

MSU Weed Science Research Program

Comparison of weed control systems in LibertyLink soybean

Trial ID: SOY05-15 Study Dir.: Sprague and Powell
 Conducted: Campus C-14 Investigator: Christy Sprague

Date Planted: May/06/2015 Row Spacing: 30 IN
 Variety: MCIA 2512LL No. of Reps: 4
 Population: 150,000 seed/A % OM: 3.4
 Soil Type: Loam pH: 7.0
 Plot Size: 10 X 30 FT Design: RANDOMIZED COMPLETE BLOCK

Tillage: Fall chisel plow; spring soil finish twice

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1.	ANGR	mainly foxtail species	SETARIA SP.
2.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
3.	AMBEL	RAGWEED, COMMON	AMBROSIA ARTEMISIIFOLIA L.
4.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
Crop	Code	Common Name	
1.	GLXMA	SOYBEAN	

Application Description

	A	B	C	D
Application Timing:	PRE	EPOS	POST	LPOS
Date Treated:	May/06/2015	Jun/03/2015	Jun/19/2015	Jun/26/2015
Time Treated:	8:30 PM	11:20 AM	4:15 PM	11:30 AM
% Cloud Cover:	20	0	40	90
Air Temp., Unit:	70 F	75 F	70 F	73 F
% Relative Humidity:	58	46	54	60
Wind Speed/Unit/Dir:	1 mph E	2 mph S	5 mph N	4 mph E
Soil Temp., Unit:	63 F	62 F	72 F	64 F
Soil/Leaf Surface M:	4 -	5 5	3 5	4 5
Soil Moist (1=w 5=d):	4	4	2	3

Crop Stage at Each Application

	A	B	C	D
Crop Name:	GLXMA	GLXMA	GLXMA	GLXMA
Height (In.):	-	4"	12"	16"
Stage (L):	-	V1	V4	V5

Weed Stage at Each Application

	A	B	C	D
Weed 1 Name:	ANGR	ANGR	ANGR	ANGR
Height (In.):	-	1.5"	1-6"	3-6"
Stage (L):	-	2	2-4	4-6
Weed 2 Name:	CHEAL	CHEAL	CHEAL	CHEAL
Height (In.):	-	1.5"	-	1-3"
Stage (L):	-	4	-	6-10
Weed 3 Name:	AMBEL	AMBEL	AMBEL	AMBEL
Height (In.):	-	2"	3-6"	2"
Stage (L):	-	4	4-10	4-8
Weed 4 Name:	ABUTH	ABUTH	ABUTH	ABUTH
Height (In.):	-	1"	-	1"
Stage (L):	-	2	-	2

Weed Density (plants/sq. ft.)

	1	2	3	4
Date:	Jun/09/2015	Jun/09/2015	Jun/09/2015	Jun/09/2015
Weed Name:	ANGR	CHEAL	AMBEL	ABUTH
Density:	159	4	164	1

Application Equipment

Appl	Sprayer Type	Speed MPH	Nozzle Type	Nozzle Size	Nozzle Height	Nozzle Spacing	Boom Width	GPA	Carrier	PSI
A	Cub	3.8	AIXR	11003	20"	20"	80"	19	Water	28
B	Cub	3.8	AIXR	11003	24"	20"	100"	19	Water	28
C	Cub	3.8	AIXR	11003	26"	20"	100"	19	Water	28
D	Cub	3.8	AIXR	11003	28"	20"	100"	19	Water	28

MSU Weed Science Research Program

Comparison of weed control systems in LibertyLink soybean

Trial ID: SOY05-15 Study Dir.: Sprague and Powell
 Conducted: Campus C-14 Investigator: Christy Sprague

