Table 11 Environmental Conditions at Application

Site Code/ Plot	Application		Temp °F		Soil Surface	Winds		RH%	Crop Stage
	No	Date	Air	Soil[1]		(mph)	Direction		
NSW01 Plot 2	1	12/19/03	86	N/M[2]	Dry	5-6	N	39	10 days prior to crop maturity
NSW01 Plot 3	1	12/19/03	86	N/M	Dry	5-6	N	39	Soft dough toward edges More mature in center
NSW02 Plot 2	1	12/01/03	78	N/M	Dry	1-2 5	SW	40	10 days prior to expected harvest
NSW02 Plot 3	1	12/01/03	78	N/M	Dry	1-2 5	SW	40	10 days prior to expected harvest
CA01 Plot 2	1	10/28/03	58	60	Moist	1	Variable	45	Mature
CA01 Plot 3	1	09/25/03	69	68	Moist	0	N/A[3]	40	Grain in, Soft/watery
CA01 Plot 3	2	10/04/03	73	69	Moist	1	SW	30	Soft grain
CA01 Plot 3	3	10/16/03	78	65	Moist	1-2	Variable	30	Soft dough
CA01 Plot 3	4	10/28/03	58	60	Moist	1	Variable	45	Mature
AR01 Plot 2	1	10/09/03	67	76	Moist	1	SW	100	Mature heads
AR01 Plot 3	1	09/15/03	79	86	Wet	3	S	50	100% headed
AR01 Plot 3	2	09/23/03	77	87	Wet	3	SW	60	50% heads sagging
AR01 Plot 3	3	10/01/03	53	72	Moist	3	SW	100	Heads drying
AR01 Plot 3	4	10/09/03	67	76	Moist	1	SW	100	Mature heads

[1]Soil temperature taken at 2 '
[2]Not measured
[3]Not applicable

Table 11 Environmental Conditions at Application (Continued)

Site Code/ Plot	Application No	Application Date	Temp °F Air	Temp °F Soil[1]	Soil Surface	Winds (mph)	Winds Direction	RH%	Crop Stage
IA01 Plot 2	1	09/16/03	84	70	Moist	4	S	37	R6 full seed
IA01 Plot 2	2	09/23/03	72	60	Moist	6	S	39	R7 full seed turning
IA01 Plot 2	3	10/02/03	57	57	Dry	3-4	SSE	25	R7-R8 Approaching Maturity
IA01 Plot 2	4	10/09/03	69	63	Moist	4	SE	62	Mature
IA01 Plot 3	1	09/16/03	84	70	Moist	4	S	37	R6 full seed
IA01 Plot 3	2	09/23/03	72	60	Moist	6	S	39	R7 Full seed turning
IA01 Plot 3	3	10/02/03	57	57	Dry	3-4	SSE	25	R7-R8 Approaching Maturity
IA01 Plot 3	4	10/09/03	69	63	Moist	4	SE	62	Mature
IA02 Plot 2	1	09/16/03	84	70	Moist	4	S	37	R6-Full seed
IA02 Plot 2	2	09/23/03	72	60	Moist	6	S	39	R7
IA02 Plot 2	3	10/02/03	57	57	Dry	3-4	SSE	25	R7-R8 Approaching Maturity
IA02 Plot 2	4	10/09/03	69	63	Moist	4	SE	62	Mature
IA02 Plot 3	1	09/16/03	84	70	Moist	4	S	37	R6-Full seed
IA02 Plot 3	2	09/23/03	72	60	Moist	6	S	39	R7
IA02 Plot 3	3	10/02/03	57	57	Dry	3-4	SSE	25	R7-R8 Approaching Maturity
IA02 Plot 3	4	10/09/03	69	63	Moist	4	SE	62	Mature

[1]Soil temperature taken at 2"

Table 12 Current and Historical Weather

Site Code	Parameter	Time Period	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
NSW01	Mean Min Air Temp (°F)	2003[1]	40	37	33	35	39	41	47	55
		10-Year[2]	38	35	33	34	38	43	48	53
		Difference	2	2	0	1	1	-2	-1	2
	Mean Max Air Temp (°F)	2003[1]	62	55	53	55	62	63	73	80
		10-Year[2]	60	54	52	55	61	67	74	79
		Difference	2	1	1	0	1	-4	-1	1
	Monthly Rainfall (inches)	2003[1]	0 36	1 58	1 01	2 61	0 67	2 38	2 30	1 61
		10-Year[2]	1 68	1 72	1 92	1 98	1 83	2 39	2 27	2 45
		Difference	-1 32	-0 14	-0 91	0 63	-1 16	-0 01	0 03	-0 84
	Irrigation (inches)	2003	No irrigation during study							
NSW02	Mean Min Air Temp (°F)	2003[3]	43	41	37	37	40	45	54	63
		10-Year[5]	46	41	39	41	45	51	56	61
		Difference	-3	0	-2	-4	-5	-6	-2	2
	Mean Max Air Temp (°F)	2003[3]	68	60	58	59	67	71	83	91
		10-Year[5]	65	59	57	60	67	74	82	87
		Difference	3	1	1	-1	0	-3	1	4
	Monthly Rainfall (inches)	2003[4]	0 24	1 81	3 36	3 40	0 49	2 35	0 58	1 23
		10-Year[5]	1 91	1 93	1 94	1 97	1 66	2 08	1 85	2 00
		Difference	-1 67	-0 12	1 42	1 43	-1 17	0 27	-1 27	-0 77
	Irrigation (inches)	2003	0	0	0	0	0	0	0	0

