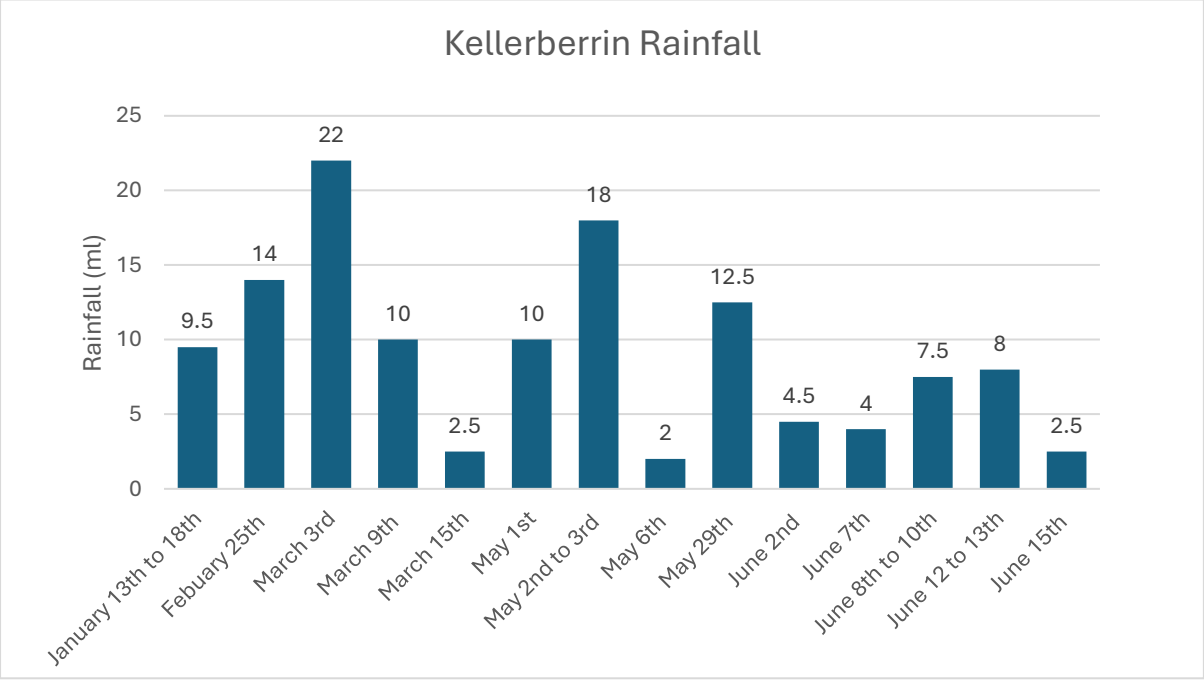
SLR Showpiece Project

Pre and Early Post Emergent

Kellerberrin

Grower:	Simon York
Grower contact:	0429371110
Location:	South Kellerberrin
GPS pin (gate):	-31.727864, 117.646022
GPS pin (site):	-31.721028, 117.630556
Seeding date/ IBS application:	13th May 2024
Post emergent application date (B):	5th June 2024
Crop growth stage at application B:	Z15.5 to 12 - 1.5 to 2 leaves emerged
Weed stage at application B:	1 leaf annual ryegrass
Crop variety:	Calibre at 65kg/ha
Soil Moisture:	Moisture at 10mm below soil surface
Soil type:	Gravelly sand
Fertiliser and rate:	Macropro Max – 75 kg/ha
Paddock Rotations: 2021 2022 2023	 Lupins Wheat Lupins



Source: Growers on farm weather station

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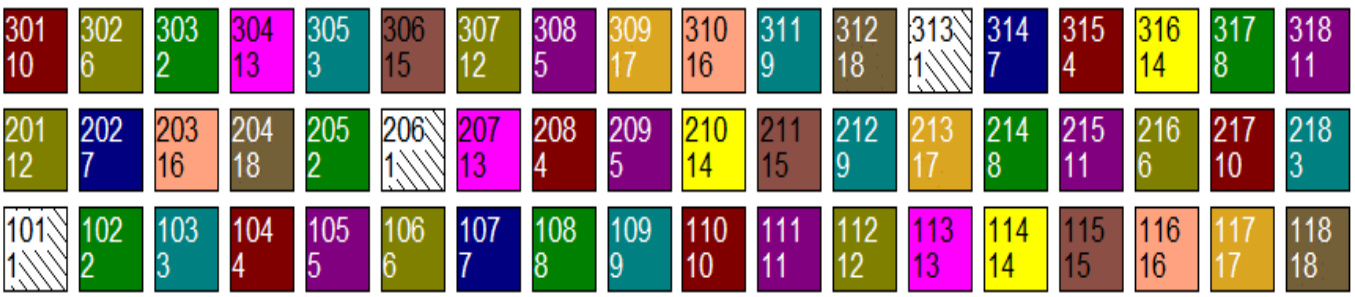
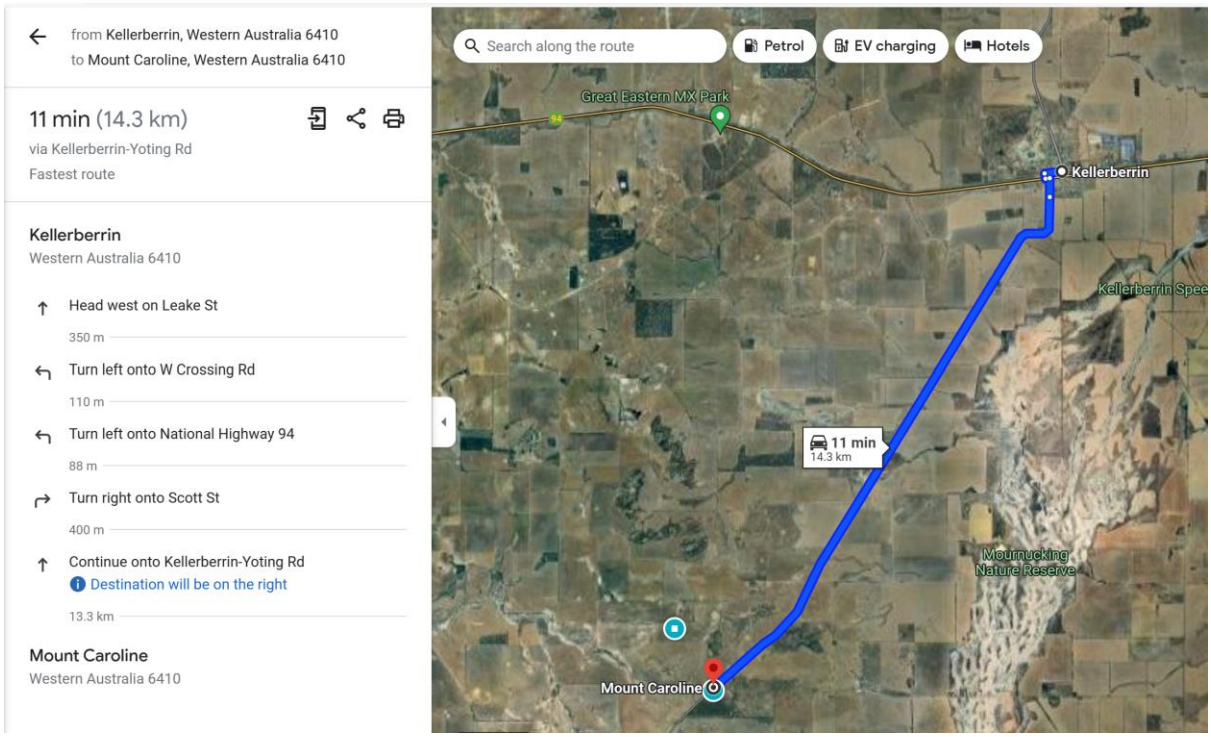
Randomisation