Weed Code								GLXMA	ANGR	CHEAL	AMBEL	GLXMA
Crop Code								injury	control	control	control	injury
Rating Data Type								percent	percent	percent	percent	percent
Rating Unit								Jun/03/2015	Jun/03/2015	Jun/03/2015	Jun/03/2015	Jun/19/2015
Rating Date								28 DA-A	28 DA-A	28 DA-A	28 DA-A	0 DA-C
Trt-Eval Interval								0	0	0	0	0
# Subsamples, Dec.								0	0	0	0	0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Valor	51	WG	2.5	oz/a	PRE	A	13	71	99	84	0
1	Liberty	2.34	L	29	fl oz/a	POST	C					
1	AMS		WG	8.5	lb/100 gal	POST	C					
2	Authority MTZ	45	WG	16	oz/a	PRE	A	0	93	99	61	0
2	Liberty	2.34	L	29	fl oz/a	POST	C					
2	AMS		WG	8.5	lb/100 gal	POST	C					
3	Authority First	70	WG	6.4	oz/a	PRE	A	5	93	99	75	2
3	Liberty	2.34	L	29	fl oz/a	POST	C					
3	AMS		WG	8.5	lb/100 gal	POST	C					
4	Fierce	76	WG	3.5	oz/a	PRE	A	24	98	99	97	1
4	Liberty	2.34	L	29	fl oz/a	POST	C					
4	AMS		WG	8.5	lb/100 gal	POST	C					
5	Optill Pro - Optill	68	WG	2	oz/a	PRE	A	8	98	99	68	0
5	Optill Pro - Outlook	6	L	10	fl oz/a	PRE	A					
5	Liberty	2.34	L	29	fl oz/a	POST	C					
5	AMS		WG	8.5	lb/100 gal	POST	C					
6	Untreated							0	0	0	0	0
7	Valor XLT	40.3	WG	3.5	oz/a	PRE	A	13	84	99	82	3
7	Liberty	2.34	L	29	fl oz/a	POST	C					
7	Zidua	85	WG	2	oz/a	POST	C					
7	AMS		WG	8.5	lb/100 gal	POST	C					
8	Envive	41.3	WG	3.5	oz/a	PRE	A	13	82	99	79	2
8	Liberty	2.34	L	29	fl oz/a	POST	C					
8	Outlook	6	L	14	fl oz/a	POST	C					
8	AMS		WG	8.5	lb/100 gal	POST	C					
9	Valor	51	WG	2.5	oz/a	PRE	A	15	65	99	80	0
9	Liberty	2.34	L	29	fl oz/a	POST	C					
9	Warrant	3	L	3	pt/a	POST	C					
9	AMS		WG	8.5	lb/100 gal	POST	C					
10	Liberty	2.34	L	29	fl oz/a	EPOS	B	0	0	0	0	16
10	Pursuit	2	L	4	fl oz/a	EPOS	B					
10	AMS		WG	8.5	lb/100 gal	EPOS	B					
10	Liberty	2.34	L	29	fl oz/a	LPOS	D					
10	Warrant	3	L	3	pt/a	LPOS	D					
10	AMS		WG	8.5	lb/100 gal	LPOS	D					
11	Liberty	2.34	L	29	fl oz/a	EPOS	B	0	0	0	0	14
11	Prefix	5.29	L	2	pt/a	EPOS	B					
11	AMS		WG	8.5	lb/100 gal	EPOS	B					
11	Liberty	2.34	L	29	fl oz/a	LPOS	D					
11	Warrant	3	L	3	pt/a	LPOS	D					
11	AMS		WG	8.5	lb/100 gal	LPOS	D					
12	Liberty	2.34	L	29	fl oz/a	EPOS	B	0	0	0	0	0
12	AMS		WG	8.5	lb/100 gal	EPOS	B					
12	Liberty	2.34	L	29	fl oz/a	LPOS	D					
12	AMS		WG	8.5	lb/100 gal	LPOS	D					
LSD (P=.05)								4.7	7.8	0.0	4.9	2.0
CV								44.47	9.5	0.0	6.56	43.4

MSU Weed Science Research Program

Comparison of weed control systems in LibertyLink soybean

Trial ID: SOY05-15 Study Dir.: Sprague and Powell
 Conducted: Campus C-14 Investigator: Christy Sprague