[1]2003 temperature and precipitation data for Site NSW01 obtained from Bureau of Meteorology Station 63291 Bathurst Airport NSW, located approximately 9 3 miles from the trial site

Historical temperature and precipitation data for Site NSW01 obtained from Bureau of Meteorology Bathurst Agricultural Station NSW located approximately 9 3 miles from the trial site

[3]2003 temperature data for Site NSW02 obtained from Bureau of Meteorology Station 65068, Parkes NSW located approximately 40 4 miles from the trial site

[4]2003 precipitation data for Site NSW02 obtained from Bureau of Meteorology Station 65022, Manildra NSW located approximately 7 5 miles from the trial site

[5]Historical temperature and precipitation data for Site NSW02 obtained from Bureau of Meteorology, Parkes, NSW, located approximately 40 4 miles from the trial site

Table 12 Current and Historical Weather (Continued)

Site Code	Parameter	Time Period	May	Jun	Jul	Aug	Sep	Oct	Nov
CA01	Mean Min Air Temp (°F)	2003[1]	58	59	62	58	57	51	43
		10-Year[2]	56	59	62	60	57	50	36
		Difference	2	0	0	-2	0	1	7
	Mean Max Air Temp (°F)	2003[1]	87	88	93	88	89	83	59
		10-Year[2]	85	89	95	96	89	79	63
		Difference	2	-1	-2	-8	0	4	-4
	Monthly Rainfall (inches)	2003[1]	0	0	0	0 98	0 1	0 31	2 04
		10-Year[2]	0 22	0 37	0 07	0 14	0 40	1 21	2 7
		Difference	-0 22	-0 37	-0 07	0 84	-0 3	-0 9	-0 66
	Irrigation (inches)	2003	Continuous flood 4-6 inches						
AR01	Mean Min Air Temp (°F)	2003[3]		66	72	71	60	51	
		10-Year[4]		70	74	72	65	54	
		Difference		-4	-2	-1	-5	-3	
	Mean Max Air Temp (°F)	2003[3]		85	92	92	82	76	
		10-Year[4]		88	92	92	85	74	
		Difference		-3	0	0	-3	2	
	Monthly Rainfall (inches)	2003[3]		3 30	3 90	1 64	3 70	3 17	
		10-Year[4]		4 7	5 4	2 5	2 8	3 2	
		Difference		-1 4	-1 5	-0 86	0 9	-0 03	
	Irrigation (inches)	2003		0	27	31	11	0	

[1]2003 temperature and precipitation data for Site CA01 obtained from CIMIS Weather Station No 61 Orland University of California, located approximately 12 miles from the trial site

[2]Historical temperature and precipitation data for Site CA01 obtained from NCDC Weather Station No 6506, Orland University of California, located approximately 12 miles from the trial site

[3]2003 temperature and precipitation data for Site AR01 obtained from Mid South Ag Research Inc , On Site Weather Station located approximately ¼ mile from the trial site

[4]Historical temperature and precipitation data for Site AR01 obtained from NOAA Weather Station No 5954 04, Memphis, TN, located approximately 10 miles from the trial site

Table 12 Current and Historical Weather (Continued)

Site Code	Parameter	Time Period	May	Jun	Jul	Aug	Sep	Oct
IA01	Mean Min Air Temp (°F)	2003[1]	48	58	64	63	49	41
		10-Year[2]	50	61	66	64	52	43
		Difference	-2	-3	-2	-1	-3	-2
	Mean Max Air Temp (°F)	2003[1]	70	80	86	88	76	67
		10-Year[2]	72	81	87	85	76	65
		Difference	-2	-1	-1	3	0	2
	Monthly Rainfall (inches)	2003[1]	5 64	4 09	3 92	3 03	3 38	1 85
		10-Year[2]	6 32	5 07	3 70	4 14	3 05	3 14
		Difference	-0 68	-0 98	0 22	-1 11	0 33	-1 29
	Irrigation (inches)	2003	No irrigation applied					
IA02	Mean Min Air Temp (°F)	2003[1]	48	58	64	63	49	41
		10-Year[2]	50	61	66	64	52	43
		Difference	-2	-3	-2	-1	-3	-2
	Mean Max Air Temp (°F)	2003[1]	70	80	86	88	76	67
		10-Year[2]	72	81	87	85	76	65
		Difference	-2	-1	-1	3	0	2
	Monthly Rainfall (inches)	2003[1]	5 64	4 09	3 92	3 03	3 38	1 85
		10-Year[2]	6 32	5 07	3 70	4 14	3 05	3 14
		Difference	-0 68	-0 98	0 22	-1 11	0 33	-1 29
	Irrigation (inches)	2003	No irrigation applied					

[1]2003 temperature and precipitation data for site IA01 obtained from BARC On-Site Weather Station

[2]Historical temperature and precipitation data for site IA01 obtained from Midwestern Regional Climate Center, Fairfield, Iowa Station, located approximately 12 miles southeast of the trial site