Treatment No.	Treatment name	Rate	Rate unit	Application timing
1	UTC			
2	Terrain Flow	125	mL/ha	IBS
3	Trifluralin	2000	mL/ha	IBS
3	Callisto	200	mL/ha	IBS
4	Pyroxasulfone	118	g/ha	IBS
4	Callisto	200	mL/ha	IBS
5	Pyroxasulfone	118	g/ha	IBS
5	Trifluralin	2000	mL/ha	IBS
5	Callisto	200	mL/ha	IBS
6	Pyroxasulfone	118	g/ha	IBS
6	Terrain Flow	125	mL/ha	IBS
7	Pyroxasulfone	118	g/ha	IBS
7	Boxer Gold	2500	mL/ha	IBS
7	Callisto	200	mL/ha	IBS
8	Pyroxasulfone	118	g/ha	IBS
8	Overwatch	1250	mL/ha	IBS
9	Overwatch	1250	mL/ha	IBS
9	Trifluralin	2000	mL/ha	IBS
9	Boxer Gold	3000	mL/ha	EPE
10	Overwatch	1250	mL/ha	IBS
10	Terrain Flow	125	mL/ha	IBS
11	Luximax	500	mL/ha	IBS
11	Voraxor	200	mL/ha	IBS
12	Villain	1500	mL/ha	IBS
13	Overwatch	1250	mL/ha	IBS
13	Mateno	1000	mL/ha	EPE
14	Trifluralin	2000	mL/ha	IBS
14	Mateno	1000	mL/ha	EPE
15	Terrain Flow	125	mL/ha	IBS
15	Mateno	1000	mL/ha	EPE
16	Boxer Gold	2500	mL/ha	IBS
16	Mateno	1000	mL/ha	EPE
17	Pyroxasulfone	118	g/ha	IBS
17	Boxer Gold	3000	mL/ha	EPE
18	Overwatch	1250	mL/ha	IBS
18	Callisto	150	mL/ha	IBS



Site Map – Kellerberrin

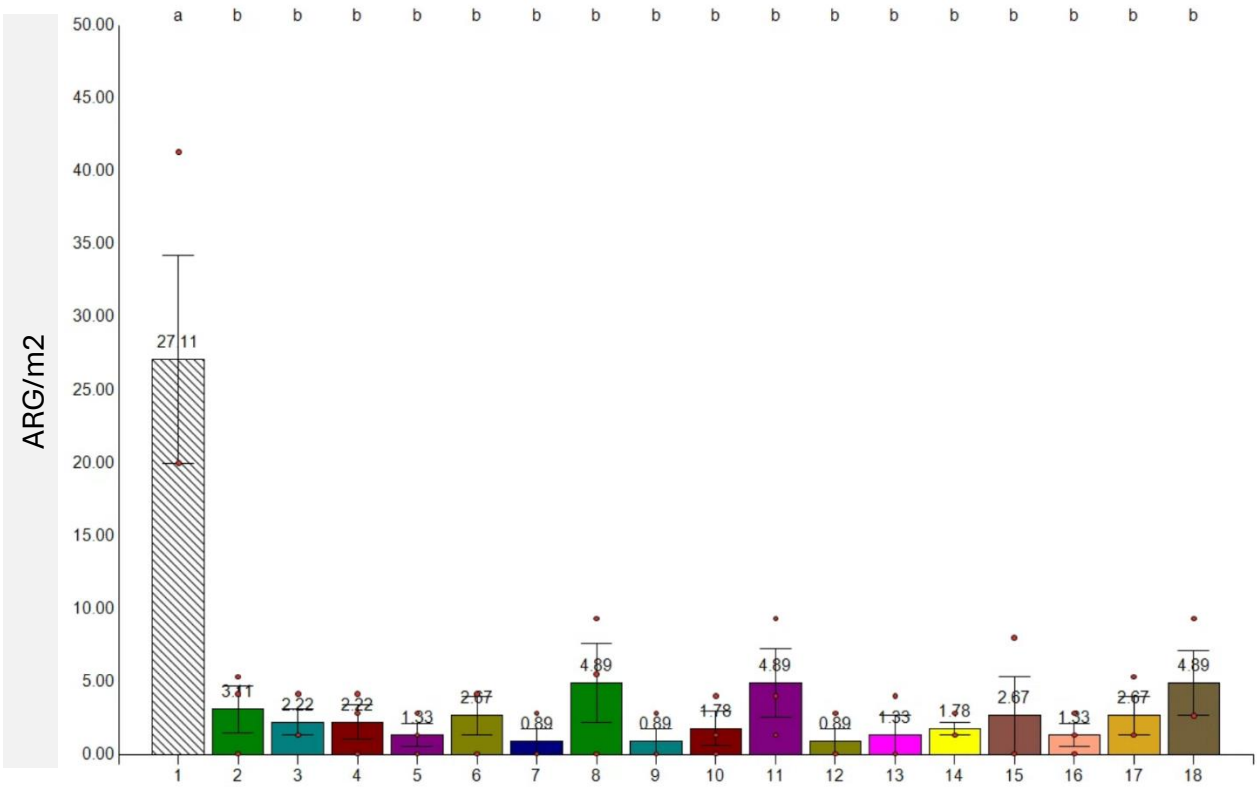
Directions to nearest town



Assessment Data

Assessment 1: Pre-Spray – 5th June 2025

ARG counts per m2



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2 Terrain Flow 125 mL/ha
3 Trifluralin 2000 mL/ha;Callisto 200 mL/ha
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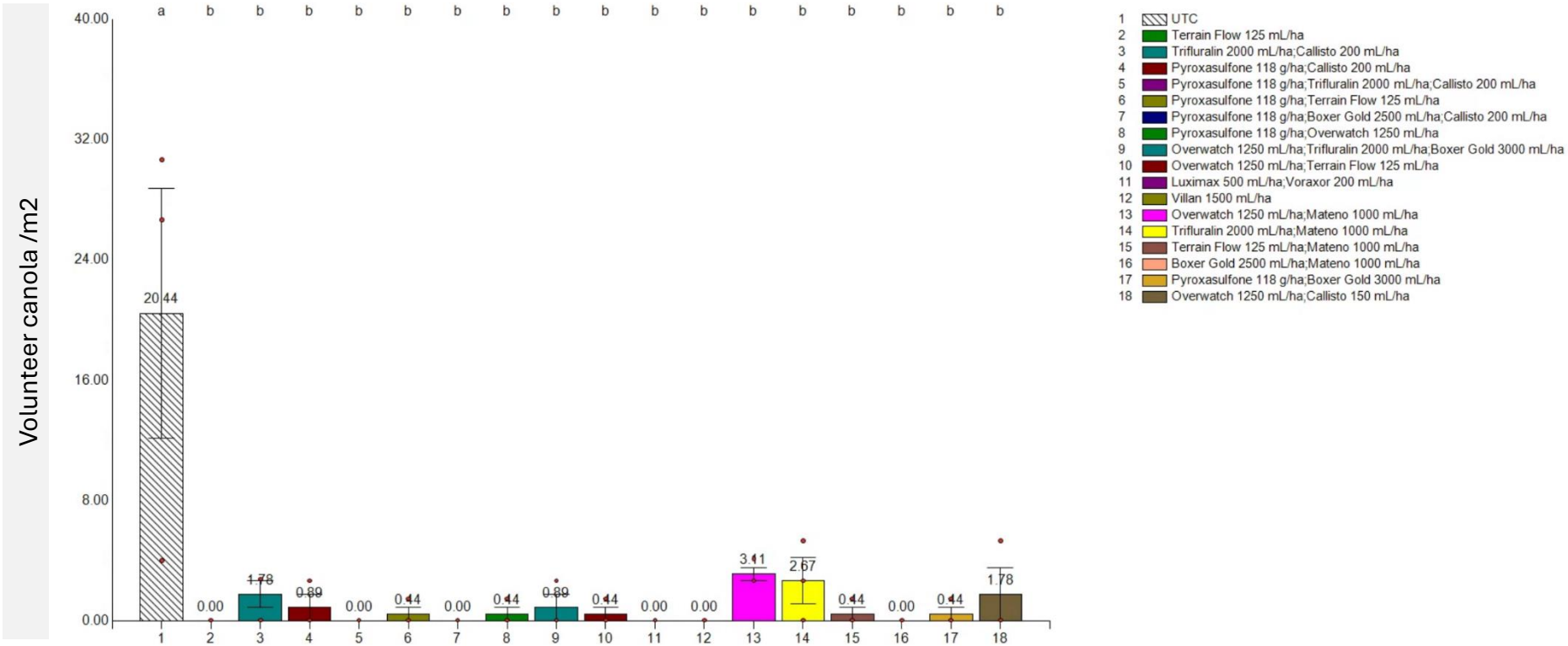
14 Trifluralin 2000 mL/ha;Mateno 1000 mL/ha
15 Terrain Flow 125 mL/ha;Mateno 1000 mL/ha
16 Boxer Gold 2500 mL/ha;Mateno 1000 mL/ha
17 Pyroxasulfone 118 g/ha;Boxer Gold 3000 mL/ha
18 Overwatch 1250 mL/ha;Callisto 150 mL/ha

