



Plot No.	Trt. Code
433	J
434	T
435	Q
436	L
437	D
438	V
439	R
440	G
441	S
442	F
443	B
444	O
445	I
446	U
447	E
448	K
449	N
450	H
451	M
452	P
453	A
454	C

Wheat

Plot No.	Trt. Code
389	P
390	N
391	H
392	V
393	A
394	C
395	U
396	M
397	Q
398	E
399	R
400	L
401	J
402	S
403	T
404	G
405	I
406	D
407	B
408	O
409	K
410	F

Corn(2)

Plot No.	Trt. Code
345	D
346	R
347	S
348	G
349	T
350	B
351	I
352	L
353	A
354	C
355	K
356	H
357	N
358	P
359	M
360	O
361	J
362	F
363	V
364	E
365	U
366	Q

Soybeans

Plot No.	Trt. Code
301	F
302	E
303	I
304	K
305	O
306	J
307	N
308	H
309	P
310	G
311	D
312	U
313	A
314	Q
315	V
316	L
317	S
318	C
319	T
320	R
321	M
322	B

Corn(1)

455	T
456	G
457	B
458	R
459	O
460	C
461	M
462	D
463	N
464	I
465	K
466	S
467	Q
468	P
469	H
470	J
471	E
472	U
473	A
474	F
475	V
476	L

Soybeans

411	M
412	I
413	N
414	Q
415	L
416	J
417	A
418	U
419	G
420	E
421	P
422	V
423	B
424	F
425	S
426	T
427	K
428	D
429	H
430	R
431	O
432	C

Corn (1)

367	S
368	E
369	L
370	U
371	P
372	H
373	V
374	Q
375	F
376	M
377	R
378	T
379	K
380	D
381	C
382	A
383	I
384	O
385	G
386	J
387	N
388	B

Wheat

323	O
324	A
325	K
326	I
327	F
328	E
329	R
330	T
331	C
332	B
333	H
334	G
335	U
336	J
337	M
338	N
339	V
340	L
341	P
342	Q
343	S
344	D

Corn(2)

Figure 84.1. Design and treatment descriptions of phosphorous and potassium fertilization experiments. Spectral measurements were made on plots marked with an asterik (\*).

Table 84.1. Potassium treatments for 1978 soybean potassium and phosphorous experiment

Treatment Code	In Row Applications For					Total
	Broadcast*	Corn-1	Soybeans	Wheat	Corn-2	
	----- lb/ac -----					
A	0	10	0	30	0	40
B	200	0	0	0	0	200
C	200	0	0	0	0	200
D	200	0	0	0	0	200
E	200	0	0	0	0	200
F	600	0	0	0	0	600
G	600	0	0	0	0	600
H	600	0	0	0	0	600
I	200	0	0	0	0	200
J	200	0	0	0	0	200
K	200	0	0	0	0	200
L	600	0	0	0	0	600
M	600	0	0	0	0	600
N	600	0	0	0	0	600
O	0	0	0	0	0	0
P	0	25	0	75	0	100
Q	200	0	0	0	0	200
R	200	0	0	0	0	200
S	200	25	0	75	0	300
T	600	0	0	0	0	600
U	600	0	0	0	0	600
V	600	0	0	0	0	600

\* Broadcast applications of  $K_2O$  were plowed under for corn-1.

Table 84.2. Phosphorous treatments for 1978 soybeans potassium and phosphorous experiment.

Treatment Code	Broadcast*	In Row Application For				Total
		Corn-1	Soybeans	Wheat	Corn-2	
----- lb/ac -----						
A	0	10	0	30	0	40
B	0	0	0	0	0	0
C	0	10	0	30	0	40
D	0	25	0	75	0	100
E	0	50	0	150	0	200
F	0	10	0	30	0	40
G	0	25	0	75	0	100
H	0	50	0	150	0	200
I	200	0	0	0	0	200
** J	160	10	0	30	0	200
K	100	25	0	75	0	200
L	200	0	0	0	0	200
** M	160	10	0	30	0	200
N	100	25	0	75	0	200
O	400	10	0	30	0	440
P	400	10	0	30	0	440
Q	400	0	0	0	0	400
** R	400	10	0	30	0	440
S	400	10	0	30	0	440
T	400	0	0	0	0	400
** U	400	10	0	30	0	440
V	400	25	0	75	0	500

\* Broadcast applications of  $P_2O_5$  were plowed under for corn-1.

\*\*  $P_2O_5$  treatments stopped in 1973.

## LARSPEC Identification Record Codes

### 1. Level of Factor Codes

Do not use the level of factor codes as they do not represent the experiment adequately. Refer to Tables 84.1 and 84.2 and Figure 84.1 for a description of the potassium and phosphorous treatments. The experiment is a four year rotation of Corn-Soybean-Wheat-Corn.