Table 13 Sampling

Site Code	Sample Number	Plot ID	Sample Collection Date	Sample Size	Time from Sampling to Freezer
NSW01	23060-NSW01-1	UTC Plot 1	12/29/03	15 kg	3 hr 10 min
	23060-NSW01-2	TRT Plot 2	12/29/03	15 25 kg	2 hr 45 min
	23060-NSW01-3	TRT Plot 3	12/29/03	15 kg	2 hr 45 min
NSW02	23060-NSW02-4	UTC Plot 1	12/11/03	15 75 kg	5 hr 35 min
	23060-NSW02-5	TRT Plot 2	12/11/03	14 50 kg	4 hr 45 min
	23060-NSW02-6	TRT Plot 3	12/11/03	13 2 kg	4 hr 45 min
CA01	23060-CA01-7	UTC Plot 1	11/04/03	35 lb	1 hr 40 min[1]
	23060-CA01-8	TRT Plot 2	11/04/03	34 lb	40 min[1]
	23060-CA01-9	TRT Plot 3	11/04/03	34 lb	40 min[1]
AR01	23060-AR01-10	UTC Plot 1	10/16/03	15 kg[2]	35 min
	23060-AR01-11	TRT Plot 2	10/16/03	15 kg[2]	10 min
	23060-AR01-12	TRT Plot 3	10/16/03	15 kg[2]	10 min
IA01	23060-IA01-13	UTC Plot 1	10/15/03	16 6 kg	60 min[1]
	23060-IA01-14	TRT Plot 2	10/15/03	16 4 kg	47 min[1]
	23060-IA01-15	TRT Plot 3	10/15/03	16 4 kg	29 min[1]
IA02	23060-IA02-16	UTC Plot 1	10/15/03	16 2	54 min[1]
	23060-IA02-17	TRT Plot 2	10/15/03	16 6	43 min[1]
	23060-IA02-18	TRT Plot 3	10/15/03	16 6	26 min[1]

[1]Samples were immediately placed in coolers with substitute ice
[2]Two samples of 15 kg each were taken from each plot for a backup

Table 14 Sample Storage and Shipping

Site Code	Plot ID and Sample Number	Collection Date	Storage Interval (Days)	Test Site Storage Temp		Shipping Date
				Min °C	Max °C	
NSW01	UTC Plot 1 23060-NSW01-1	12/29/03	43	-21	-13	02/10/04
	TRT Plot 2 23060-NSW01-2	12/29/03	43	-21	-13	02/10/04
	TRT Plot 3 23060-NSW01-3	12/29/03	43	-21	-13	02/10/04
NSW02	UTC Plot 1 23060-NSW02-4	12/11/03	67	-21	-13	02/16/04
	TRT Plot 2 23060-NSW02-5	12/11/03	67	-21	-13	02/16/04
	TRT Plot 3 23060-NSW02-6	12/11/03	67	-21	-13	02/16/04
CA01	UTC Plot 1 23060-CA01-7	11/04/03	62	-26	-21	01/05/04
	TRT Plot 2 23060-CA01-8	11/04/03	62	-26	-21	01/05/04
	TRT Plot 3 23060-CA01-9	11/04/03	62	-26	-21	01/05/04
AR01	UTC Plot 1 23060-AR01-10	10/16/03	39	-28	-11	11/24/03
	TRT Plot 2 23060-AR01-11	10/16/03	39	-28	-11	11/24/03
	TRT Plot 3 23060-AR01-12	10/16/03	39	-28	-11	11/24/03
IA01	UTC Plot 1 23060-IA01-13	10/15/03	33	-26 39	-16 61	11/17/03
	TRT Plot 2 23060-IA01-14	10/15/03	33	-31 00	-19 28	11/17/03
	TRT Plot 3 23060-IA01-15	10/15/03	33	-31 00	-19 28	11/17/03
IA02	UTC Plot 1 23060-IA02-16	10/15/03	33	-26 39	-16 61	11/17/03
	TRT Plot 2 23060-IA02-17	10/15/03	33	-31 00	-19 28	11/17/03
	TRT Plot 3 23060-IA02-18	10/15/03	33	-31 00	-19 28	11/17/03

Table 15 Crop Destruct

Site Code	Date of Crop Destruct	Method
NSW01	12/29/03	All treated crop was harvested and grain was left for crop destruction
NSW02	12/11/03	All treated crop was harvested and grain was left for crop destruction
CA01	11/04/03	Disced under
AR01	10/16/03	Excess rice was combined, emptied onto the plot area, and disced
IA01	10/15/03	Remaining crop seed was harvested and placed back on field to degrade in the environment
IA02	10/15/03	Remaining crop seed was harvested and placed back on field to degrade in the environment

