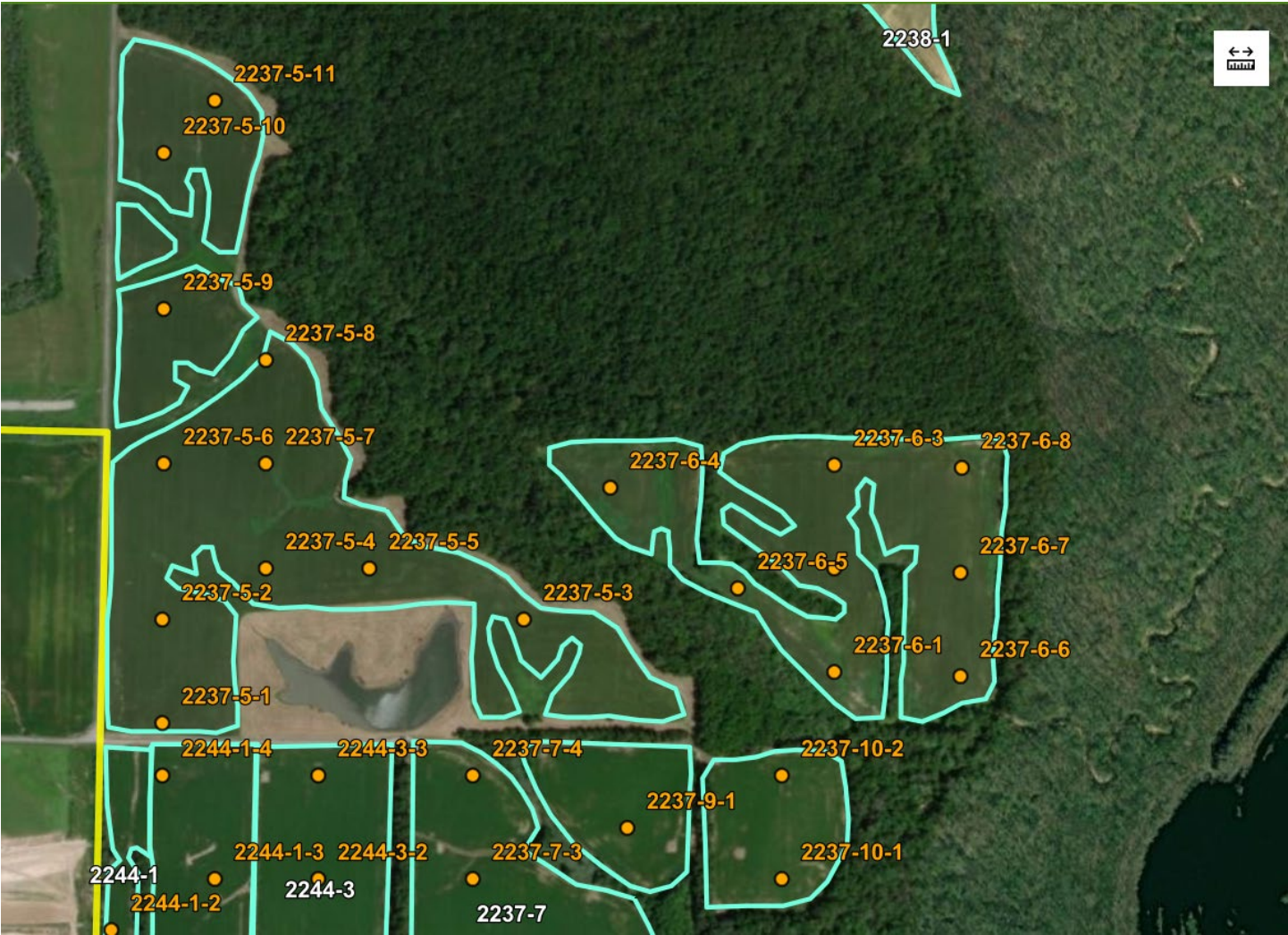
5/11/2026

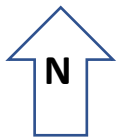
IDNR AG Lease

Crop Field

Site
Boundary

Soil Sample
Locations





Pyramid S.P. East Conant Unit
27AL2335
Soil Sample Locations

5/11/2026

IDNR AG Lease

Crop Field

Site
Boundary

Soil Sample
Locations



Cover Crop Programs

EQIP - USDA NRCS

- Financial assistance for cover crop establishment
- Cost-share for addressing resource concerns
- Conservation planning with NRCS staff
- Improves soil health and organic matter
- Reduces erosion and nutrient loss
- Supports water quality improvements
- Can be used with other conservation practices
- Contact: Local NRCS Service Center