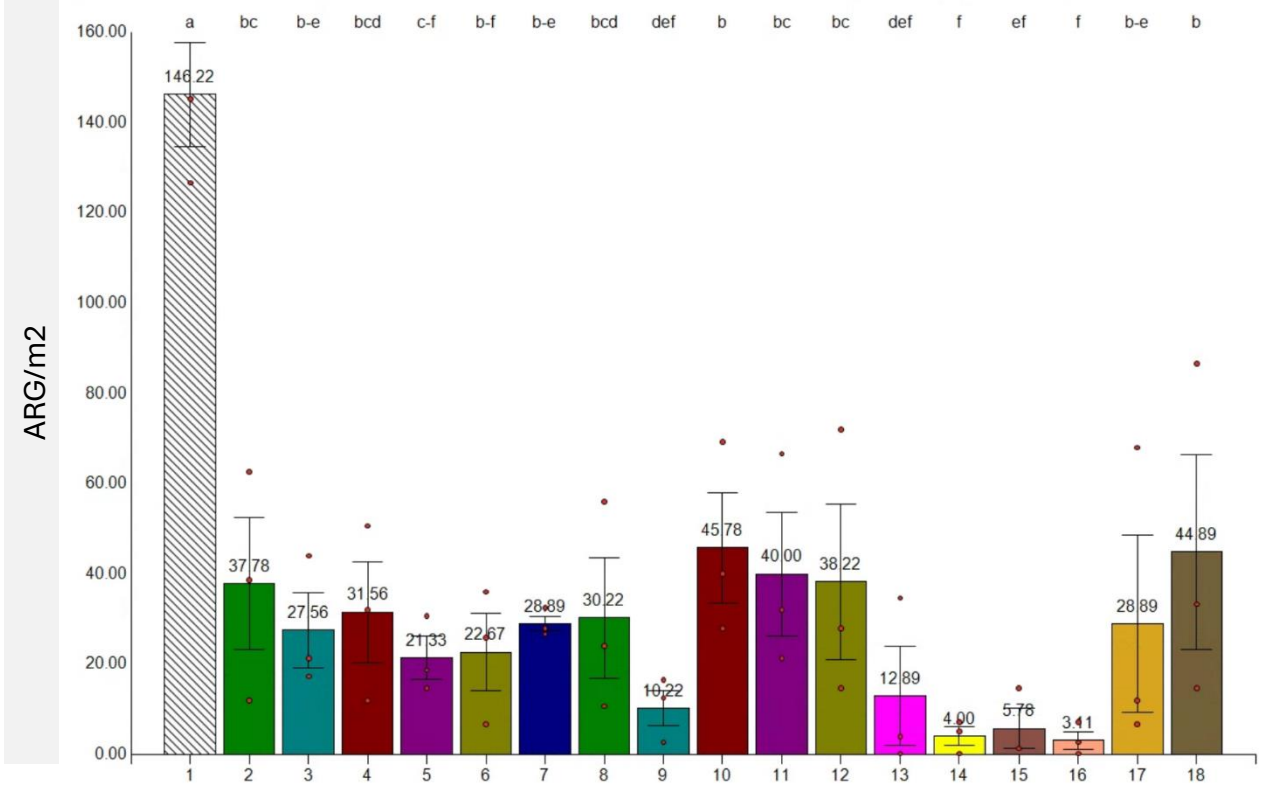
Assessment 1: Pre-Spray – 5th June 2025

Volunteer canola counts per m2



Assessment 2: 15 DA-B – 20th June2024

ARG counts per m2



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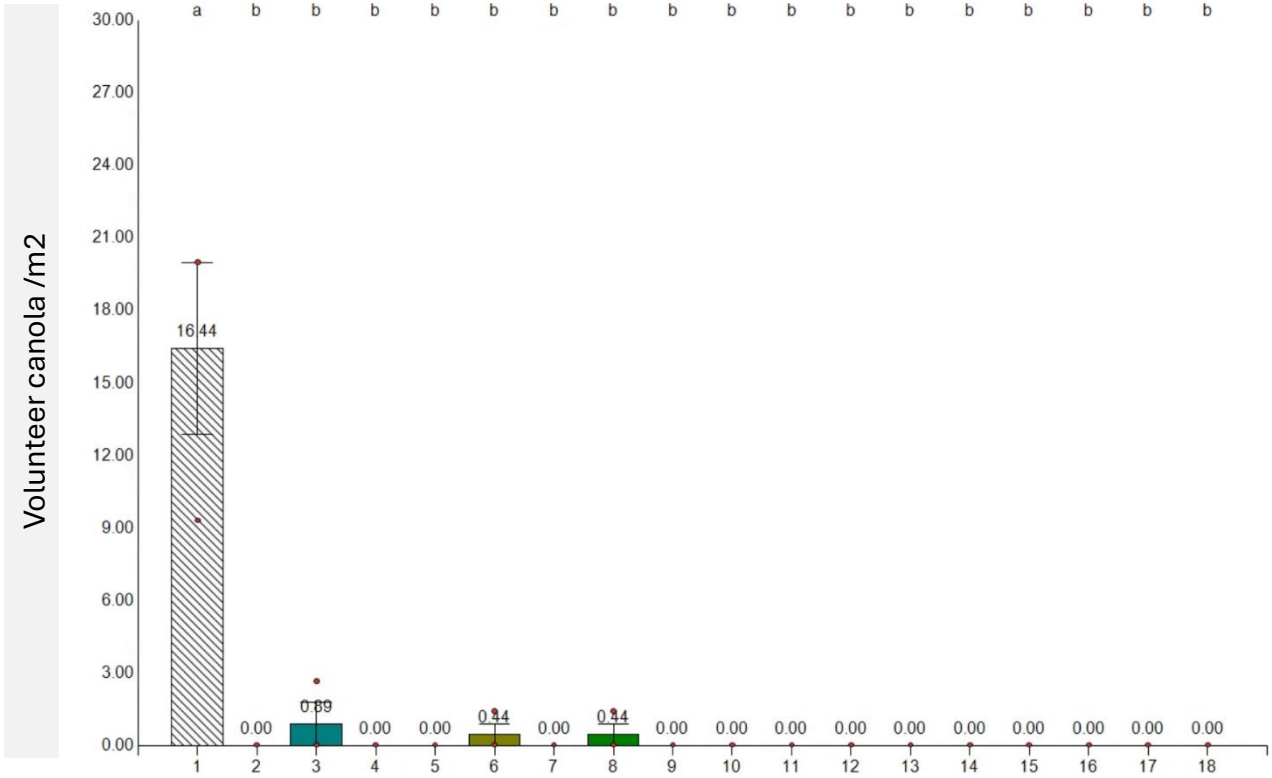
14 Trifluralin 2000 mL/ha;Mateno 1000 mL/ha
15 Terrain Flow 125 mL/ha;Mateno 1000 mL/ha
16 Boxer Gold 2500 mL/ha;Mateno 1000 mL/ha
17 Pyroxasulfone 118 g/ha;Boxer Gold 3000 mL/ha
18 Overwatch 1250 mL/ha;Callisto 150 mL/ha