V FIGURES

Figure 1 Field Test Site Locations NSW01 and NSW02

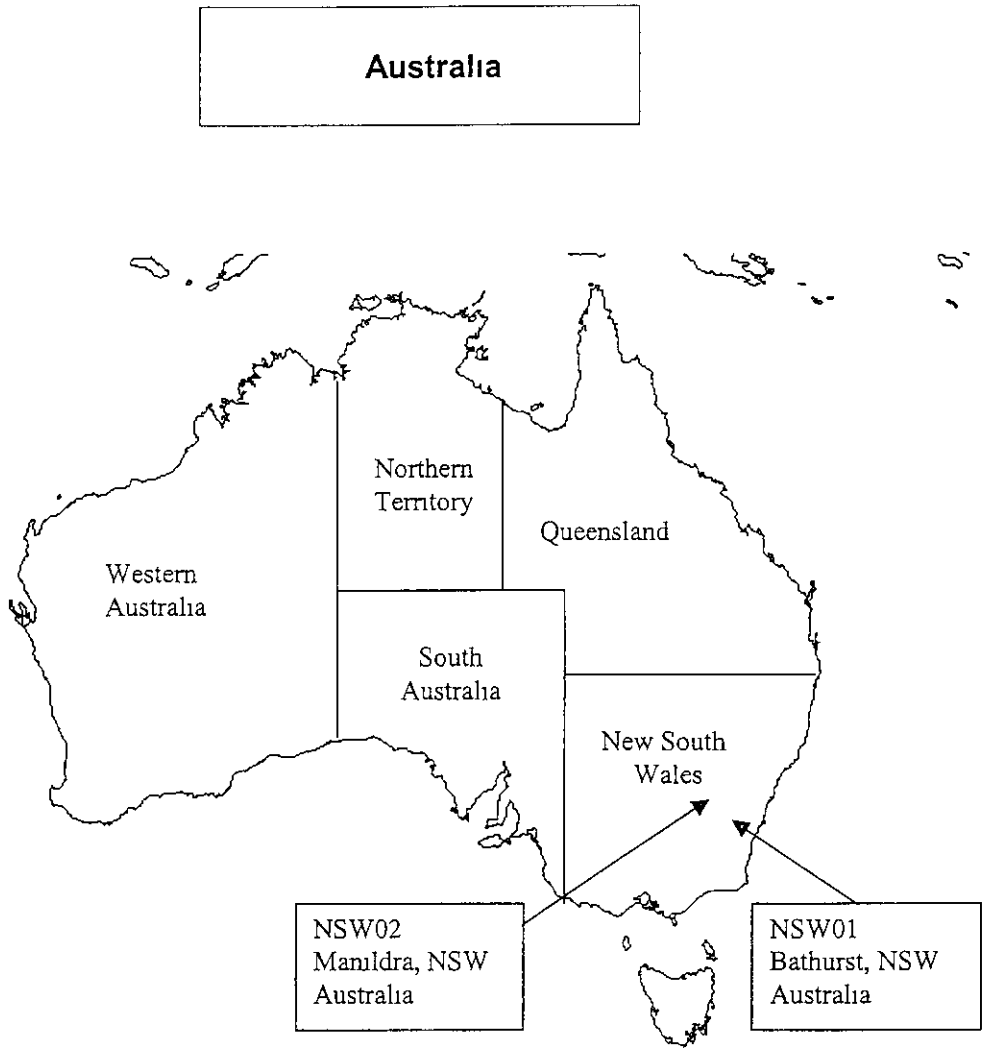


Figure 2 Field Test Site Locations CA01, AR01 IA01, IA02

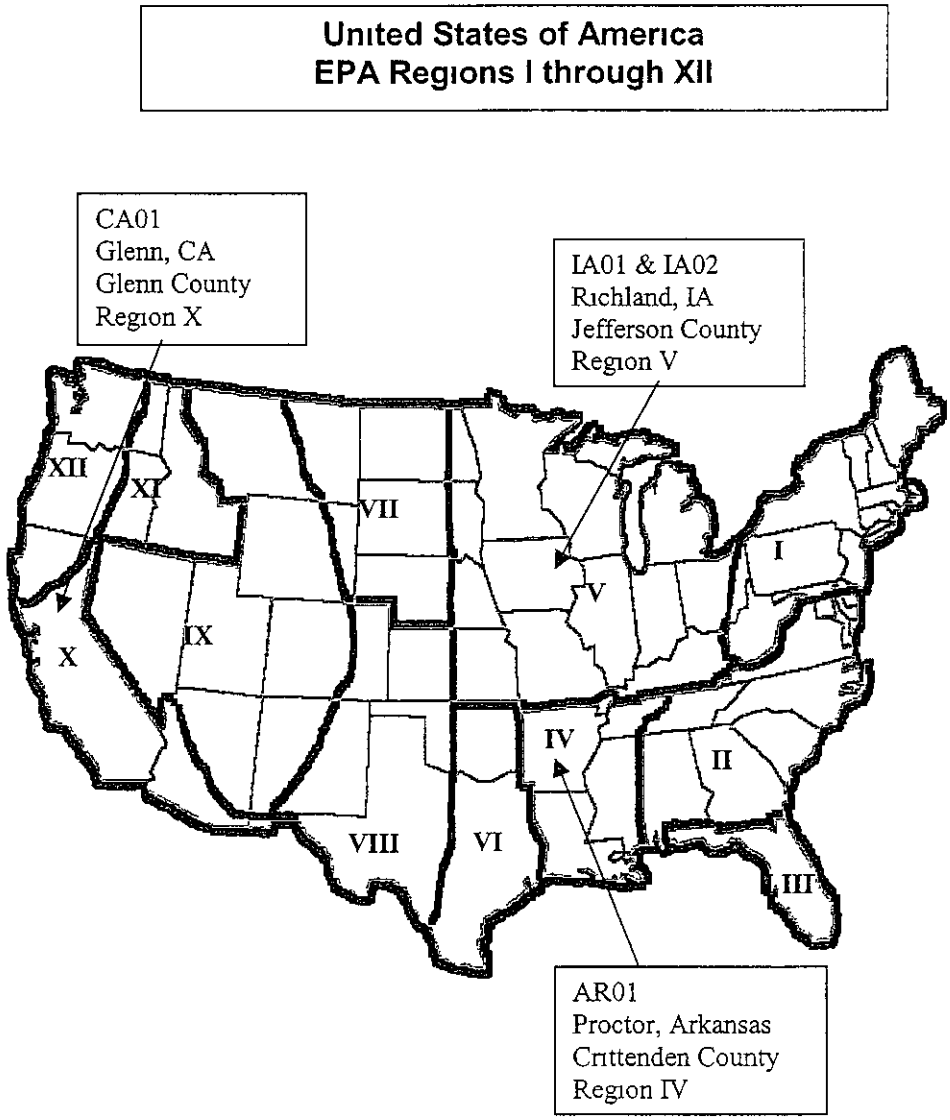