Weed Code								ANGR	CHEAL	AMBEL	GLXMA	ANGR
Crop Code								control	control	control	injury	control
Rating Data Type								percent	percent	percent	percent	percent
Rating Unit								Jun/19/2015	Jun/19/2015	Jun/19/2015	Jun/26/2015	Jun/26/2015
Rating Date								0 DA-C	0 DA-C	0 DA-C	7 DA-C	7 DA-C
Trt-Eval Interval								0	0	0	0	0
# Subsamples, Dec.								0	0	0	0	0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Valor	51	WG	2.5	oz/a	PRE	A	58	99	75	4	80
1	Liberty	2.34	L	29	fl oz/a	POST	C					
1	AMS		WG	8.5	lb/100 gal	POST	C					
2	Authority MTZ	45	WG	16	oz/a	PRE	A	68	99	40	4	86
2	Liberty	2.34	L	29	fl oz/a	POST	C					
2	AMS		WG	8.5	lb/100 gal	POST	C					
3	Authority First	70	WG	6.4	oz/a	PRE	A	84	99	61	4	99
3	Liberty	2.34	L	29	fl oz/a	POST	C					
3	AMS		WG	8.5	lb/100 gal	POST	C					
4	Fierce	76	WG	3.5	oz/a	PRE	A	88	99	85	3	98
4	Liberty	2.34	L	29	fl oz/a	POST	C					
4	AMS		WG	8.5	lb/100 gal	POST	C					
5	Optill Pro - Optill	68	WG	2	oz/a	PRE	A	94	99	66	3	99
5	Optill Pro - Outlook	6	L	10	fl oz/a	PRE	A					
5	Liberty	2.34	L	29	fl oz/a	POST	C					
5	AMS		WG	8.5	lb/100 gal	POST	C					
6	Untreated							0	0	0	0	0
7	Valor XLT	40.3	WG	3.5	oz/a	PRE	A	75	99	67	9	91
7	Liberty	2.34	L	29	fl oz/a	POST	C					
7	Zidua	85	WG	2	oz/a	POST	C					
7	AMS		WG	8.5	lb/100 gal	POST	C					
8	Envive	41.3	WG	3.5	oz/a	PRE	A	77	99	70	3	96
8	Liberty	2.34	L	29	fl oz/a	POST	C					
8	Outlook	6	L	14	fl oz/a	POST	C					
8	AMS		WG	8.5	lb/100 gal	POST	C					
9	Valor	51	WG	2.5	oz/a	PRE	A	56	99	73	2	80
9	Liberty	2.34	L	29	fl oz/a	POST	C					
9	Warrant	3	L	3	pt/a	POST	C					
9	AMS		WG	8.5	lb/100 gal	POST	C					
10	Liberty	2.34	L	29	fl oz/a	EPOS	B	90	98	93	11	78
10	Pursuit	2	L	4	fl oz/a	EPOS	B					
10	AMS		WG	8.5	lb/100 gal	EPOS	B					
10	Liberty	2.34	L	29	fl oz/a	LPOS	D					
10	Warrant	3	L	3	pt/a	LPOS	D					
10	AMS		WG	8.5	lb/100 gal	LPOS	D					
11	Liberty	2.34	L	29	fl oz/a	EPOS	B	91	98	99	9	83
11	Prefix	5.29	L	2	pt/a	EPOS	B					
11	AMS		WG	8.5	lb/100 gal	EPOS	B					
11	Liberty	2.34	L	29	fl oz/a	LPOS	D					
11	Warrant	3	L	3	pt/a	LPOS	D					
11	AMS		WG	8.5	lb/100 gal	LPOS	D					
12	Liberty	2.34	L	29	fl oz/a	EPOS	B	79	94	96	0	69
12	AMS		WG	8.5	lb/100 gal	EPOS	B					
12	Liberty	2.34	L	29	fl oz/a	LPOS	D					
12	AMS		WG	8.5	lb/100 gal	LPOS	D					
LSD (P=.05)								5.5	2.0	4.7	2.5	6.5
CV								5.34	1.55	4.76	39.53	5.66

MSU Weed Science Research Program

Comparison of weed control systems in LibertyLink soybean

Trial ID: SOY05-15 Study Dir.: Sprague and Powell
 Conducted: Campus C-14 Investigator: Christy Sprague