Assessment 2: 15 DA-B – 20th June2024

Canola counts per m2



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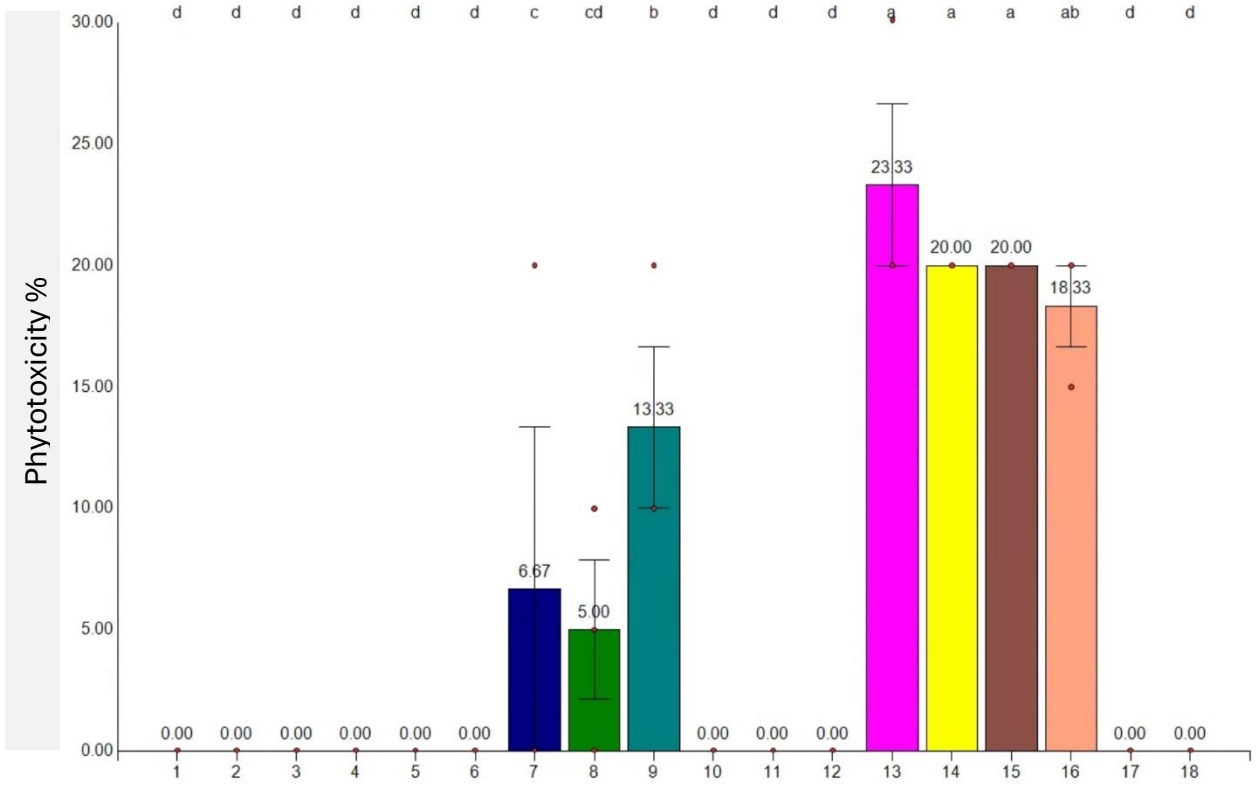
Assessment 2: 15 DA-B – 20th June2024

Crop Safety – Phytotoxicity



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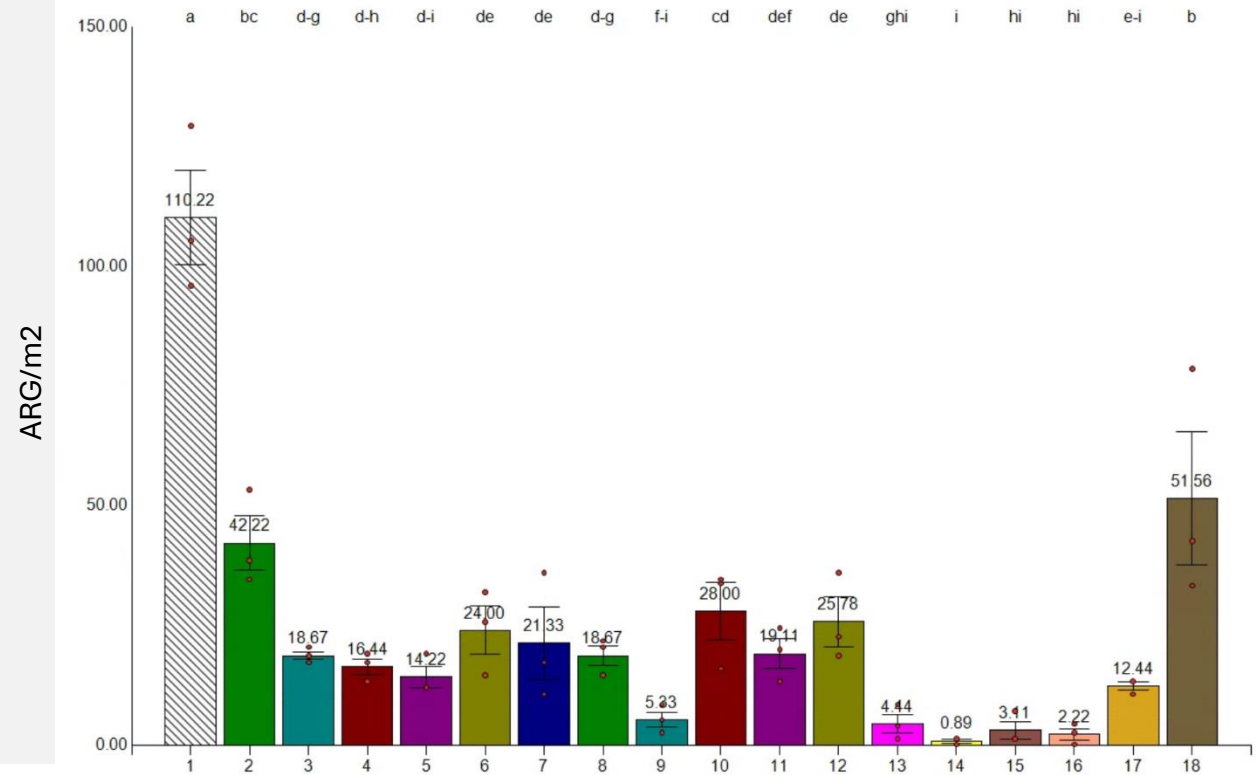
Assessment 3: 43 DA-B – 18th July 2024

ARG counts per m2



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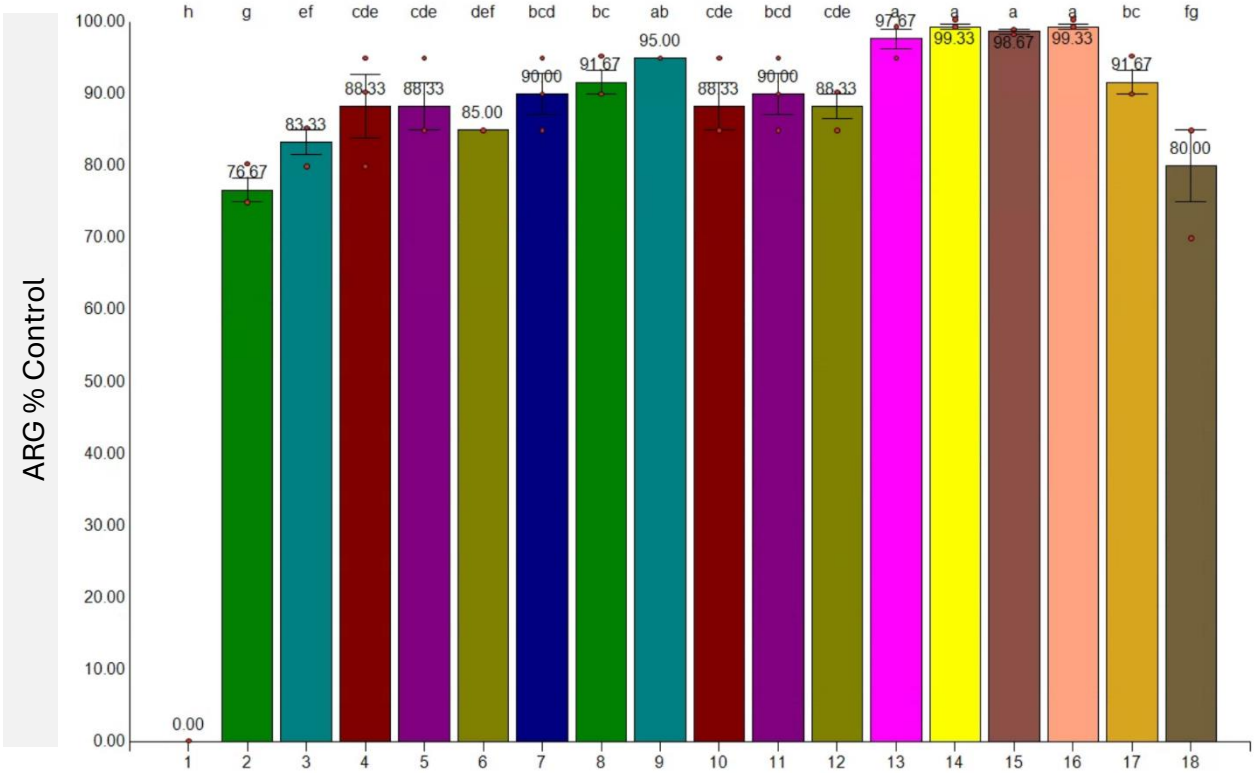
Assessment 3: 43 DA-B – 18th July 2024