Figure 3 Plot Map – Site NSW01 (Wheat), Bathurst, NSW, Australia

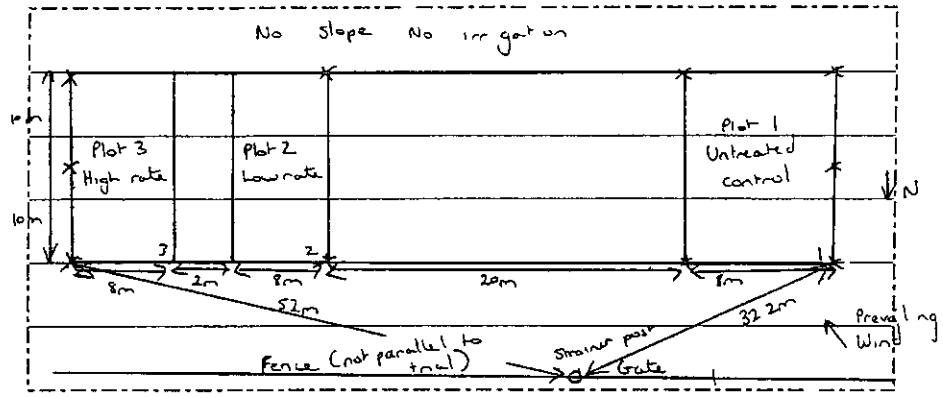


Figure 4 Plot Map – Site NSW02 (Wheat), Manildra, NSW, Australia