Weed Code								CHEAL	AMBEL	ABUTH	GLXMA	ANGR
Crop Code								control	control	control	injury	control
Rating Data Type								percent	percent	percent	percent	percent
Rating Unit								Jun/26/2015	Jun/26/2015	Jun/26/2015	Jul/10/2015	Jul/10/2015
Rating Date								7 DA-C	7 DA-C	7 DA-C	14 DA-D	14 DA-D
Trt-Eval Interval								0	0	0	0	0
# Subsamples, Dec.												
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Valor	51	WG	2.5	oz/a	PRE	A	99	96	99	1	93
1	Liberty	2.34	L	29	fl oz/a	POST	C					
1	AMS		WG	8.5	lb/100 gal	POST	C					
2	Authority MTZ	45	WG	16	oz/a	PRE	A	99	89	99	3	90
2	Liberty	2.34	L	29	fl oz/a	POST	C					
2	AMS		WG	8.5	lb/100 gal	POST	C					
3	Authority First	70	WG	6.4	oz/a	PRE	A	99	97	99	2	96
3	Liberty	2.34	L	29	fl oz/a	POST	C					
3	AMS		WG	8.5	lb/100 gal	POST	C					
4	Fierce	76	WG	3.5	oz/a	PRE	A	99	98	99	2	94
4	Liberty	2.34	L	29	fl oz/a	POST	C					
4	AMS		WG	8.5	lb/100 gal	POST	C					
5	Optill Pro - Optill	68	WG	2	oz/a	PRE	A	99	96	99	0	95
5	Optill Pro - Outlook	6	L	10	fl oz/a	PRE	A					
5	Liberty	2.34	L	29	fl oz/a	POST	C					
5	AMS		WG	8.5	lb/100 gal	POST	C					
6	Untreated							0	0	0	0	0
7	Valor XLT	40.3	WG	3.5	oz/a	PRE	A	99	95	99	2	99
7	Liberty	2.34	L	29	fl oz/a	POST	C					
7	Zidua	85	WG	2	oz/a	POST	C					
7	AMS		WG	8.5	lb/100 gal	POST	C					
8	Envive	41.3	WG	3.5	oz/a	PRE	A	99	97	99	2	98
8	Liberty	2.34	L	29	fl oz/a	POST	C					
8	Outlook	6	L	14	fl oz/a	POST	C					
8	AMS		WG	8.5	lb/100 gal	POST	C					
9	Valor	51	WG	2.5	oz/a	PRE	A	99	93	99	0	97
9	Liberty	2.34	L	29	fl oz/a	POST	C					
9	Warrant	3	L	3	pt/a	POST	C					
9	AMS		WG	8.5	lb/100 gal	POST	C					
10	Liberty	2.34	L	29	fl oz/a	EPOS	B	98	82	99	6	97
10	Pursuit	2	L	4	fl oz/a	EPOS	B					
10	AMS		WG	8.5	lb/100 gal	EPOS	B					
10	Liberty	2.34	L	29	fl oz/a	LPOS	D					
10	Warrant	3	L	3	pt/a	LPOS	D					
10	AMS		WG	8.5	lb/100 gal	LPOS	D					
11	Liberty	2.34	L	29	fl oz/a	EPOS	B	96	97	98	5	98
11	Prefix	5.29	L	2	pt/a	EPOS	B					
11	AMS		WG	8.5	lb/100 gal	EPOS	B					
11	Liberty	2.34	L	29	fl oz/a	LPOS	D					
11	Warrant	3	L	3	pt/a	LPOS	D					
11	AMS		WG	8.5	lb/100 gal	LPOS	D					
12	Liberty	2.34	L	29	fl oz/a	EPOS	B	82	83	90	2	94
12	AMS		WG	8.5	lb/100 gal	EPOS	B					
12	Liberty	2.34	L	29	fl oz/a	LPOS	D					
12	AMS		WG	8.5	lb/100 gal	LPOS	D					
LSD (P=.05)								3.0	3.7	4.6	2.9	3.3
CV								2.32	3.04	3.55	101.92	2.58

MSU Weed Science Research Program

Comparison of weed control systems in LibertyLink soybean

Trial ID: SOY05-15 Study Dir.: Sprague and Powell
 Conducted: Campus C-14 Investigator: Christy Sprague