Annual Ryegrass % Control



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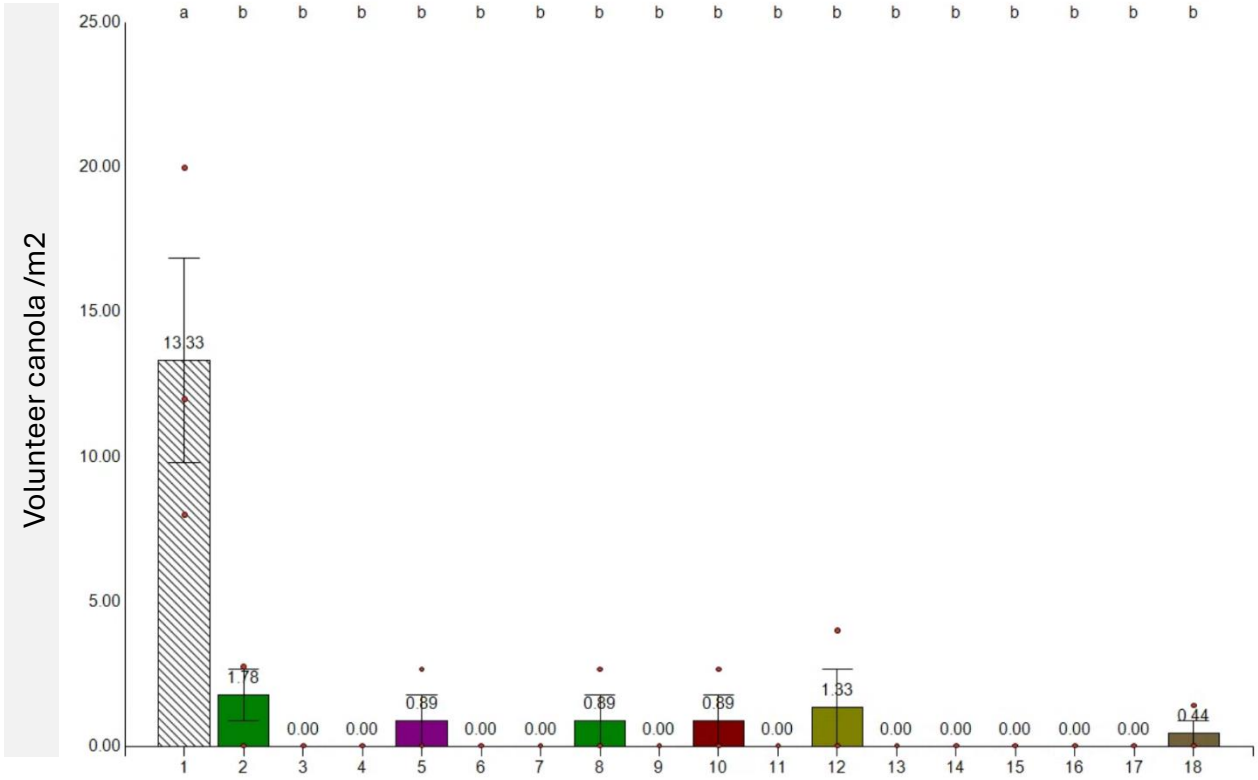
Assessment 3: 43 DA-B – 18th July 2024

Canola counts per m2



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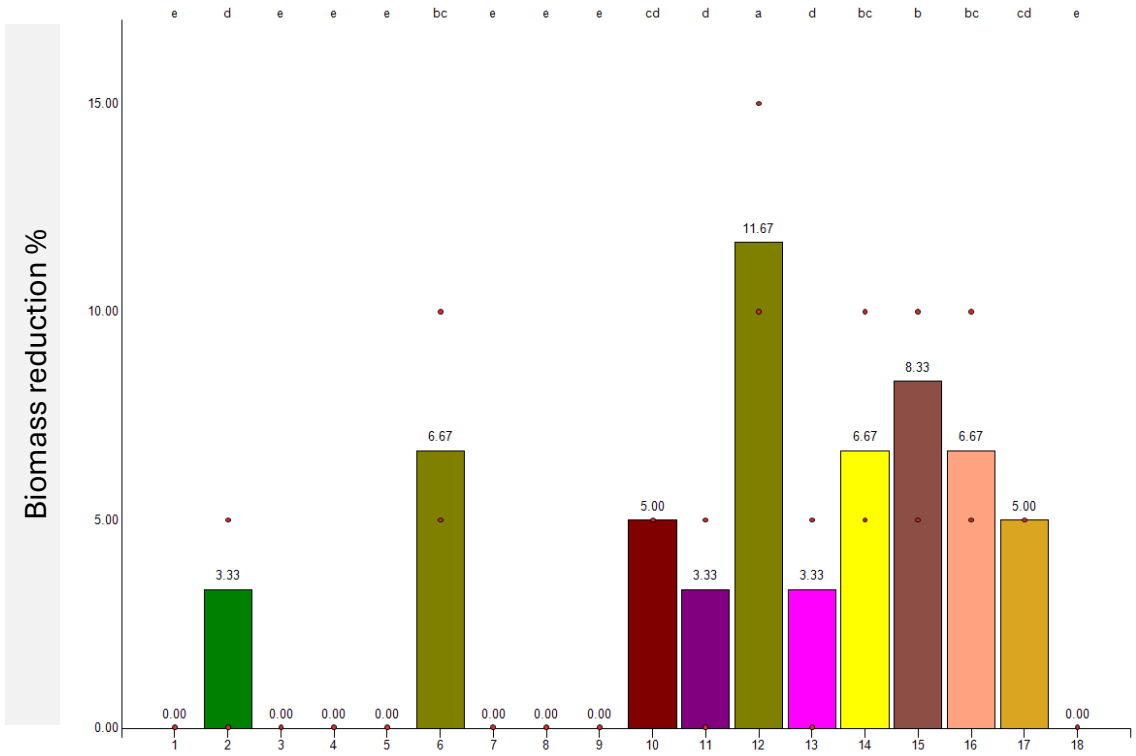
Assessment 3: 43 DA-B – 18th July 2024