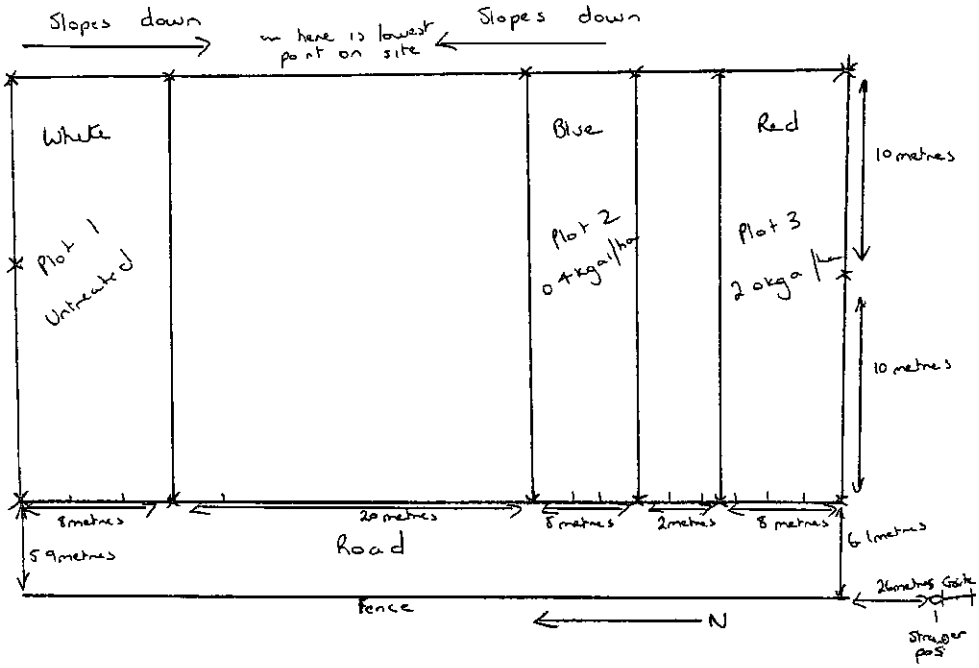


Figure 5 Plot Map – Site CA01 (Rice), Glenn, California

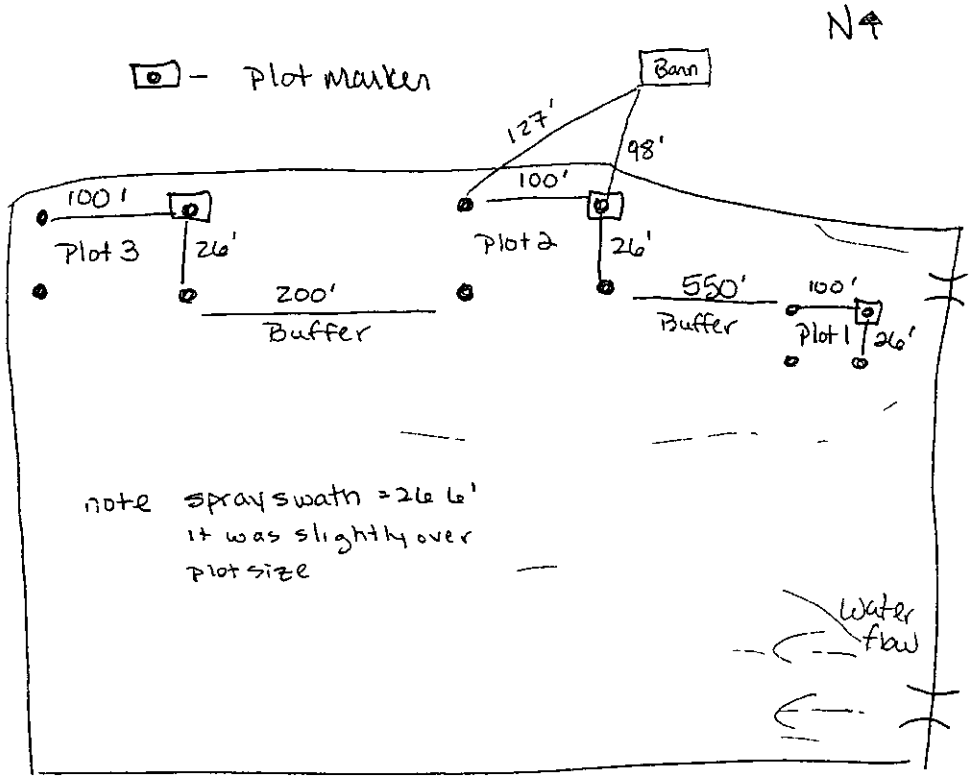


Figure 6 Plot Map – Site AR01 (Rice) Proctor, Arkansas

