

- Corn - planted Blue River Hybrid Variety ~~4737~~ 47A32 on June 11, 2012.
2012 Protocol for Biodiversity Study

- Soybean LTER at Kellogg Biological Station, Michigan State University

- Soil finished only

Soil finished all plots highlighted on June 11, 2012

System	Treatment	Plot Numbers				Crop Rotation
		Rep 1	Rep 2	Rep 3	Rep 4	
A	B1	106	201	303	401	Fall Fallow
A	B2	102	206	316	402	Spring Fallow
B	B3	111	203	306	403	Corn covers A & C - Soybeans cover B - Wheat covers A & C
B	B4	104	220	307	404	Soybeans cover B - Wheat covers A & C - Corn covers A & C
B	B5	114	217	312	405	Wheat covers A & C - Corn covers A & C - Soybeans cover B
C	B6	107	207	317	406	Corn cover A - Soybeans - Wheat cover A
C	B7	105	219	305	407	Soybeans - Wheat cover A - Corn cover A
C	B8	118	214	310	408	Wheat cover A - Corn cover A - Soybeans
D	B9	119	205	314	409	Corn - Soybeans - Wheat
D	B10	117	209	320	410	Soybeans - Wheat - Corn
D	B11	110	216	309	411	Wheat - Corn - Soybeans
E	B12	109	202	313	412	Corn - Soybeans
E	B13	113	212	319	413	Soybeans - Corn
E	B14	115	204	304	414	Wheat - Soybeans
F	B15	112	213	301	415	Corn cover A - Corn cover A - Corn cover A
F	B16	101	210	308	416	Soybeans cover C - Soybeans cover C - Soybeans cover C
F	B17	116	211	302	417	Wheat cover A - Wheat cover A - Wheat cover A
G	B18	108	208	311	418	Corn - Corn - Corn
G	B19	103	218	315	419	Soybeans - Soybeans - Soybeans
G	B20	120	215	318	420	Wheat - Wheat - Wheat
H	B21	100	200	300	421	Continuous Fallow

*Cover A: Red Clover
Cover B: Crimson Clover
Cover C: Cereal Rye

* Soil finish the blue (soybean) plants on June 13, 2012.

System	Descriptions
A	Fallow system: No crop is planted. Plots are tilled once a year.
B	One annual crop with two cover crops. Three year crop rotation.
C	One annual crop with one cover crop. Three year crop rotation.
D	One annual crop with no cover crop. Three year crop rotation.
E	One annual crop with no cover crop. Two year crop rotation.
F	One annual crop with one cover crop. Monoculture cropping system (no crop rotation).
G	One annual crop with no cover crop. Monoculture cropping system (no crop rotation).
H	Continuous fallow system: No cover, no crop growth. Plots are tilled as needed (2 - 6 times) a year to prevent plant growth from becoming established.

Research Objective: Incorporating biological diversity into weed management. Determine the impact of crop rotation and cover crops on weed communities in row crops.

Notes: All plots will be managed like the LTER main site treatment 4 plots.

No herbicides and no synthetic nitrogen will be used on any treatment.

This study was established in 2000. In 2000 and 2001 some treatments received fertilizer and herbicides.