Crop Safety – Biomass reduction



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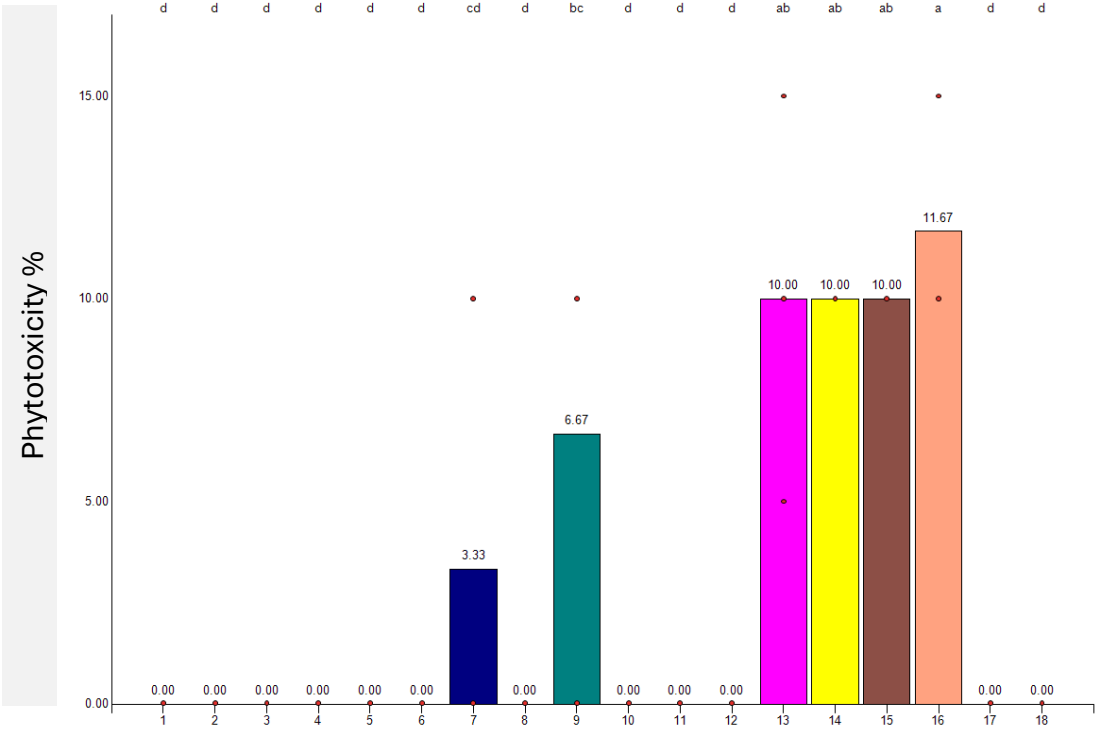
Assessment 3: 43 DA-B – 18th July 2024

Crop Safety – Phytotoxicity



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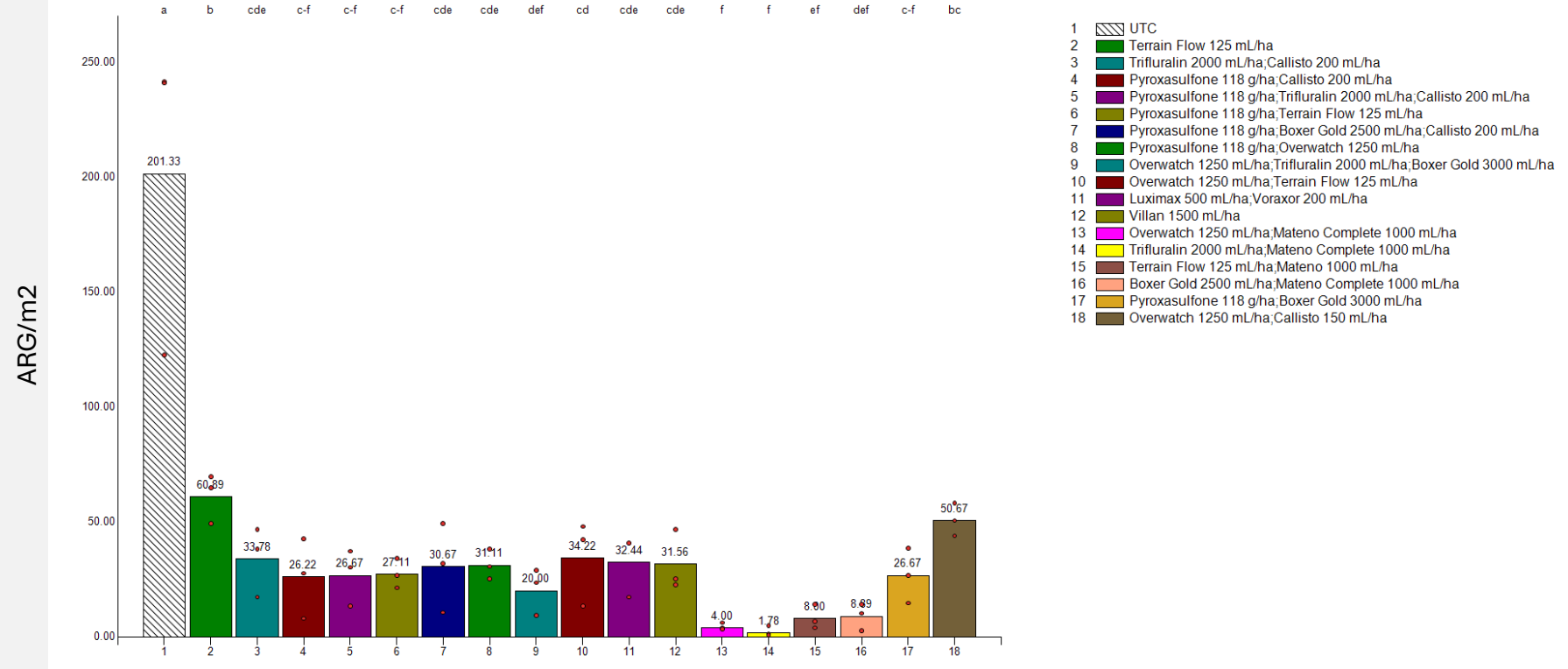
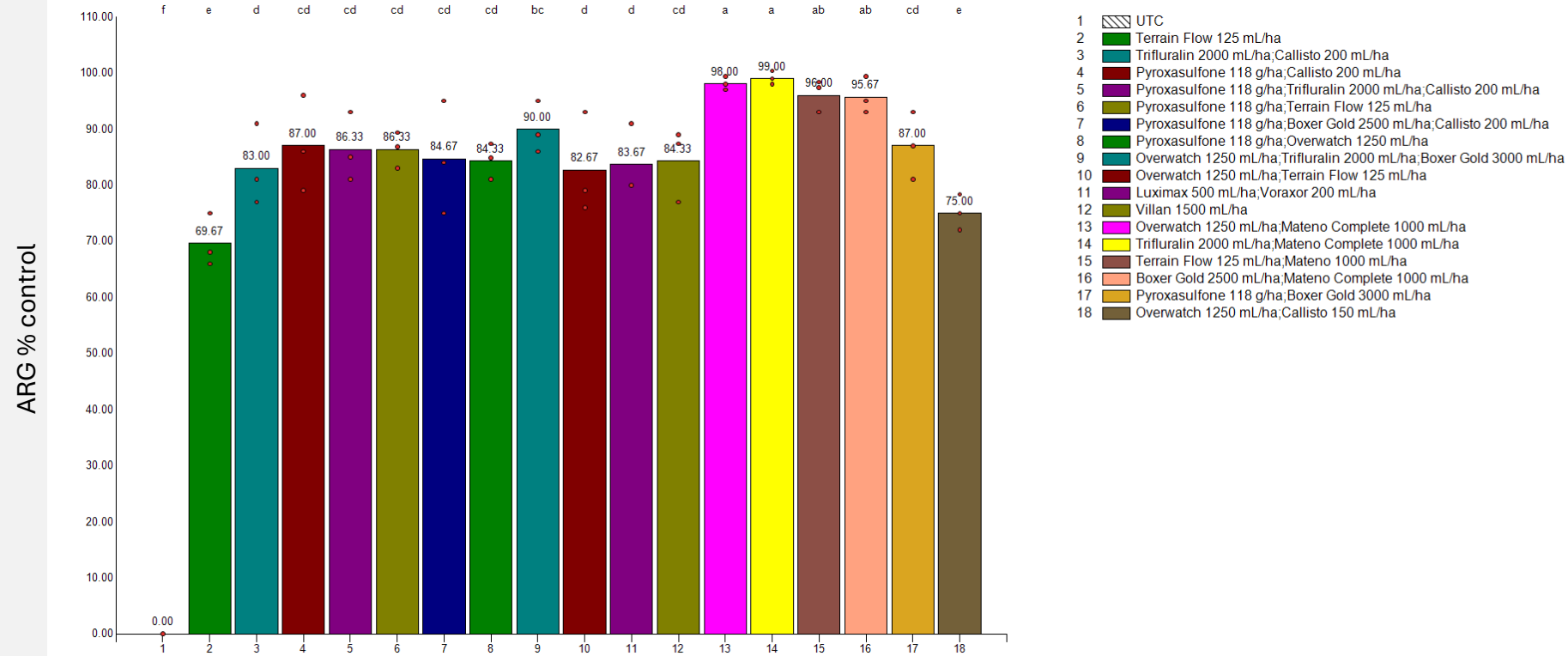
Assessment 4: 96 DA-B – 17th November 2024