CSP - USDA NRCS

- Annual stewardship payments
- Rewards existing conservation efforts
- Supports advanced cover crop management
- Encourages multi-species cover crop systems
- Five-year contracts with renewal opportunities
- Improves long-term farm resilience
- Requires enhancement of existing conservation practices
- Contact: Local NRCS Service Center



Fall Covers for Spring Savings - IDOA

- Up to \$5 per acre crop insurance premium discount
- Available on eligible cover crop acres
- Designed for acres not receiving EQIP or CSP incentives
- Requires FSA certification of cover crop acres
- Money is applied direction to crop insurance policy
- First-come, first-served enrollment
- Enroll easily Online once program opens in December
- <https://agr.illinois.gov>



FLASH Groups - American Farmland Trust

- Farmer-led conservation networks
- Peer-to-peer learning opportunities
- Payment assistance for cover crop seed mixes and establishment/application through participating FLASH initiatives
- Supports practical cover crop adoption
- Questions or participation: American Farmland Trust
- farmland.org/flash
- ckula@farmland.org



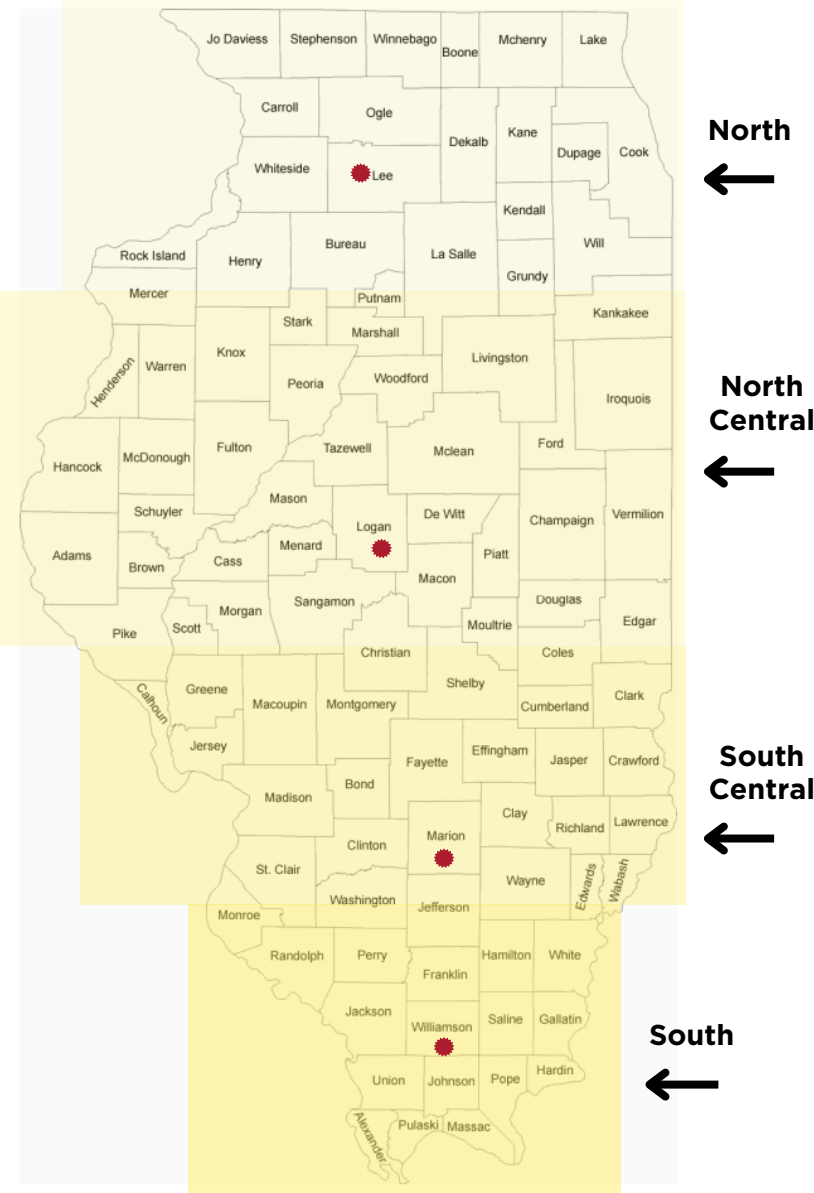
Benefits of Cover Crops: Improve Soil Health • Protect Water Quality • Reduce Erosion • Increase Drought Resilience • Improve Long-Term Productivity

Illinois Cover Crop Quick Reference Guide

A general overview of planting information for common cover crops.