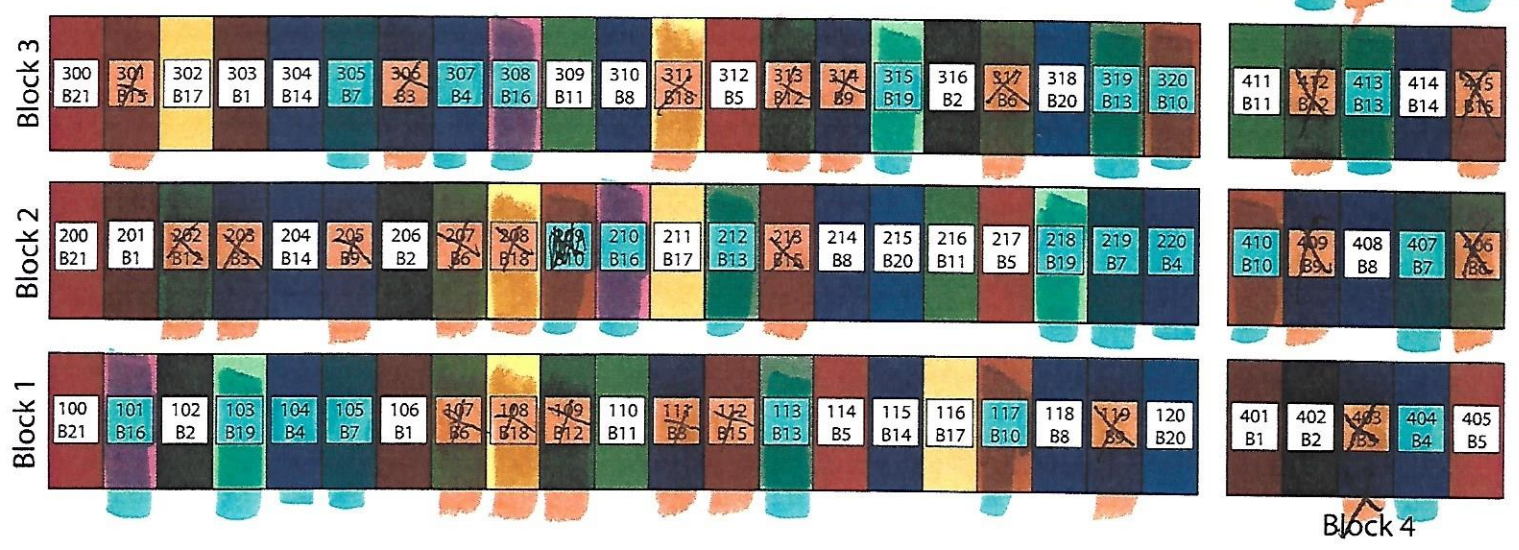
Beginning in 2002 all treatments and plots have been treated like the LTER main site treatment 4, no herbicides and no synthetic fertilizer.

Plot size = 30' x 90' (9 meters x 27meters).

This is a working protocol used for planning purposes. Due to potential changes in chemicals, fertilizer, varieties planted, planting dates etc... please refer to the agronomic field log for actual field operations that take place during 2012.

- Corn - Corn planted June 11, 2012 Blue River Hybrid 42A32
 - Soybeans

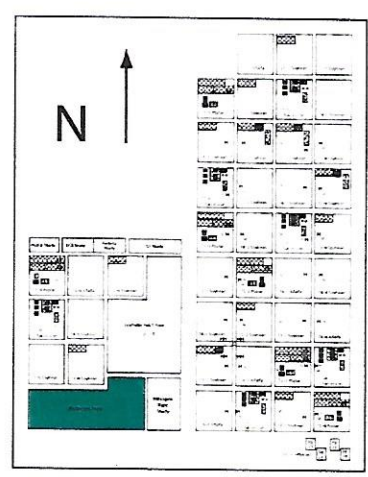
KBS LTER Biodiversity Study



Treatment Description System

B1	F _{fall}	A
B2	F _{spring}	A
B3	C _{cov2} - S - W _{cov2}	B
B4	S - W _{cov2} - C _{cov2}	B
B5	W _{cov2} - C _{cov2} - S	B
B6	C _{cov1} - S - W _{cov1}	C
B7	S - W _{cov1} - C _{cov1}	C
B8	W _{cov1} - C _{cov1} - S	C
B9	C - S - W	D
B10	S - W - C	D
B11	W - C - S	D
B12	C - S	E
B13	S - C	E
B14	W - S	E
B15	C _{cov1}	F
B16	S _{cov1}	F
B17	W _{cov1}	F
B18	C	G
B19	S	G
B20	W	G
B21	T	H

Location within main LTER site



System Key	Trt	Total Species	Species/year
A	B1-2	10	5-7
B	B3-5	5	1-3
C	B6-8	4	1-2
D	B9-11	3	1
E	B12-14	2	1
F	B15-17	2	2
G	B18-20	1	1
H	B21	0	0

Description Key

F = Fallow
 S = Soybean
 C = Corn
 W = Wheat (red)
 T = Tilled and cultivated
 cov1 = 1-species cover (legume)
 cov2 = 2-species cover (legume + small grain)

All treatments established May 2003
 Each plot is 30' X 90' (9.1m x 27.4m)