ARG counts per m2



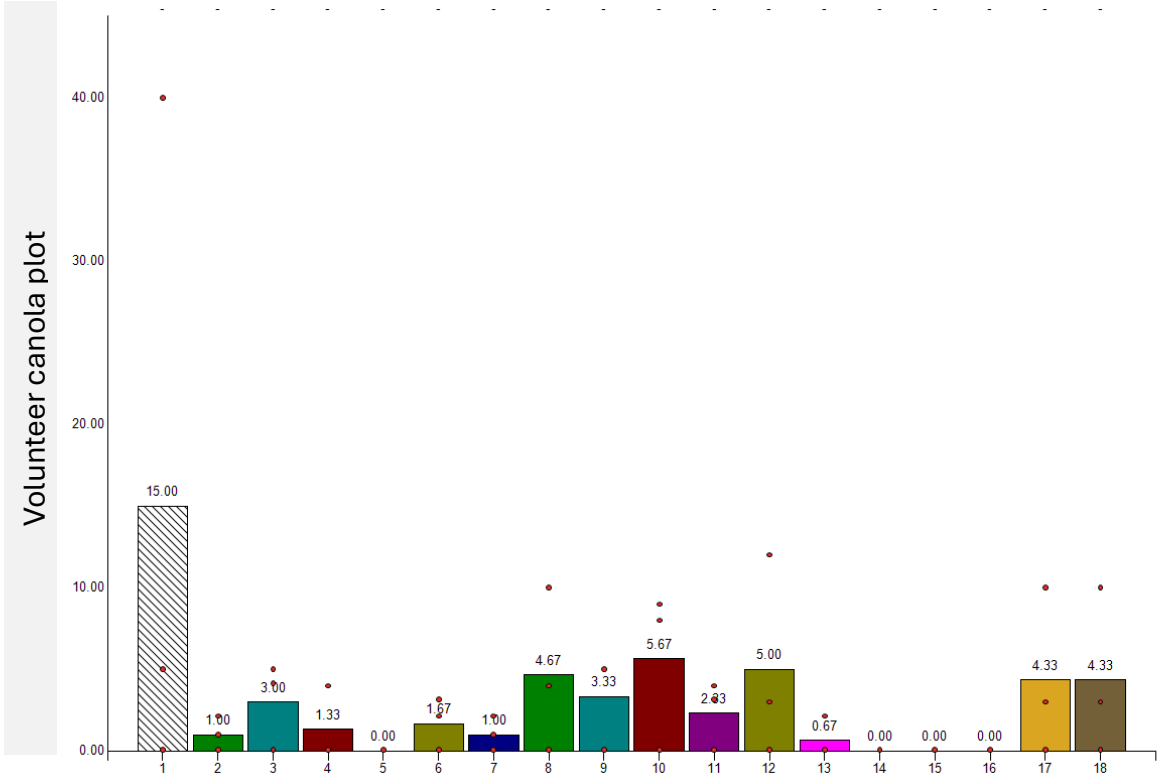
Assessment 4: 96 DA-B – 17th November 2024

ARG percent control



Assessment 4: 96 DA-B – 17th November 2024

Canola counts per plot



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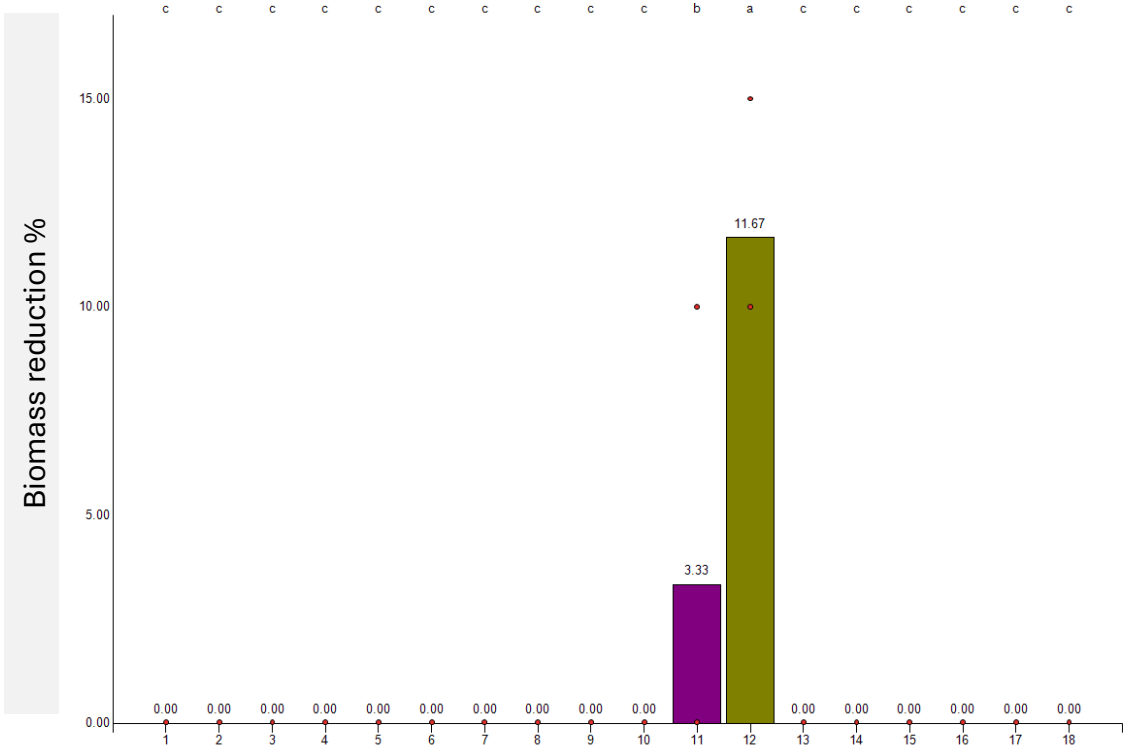
Assessment 4: 96 DA-B – 17th November 2024

Crop Safety – Biomass reduction



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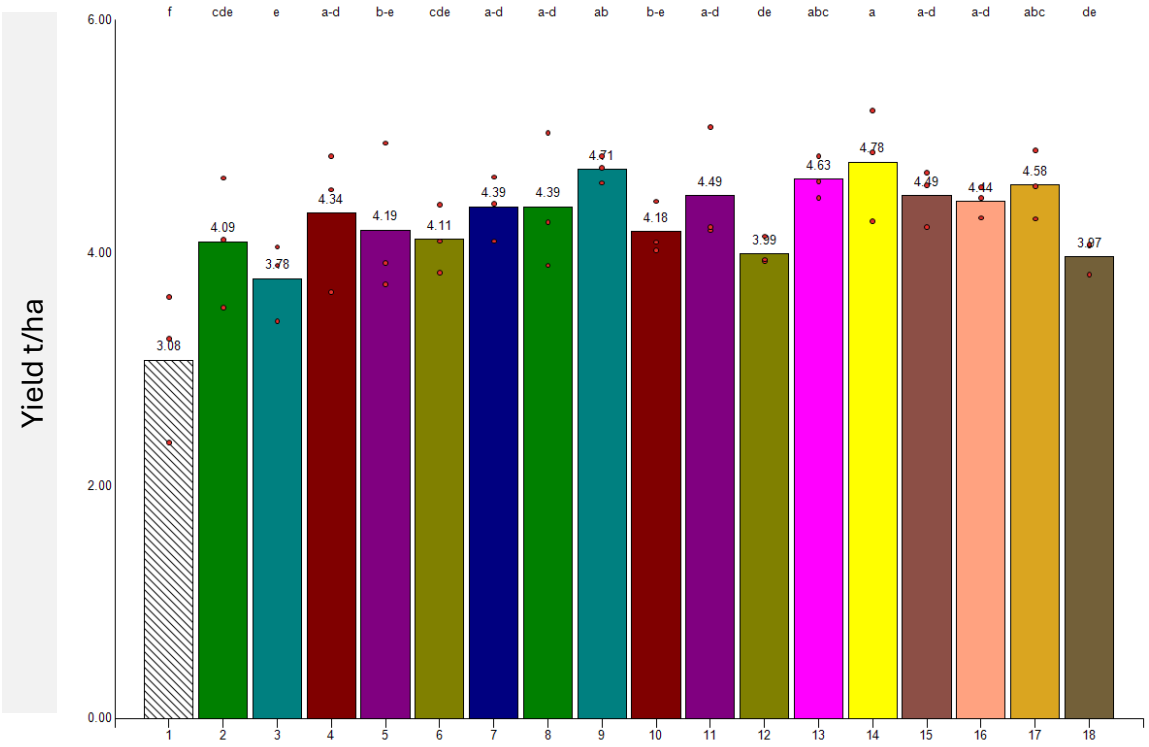
Yield Data (t/ha)