### 2. Experimenter Parameters

Experimenter parameter 01: Grain yield in kilograms per hectare.

Illumination Conditions for Spectral Data Collection

Date	Day of Year	Time Period Start Stop	Solar Zenith Angle Range max - min - max	Solar Azimuth Angle Range	Cloud Cover
		GMT	degrees	degrees	%
6/22	173	18:25 18:57	19 - 22	206-225	?
<sup>1</sup> 6/28	179	18:44 19:16	20 - 25	217-233	10-30
<sup>2</sup> 6/28	179	18:35 19:09	19 - 24	212-230	10-30
<sup>1</sup> 7/5	186	19:47 21:36	30 - 50	243-267	20
<sup>2</sup> 7/5	186	17:54 18:52	18 - 18	181-188	10
<sup>1</sup> 7/6	187	19:25 20:53	26 - 42	235-259	2
<sup>2</sup> 7/6	187	18:29 18:49	19 - 21	206-218	2
7/11	192	15:29 16:41	35 - 30	110-118	0
7/15	196	20:29 20:47	38 - 41	252-256	50
7/16	197	17:41 19:32	19 - 28	171-235	10-60
8/3	215	17:59 18:38	23 - 25	183-206	20-25
8/4	216	17:01 18:22	26 - 23 - 24	150-197	40-50
8/8	220	16:45 17:01	28 - 27	143-151	0
8/16	228	17:42 17:48	27 - 27	174-178	40
8/20	232	16:57 18:20	30 - 28 - 29	153-195	10
8/21	233	19:15 19:31	34 - 36	219-225	?
9/5	248	18:18 18:34	34 - 35	194-201	?
9/15	258	16:58 17:13	39 - 38	162-168	15
9/23	266	17:35 18:16	40 - 41	178-194	10

<sup>1</sup>78100804

<sup>2</sup>78105804

Dates Spectral Data Collected (Exotech 20C):

Plot Number	6/28	7/5	7/6	7/15	7/16	8/3	8/4	8/16	8/20	9/15	9/23
	Number of Observations Collected										
346	1	1	1	1	1	1	-	1	1	1	1
347	1	1	1	1	1	1	-	1	1	1	1
348	1	1	2	1	2	2	-	1	1	1	1
349	1	1	1	1	1	1	-	-	1	1	1
350	2	2	2	2	2	1	-	-	2	2	2
354	1	1	1	-	1	1	-	-	1	-	1
355	1	1	1	-	1	1	-	-	1	-	1
356	2	2	2	-	2	2	-	-	2	-	2
358	-	1	1	-	1	1	-	-	1	-	1
359	-	1	1	-	1	1	-	-	1	-	1
360	-	2	2	-	2	2	-	-	2	-	2
455	-	1	1	-	1	-	1	-	1	-	-
456	-	1	1	-	1	-	1	-	1	-	-
457	-	2	2	-	2	-	1	-	2	-	-
458	-	1	1	-	1	-	1	-	1	-	-
459	-	1	1	-	1	-	1	-	1	-	-
460	-	2	2	-	2	-	2	-	2	-	-
466	-	1	1	-	1	-	1	-	1	-	-
467	-	1	1	-	1	-	1	-	1	-	-
468	-	2	2	-	2	-	1	-	2	-	-
469	-	1	1	-	1	-	1	-	1	-	-

Dates Spectral Data Collected (Exotech 100):

<u>Plot Number</u>	<u>6/22</u>	<u>6/28</u>	<u>7/5</u>	<u>7/6</u>	<u>7/11</u>	<u>8/8</u>	<u>8/21</u>	<u>9/5</u>
	Number of Observations Collected							
346	2	2	2	2	4	2	2	2
347	2	2	2	2	4	2	2	2
348	2	2	2	2	4	2	2	2
349	2	2	2	2	4	2	2	2
350	2	2	2	2	4	2	2	2
354	2	2	2	2	4	2	2	2
355	2	2	2	2	4	2	2	2
356	2	2	2	2	4	2	2	2
358	2	2	2	2	4	2	2	2
359	2	2	2	2	4	2	2	2
360	2	2	2	2	4	2	2	2
455	2	2	2	2	2	2	2	2
456	2	2	2	2	2	2	2	2
457	2	2	2	2	2	2	2	2
458	2	2	2	2	2	2	2	2
459	2	2	2	2	2	2	2	2
460	2	2	2	2	2	2	2	2
466	2	2	2	2	2	2	2	2
467	2	2	2	2	2	2	2	2
468	2	2	2	2	2	2	2	2
469	2	2	2	2	2	2	2	2