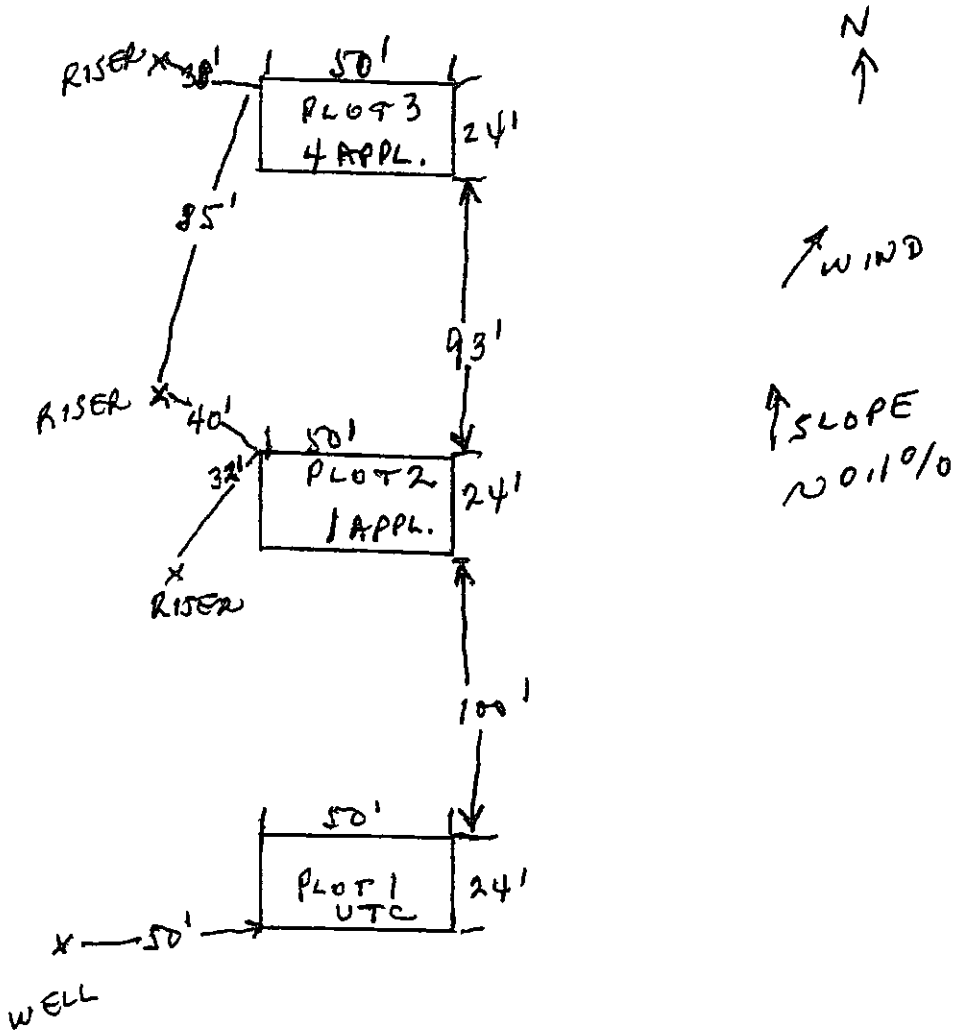


Figure 7 **Plot Map – Site IA01 (Soybean), Richland, Iowa**

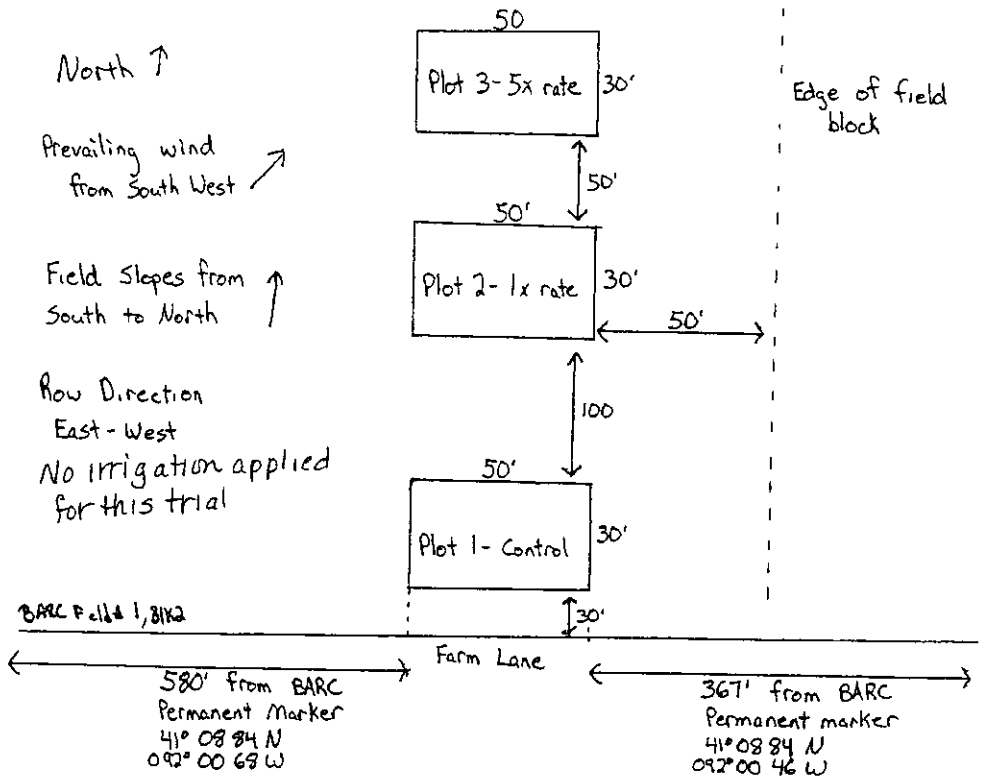
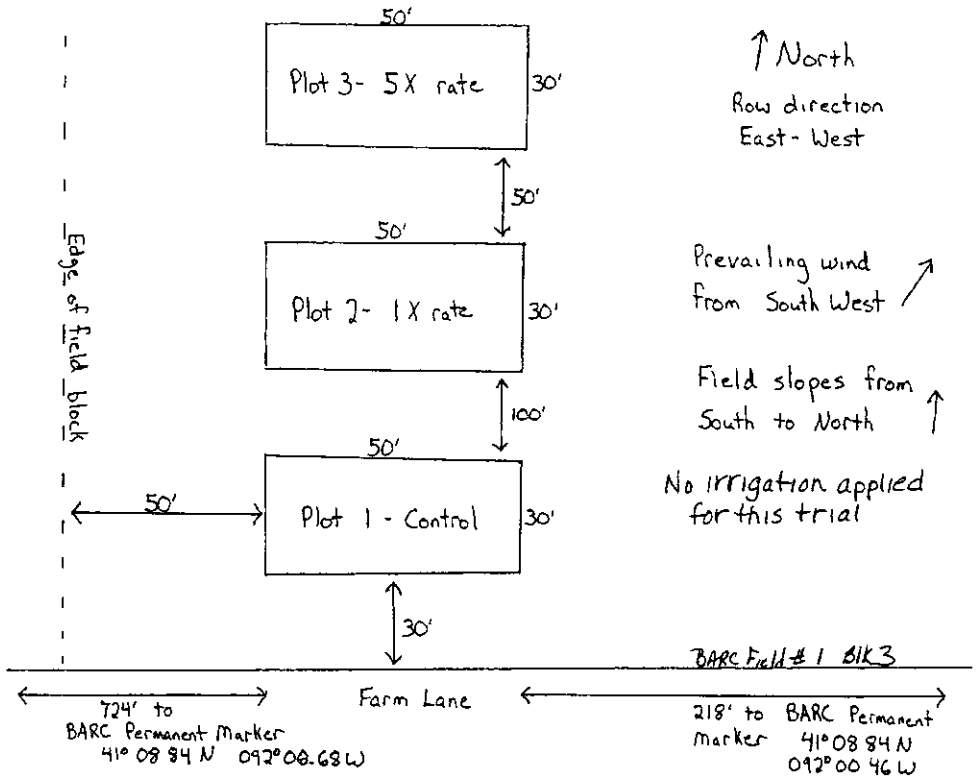