SPECIES	RATE(PLS)	METHOD	DEPTH	PLANTING DATES *see below for additional info			
Grasses				North	North Cent	South Cent	South
Legumes				Lee County	Logan County	Marion County	Williamson County
Brassicas							
Cereal Rye	30-90lb/ac	Drill/Planter	3/4-1 1/2"	8/8-12/14	8/7-12/16	8/8-12/18	8/9-12/18
	40-100lb/ac	Broadcast	N/A				
	40-100lb/ac	Aerial	N/A				
Winter Barley	30-90lb/ac	Drill/Planter	3/4-1 1/2"	8/27-10/22	8/28-10/27	8/30-11/1	8/31-11/1
	40-100lb/ac	Broadcast	N/A				
	40-100lb/ac	Aerial	N/A				
Triticale	30-90lb/ac	Drill/Planter	3/4-1 1/2"	8/28-10/22	8/28-10/27	8/30-11/1	8/31-11/1
	40-100lb/ac	Broadcast	N/A				
	40-108lb/ac	Aerial	N/A				
Winter Wheat	30-90lb/ac	Drill/Planter	3/4-1 1/2"	9/16-10/22	9/27-10/27	9/22-11/1	9/22-11/1
	40-100lb/ac	Broadcast	N/A				
	40-108lb/ac	Aerial	N/A				
Spring Oats (Fall Planted)	50-70lb/ac	Drill/Planter	1/2-1 1/2"	8/8-9/16	8/7-9/17	8/8-9/21	8/9-9/22
	60-90lb/ac	Broadcast	N/A				
	60-90lb/ac	Aerial	N/A				
Annual Ryegrass	10-15lb/ac	Drill/Planter	1/4-1/2"	8/8-9/16	8/7-9/17	8/8-9/21	8/9-9/22
	12-15lb/ac	Broadcast	N/A				
	12-18lb/ac	Aerial	N/A				
Red Clover	8-10lb/ac	Drill/Planter	1/4-1/2"	7/19-9/16	7/18-9/17	7/17-9/21	7/18-9/22
	9-12lb/ac	Broadcast	N/A				
	10-12lb/ac	Aerial	N/A				
Balansa Clover	5-8lb/ac	Drill/Planter	1/4-1/2"	7/19-9/16	7/18-9/17	7/17-9/21	7/18-9/22
	6-10lb/ac	Broadcast	N/A				
	6-10lb/ac	Aerial	N/A				
Crimson Clover	10-20lb/ac	Drill/Planter	1/4-1/2"	7/19-9/16	7/18-9/18	7/17-9/21	7/18-9/22
	12-25lb/ac	Broadcast	N/A				
	12-25lb/ac	Aerial	N/A				
Winter Pea	25-50lb/ac	Drill/Planter	1-1 1/2"	8/8-9/16	8/7-9/18	8/7-9/21	8/9-9/22
	29-58lb/ac	Broadcast	N/A				
	NR	Aerial	NR				
Hairy Vetch	15-20lb/ac	Drill/Planter	1/2-1"	7/19-9/16	7/18-9/18	7/17-9/21	7/18-9/22
	17-25lb/ac	Broadcast	N/A				
	18-25lb/ac	Aerial	N/A				
Winter Camelina	3-5lb/ac	Drill/Planter	1/4-1/2"	9/28-10/24	9/30-10/29	10/5-11/3	10/6-11/3
	4-6lb/ac	Broadcast	N/A				
	NR	Aerial	NR				
Rapeseed	2-5lb/ac	Drill/Planter	1/4-1/2"	8/8-9/16	8/7-9/18	8/7-9/21	8/9-9/22
	2-5lb/ac	Broadcast	N/A				
	2-5lb/ac	Aerial	N/A				
Forage Turnip	2-4lb/ac	Drill/Planter	1/4-1/2"	6/20-9/16	6/16-9/17	6/13-9/21	6/15-9/22
	2-4lb/ac	Broadcast	N/A				
	2-5lb/ac	Aerial	N/A				
Radish	4-8lb/ac	Drill/Planter	1/4-3/4"	7/19-9/16	7/17-9-18	7/16-9/22	7/18-9/23
	5-10lb/ac	Broadcast	N/A				
	5-10lb/ac	Aerial	N/A				



***Information taken from Midwest Cover Crop Council.**
Planting date guidelines are based on a single county in each zone.
Zones are determined based on 2023 USDA Plant Hardiness zone map.
For the most specific recommendation for your location, please visit:
<https://covercroptool.midwestcovercrops.org/covercroptool/>
Questions? Contact Torey Colburn, AFT Midwest Conservation Agronomist
tcolburn@farmland.org 815-315-0192