								CHEAL	AMBEL	ABUTH	GLXMA	ANGR
								control	control	control	injury	control
								percent	percent	percent	percent	percent
								Jul/10/2015	Jul/10/2015	Jul/10/2015	Aug/14/2015	Aug/14/2015
								14 DA-D	14 DA-D	14 DA-D	49 DA-D	49 DA-D
								0	0	0	0	0
Trt	Treatment	Form	Form	Rate	Rate	Grow	Appl					
No.	Name	Conc	Type	Unit	Unit	Stg	Code					
1	Valor	51	WG	2.5	oz/a	PRE	A	99	92	99	0	97
1	Liberty	2.34	L	29	fl oz/a	POST	C					
1	AMS		WG	8.5	lb/100 gal	POST	C					
2	Authority MTZ	45	WG	16	oz/a	PRE	A	99	91	99	0	92
2	Liberty	2.34	L	29	fl oz/a	POST	C					
2	AMS		WG	8.5	lb/100 gal	POST	C					
3	Authority First	70	WG	6.4	oz/a	PRE	A	98	94	99	0	95
3	Liberty	2.34	L	29	fl oz/a	POST	C					
3	AMS		WG	8.5	lb/100 gal	POST	C					
4	Fierce	76	WG	3.5	oz/a	PRE	A	99	93	99	0	95
4	Liberty	2.34	L	29	fl oz/a	POST	C					
4	AMS		WG	8.5	lb/100 gal	POST	C					
5	Optill Pro - Optill	68	WG	2	oz/a	PRE	A	99	93	99	0	98
5	Optill Pro - Outlook	6	L	10	fl oz/a	PRE	A					
5	Liberty	2.34	L	29	fl oz/a	POST	C					
5	AMS		WG	8.5	lb/100 gal	POST	C					
6	Untreated							0	0	0	0	0
7	Valor XLT	40.3	WG	3.5	oz/a	PRE	A	99	98	99	0	99
7	Liberty	2.34	L	29	fl oz/a	POST	C					
7	Zidua	85	WG	2	oz/a	POST	C					
7	AMS		WG	8.5	lb/100 gal	POST	C					
8	Envive	41.3	WG	3.5	oz/a	PRE	A	99	97	99	0	97
8	Liberty	2.34	L	29	fl oz/a	POST	C					
8	Outlook	6	L	14	fl oz/a	POST	C					
8	AMS		WG	8.5	lb/100 gal	POST	C					
9	Valor	51	WG	2.5	oz/a	PRE	A	99	97	99	0	98
9	Liberty	2.34	L	29	fl oz/a	POST	C					
9	Warrant	3	L	3	pt/a	POST	C					
9	AMS		WG	8.5	lb/100 gal	POST	C					
10	Liberty	2.34	L	29	fl oz/a	EPOS	B	96	95	98	0	98
10	Pursuit	2	L	4	fl oz/a	EPOS	B					
10	AMS		WG	8.5	lb/100 gal	EPOS	B					
10	Liberty	2.34	L	29	fl oz/a	LPOS	D					
10	Warrant	3	L	3	pt/a	LPOS	D					
10	AMS		WG	8.5	lb/100 gal	LPOS	D					
11	Liberty	2.34	L	29	fl oz/a	EPOS	B	98	98	99	0	98
11	Prefix	5.29	L	2	pt/a	EPOS	B					
11	AMS		WG	8.5	lb/100 gal	EPOS	B					
11	Liberty	2.34	L	29	fl oz/a	LPOS	D					
11	Warrant	3	L	3	pt/a	LPOS	D					
11	AMS		WG	8.5	lb/100 gal	LPOS	D					
12	Liberty	2.34	L	29	fl oz/a	EPOS	B	98	94	99	0	92
12	AMS		WG	8.5	lb/100 gal	EPOS	B					
12	Liberty	2.34	L	29	fl oz/a	LPOS	D					
12	AMS		WG	8.5	lb/100 gal	LPOS	D					
LSD (P=.05)								2.5	3.8	1.3	0.0	4.0
CV								1.92	3.01	0.96	0.0	3.15

MSU Weed Science Research Program

Comparison of weed control systems in LibertyLink soybean

Trial ID: SOY05-15 Study Dir.: Sprague and Powell
 Conducted: Campus C-14 Investigator: Christy Sprague