Figure 8 Plot Map – Site IA02 (Soybean), Richland, Iowa



付表 2　米試料の加工調理方法，調製方法および部分試料の採取方法

1　加工調理方法及び試料調製方法

(1) 玄米　　穀粒(2 0~3 5 kg)をもみすり器を用いて，玄米ともみ殻試料に分けた（各重量測定)。

(2) 白米　　玄米 540 g（約 3 合）を精米機にて精米し，白米と糠を分取した（各重量を測定)。精白度は白米として一般的な条件（重量比て玄米の 8%を除去）とした。

(3) 水洗玄米，水洗白米　　玄米もしくは白米 250 もしくは 300 g を米とぎカップにはかりとり，水 375 もしくは 450 mL を加え，約 20 秒間洗浄し　とぎ汁を分取した。新たに水 250 もしくは 300 mL を加え同様の操作を 3 回繰り返した（洗浄回数 4 回)。最後の洗浄を終えた後，水洗した玄米もしくは白米をさるに移し，15 分間放置し自然乾燥した（重量を測定)。とぎ汁の容量を測定した。

(4) 炊飯玄米　　前記の水洗玄米 180 g（約 1 合）に水 300 mL を加え，玄米炊飯モード（115 分炊飯）で炊飯し，炊飯後に重量を測定した。

(5) 炊飯白米　　前記の水洗白米 180 g（約 1 合）に水 200 mL を加え，白米炊飯モード（50 分間炊飯）て炊飯し，炊飯後に重量を測定した。

2　部分試料の採取方法

(1) 穀粒，玄米，白米，もみ殻，水洗玄米　水洗白米　　試料調製後，約 150 g を超遠心粉砕機を用いて処理（40 メッシュ以下）し，均一化したものから採取。

(2) 糠，炊飯玄米，炊飯白米，玄米とぎ汁，白米とぎ汁　　試料調製後，攪拌し均一化したものから採取。

付表 3　大豆試料の加工調理方法，調製方法および部分試料の採取方法

1　加工調理方法及び試料調製方法

(1) 水浸漬大豆，浸漬水　　大豆 200 g に水 1000 mL を加え，室温（約 23℃）て一晩放置後，水浸漬大豆（水て膨潤した状態の大豆）と浸漬水を分離し，それぞれの重量および容量を測定した。

(2) 豆乳，おから　　水浸漬大豆 290 g（乾燥大豆当たり約 130 g）および水 900 mL を豆乳メーカーにセットし，破砕蒸豆過程を実施し完了後，ろ過して豆乳とおからに分離し，それぞれの容量および重量を測定した。

(3) 豆腐，非凝固液　　前記の豆乳 700 mL の温度を 70℃にし，ぬるま湯 50 mL ににがり 10 mL を溶解したものを 2~3 回にわけて加え，10 分間放置した。これを豆腐型に移し，300 g の重しをのせて 20 分間水分を出し，豆腐の重量および非凝固液の容量を測定した。

2　部分試料の採取方法

(1) 大豆　　超遠心粉砕機を用いて，40 メッシュ以下に粉砕した。

(2) 水浸漬大豆，豆腐　　ミキサーを用いてホモジナイズした。

付表 4　小麦試料の加工調理方法，調製方法および部分試料の採取方法

1　加工調理方法及び試料調製方法

(1) 小麦の脱穀，製粉は財団法人 穀物検定協会において実施した。

(2) 食パン（60％製粉）　ホームベーカリーのパンケースにドライイースト 2.7 g，砂糖 17.5 g，強力粉 160 g，60 ％製粉 120 g，スキムミルク 5 g，塩 5 g，バター 20 g，水 190 mL を順に加え、食パンメニュー 1 斤用（ふつう）モードで調理した。焼き上がった後，室温にて 30 分間放置して重量を測定した。

(3) 食ハン（全粒粉）　ホームベーカリーのパンケースにドライイースト 2.7 g，砂糖 14 g，強力粉 160 g，全粒粉（玄麦を粉砕したもの）120 g，スキムミルク 5 g，塩 5 g，ショートニング 20 g，水 170 mL を順に加え，全粒粉ハンメニュー 1 片用モードて調理した。焼き上がった後，室温にて 30 分放置して，重量を測定した。

(4) 中華麺　ステンレス製のホールに水 80 mL およびかんすい*) 5 mL を加え混合して，次に 60％製粉 200 g を加え混合した。ホールの中で塊にまとめて，塊をヒニール袋に入れ，空気を抜いて，口の端をしばって密閉し，室温て 60 分間放置した。その後，重量を測定した。

*) かんすい　20％炭酸カリウム，3.3％炭酸ナトリウム水溶液

(5) うどん　ステンレス製のボールに 60％製粉 200 g を入れ，そこに水 90 mL およひ塩 10 g を加え混合した溶液を注ぎ入れて練り，ボールの中で塊にまとめた。塊をビニール袋に入れ，空気を抜いて，口の端をしばって密閉し，25℃で 2 時間放置した。その後，重量を測定した。

2　部分試料の採取方法

(1) 玄麦　試料調製後，約 150 g を超遠心粉砕機を用いて処理（40 メッシュ以下）し，均一化したものから採取。

(2) 食ハン　ミキサーを用いて均一化したものから採取。

(3) 中華麺，うとん　塊から採取。