Weed Code								CHEAL	AMBEL	ABUTH	GLXMA	GLXMA
Crop Code								control	control	control	moisture	yield
Rating Data Type								percent	percent	percent	percent	bu/acre
Rating Unit								Aug/14/2015	Aug/14/2015	Aug/14/2015	Oct/15/2015	Oct/15/2015
Rating Date								49 DA-D	49 DA-D	49 DA-D	111 DA-D	at 13% M
Trt-Eval Interval								0	0	0	1	1
# Subsamples, Dec.												
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code					
1	Valor	51	WG	2.5	oz/a	PRE	A	99	94	99	15.9	80.3
1	Liberty	2.34	L	29	fl oz/a	POST	C					
1	AMS		WG	8.5	lb/100 gal	POST	C					
2	Authority MTZ	45	WG	16	oz/a	PRE	A	99	95	99	16.3	82.1
2	Liberty	2.34	L	29	fl oz/a	POST	C					
2	AMS		WG	8.5	lb/100 gal	POST	C					
3	Authority First	70	WG	6.4	oz/a	PRE	A	98	96	99	16.2	75.3
3	Liberty	2.34	L	29	fl oz/a	POST	C					
3	AMS		WG	8.5	lb/100 gal	POST	C					
4	Fierce	76	WG	3.5	oz/a	PRE	A	99	97	99	16.0	78.0
4	Liberty	2.34	L	29	fl oz/a	POST	C					
4	AMS		WG	8.5	lb/100 gal	POST	C					
5	Optill Pro - Optill	68	WG	2	oz/a	PRE	A	99	95	99	15.9	80.3
5	Optill Pro - Outlook	6	L	10	fl oz/a	PRE	A					
5	Liberty	2.34	L	29	fl oz/a	POST	C					
5	AMS		WG	8.5	lb/100 gal	POST	C					
6	Untreated							0	0	0	16.3	43.8
7	Valor XLT	40.3	WG	3.5	oz/a	PRE	A	99	97	99	16.0	81.4
7	Liberty	2.34	L	29	fl oz/a	POST	C					
7	Zidua	85	WG	2	oz/a	POST	C					
7	AMS		WG	8.5	lb/100 gal	POST	C					
8	Envive	41.3	WG	3.5	oz/a	PRE	A	99	96	99	16.1	76.2
8	Liberty	2.34	L	29	fl oz/a	POST	C					
8	Outlook	6	L	14	fl oz/a	POST	C					
8	AMS		WG	8.5	lb/100 gal	POST	C					
9	Valor	51	WG	2.5	oz/a	PRE	A	99	98	99	16.0	78.7
9	Liberty	2.34	L	29	fl oz/a	POST	C					
9	Warrant	3	L	3	pt/a	POST	C					
9	AMS		WG	8.5	lb/100 gal	POST	C					
10	Liberty	2.34	L	29	fl oz/a	EPOS	B	96	97	99	15.8	77.1
10	Pursuit	2	L	4	fl oz/a	EPOS	B					
10	AMS		WG	8.5	lb/100 gal	EPOS	B					
10	Liberty	2.34	L	29	fl oz/a	LPOS	D					
10	Warrant	3	L	3	pt/a	LPOS	D					
10	AMS		WG	8.5	lb/100 gal	LPOS	D					
11	Liberty	2.34	L	29	fl oz/a	EPOS	B	98	99	99	16.1	76.4
11	Prefix	5.29	L	2	pt/a	EPOS	B					
11	AMS		WG	8.5	lb/100 gal	EPOS	B					
11	Liberty	2.34	L	29	fl oz/a	LPOS	D					
11	Warrant	3	L	3	pt/a	LPOS	D					
11	AMS		WG	8.5	lb/100 gal	LPOS	D					
12	Liberty	2.34	L	29	fl oz/a	EPOS	B	98	97	99	16.0	79.8
12	AMS		WG	8.5	lb/100 gal	EPOS	B					
12	Liberty	2.34	L	29	fl oz/a	LPOS	D					
12	AMS		WG	8.5	lb/100 gal	LPOS	D					
LSD (P=.05)								2.6	3.6	0.0	0.39	4.79
CV								2.02	2.79	0.0	1.7	4.38