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ANVOA Means Table – Assessment 1, 5th June 2024, 23 DA-A

Rating Date					5/06/2024		5/06/2024		5/06/2024	
SE Description					ARG per m2		Canola per m2		Phytotoxicity	
Rating Type					COU/m2		COU/m2		PHYGEN	
Rating Unit										
Number of Subsamples					3		3		3	
Rating Timing					A1		A1		A1	
Treatment Appl. Interval					23 DA-A		23 DA-A		23 DA-A	
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code						
1	UTC				27.11	a	20.44	a	0	c
2	Terrain Flow	125	ml/ha	A	3.11	b	0	b	0	c
3	Trifluralin	2000	ml/ha	A	2.22	b	1.78	b	0	c
	Callisto	200	ml/ha	A						
4	Pyroxasulfone	118	g/ha	A	2.22	b	0.89	b	0	c
	Callisto	200	ml/ha	A						
5	Pyroxasulfone	118	g/ha	A	1.33	b	0	b	0	c
	Trifluralin	2000	ml/ha	A						
	Callisto	200	ml/ha	A						
6	Pyroxasulfone	118	g/ha	A	2.67	b	0.44	b	0	c
	Terrain Flow	125	ml/ha	A						
7	Pyroxasulfone	118	g/ha	A	0.89	b	0	b	0	c
	Boxer Gold	2500	ml/ha	A						
	Callisto	200	ml/ha	A						
8	Pyroxasulfone	118	g/ha	A	4.89	b	0.44	b	0	c
	Overwatch	1250	ml/ha	A						
9	Overwatch	1250	ml/ha	A	0.89	b	0.89	b	13.33	a
	Trifluralin	2000	ml/ha	A						
	Boxer Gold	3000	ml/ha	B						
10	Overwatch	1250	ml/ha	A	1.78	b	0.44	b	8.33	b
	Terrain Flow	125	ml/ha	A						
11	Luximax	500	ml/ha	A	4.89	b	0	b	0	c
	Voraxor	200	ml/ha	A						
12	Villan	1500	ml/ha	A	0.89	b	0	b	1.67	c
13	Overwatch	1250	ml/ha	A	1.33	b	3.11	b	10	b
	Mateno Complete	1000	ml/ha	B						
14	Trifluralin	2000	ml/ha	A	1.78	b	2.67	b	0	c
	Mateno Complete	1000	ml/ha	B						
15	Terrain Flow	125	ml/ha	A	2.67	b	0.44	b	0	c
	Mateno	1000	ml/ha	B						
16	Boxer Gold	2500	ml/ha	A	1.33	b	0	b	0	c
	Mateno Complete	1000	ml/ha	B						
17	Pyroxasulfone	118	g/ha	A	2.67	b	0.44	b	0	c
	Boxer Gold	3000	ml/ha	A						
18	Overwatch	1250	ml/ha	A	4.89	b	1.78	b	0	c
	Callisto	150	ml/ha	A						
LSD P=.05					5.68		5.924		1.994	
Standard Deviation					3.423		3.57		1.201	
CV					91.2		190.24		64.88	
Replicate F					6.216		1.367		0.774	
Replicate Prob(F)					0.005		0.2686		0.709	
Treatment F					9.159		5.265		0.66*	
Treatment Prob(F)					0.0001		0.0001		0.0*	

ANVOA Means Table – Assessment 2, 20th June 2024, 15 DA-B

Rating Date					20/06/2024		20/06/2024		20/06/2024	
SE Description					ARG per m2		Canola per m2		Phytotoxicity	
Rating Type					COU/m2		COU/m2		PHYGEN	
Rating Unit									%	
Number of Subsamples					3		3		1	
Rating Timing					A2		A2		A2	
Treatment Appl. Interval					15 DA-B		15 DA-B		15 DA-B	
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code						
1	UTC				146.22	a	16.44	a	0	d
2	Terrain Flow	125	ml/ha	A	37.78	bc	0	b	0	d
3	Trifluralin	2000	ml/ha	A	27.56	b-e	0.89	b	0	d
	Callisto	200	ml/ha	A						
4	Pyroxasulfone	118	g/ha	A	31.56	bcd	0	b	0	d
	Callisto	200	ml/ha	A						
5	Pyroxasulfone	118	g/ha	A	21.33	c-f	0	b	0	d
	Trifluralin	2000	ml/ha	A						
	Callisto	200	ml/ha	A						
6	Pyroxasulfone	118	g/ha	A	22.67	b-f	0.44	b	0	d
	Terrain Flow	125	ml/ha	A						
7	Pyroxasulfone	118	g/ha	A	28.89	b-e	0	b	6.67	c
	Boxer Gold	2500	ml/ha	A						
	Callisto	200	ml/ha	A						
8	Pyroxasulfone	118	g/ha	A	30.22	bcd	0.44	b	5	cd
	Overwatch	1250	ml/ha	A						
9	Overwatch	1250	ml/ha	A	10.22	def	0	b	13.33	b
	Trifluralin	2000	ml/ha	A						
	Boxer Gold	3000	ml/ha	B						
10	Overwatch	1250	ml/ha	A	45.78	b	0	b	0	d
	Terrain Flow	125	ml/ha	A						
11	Luximax	500	ml/ha	A	40	bc	0	b	0	d
	Voraxor	200	ml/ha	A						
12	Villan	1500	ml/ha	A	38.22	bc	0	b	0	d
13	Overwatch	1250	ml/ha	A	12.89	def	0	b	23.33	a
	Mateno Complete	1000	ml/ha	B						
14	Trifluralin	2000	ml/ha	A	4	f	0	b	20	a
	Mateno Complete	1000	ml/ha	B						
15	Terrain Flow	125	ml/ha	A	5.78	ef	0	b	20	a
	Mateno	1000	ml/ha	B						
16	Boxer Gold	2500	ml/ha	A	3.11	f	0	b	18.33	ab
	Mateno Complete	1000	ml/ha	B						
17	Pyroxasulfone	118	g/ha	A	28.89	b-e	0	b	0	d
	Boxer Gold	3000	ml/ha	A						
18	Overwatch	1250	ml/ha	A	44.89	b	0	b	0	d
	Callisto	150	ml/ha	A						
LSD P=.05					23.504		2.474		6.068	
Standard Deviation					14.165		1.491		3.657	
CV					43.96		147.29		61.71	
Replicate F					19.972		1.659		0.45	
Replicate Prob(F)					0.0001		0.2055		0.6413	
Treatment F					14.888		20.095		17.1	
Treatment Prob(F)					0.0001		0.0001		0.0001	

ANVOA Means Table – Assessment 3, 18th July 2024, 42 DA-B

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	18/07/2024 ARG per m2 COU/m2	18/07/2024 ARG % Control	18/07/2024 Canola m2 COU/m2	18/07/2024 Phytotoxicity PHYGEN %	18/07/2024 Biomass Reduction BIOMRE %
Rating Date					18/07/2024	18/07/2024	18/07/2024	18/07/2024	18/07/2024
SE Description					ARG per m2	ARG % Control	Canola m2	Phytotoxicity	Biomass Reduction
Rating Type					COU/m2		COU/m2	PHYGEN	BIOMRE
Rating Unit								%	%
Number of Subsamples					3	1	3	1	1
Rating Timing					A3	A3	A3	A3	A3
Treatment Appl. Interval					42 DA-B	42 DA-B	42 DA-B	42 DA-B	42 DA-B
1	UTC				110.22 a	0 h	13.33 a	0 d	0 e
2	Terrain Flow	125	ml/ha	A	42.22 bc	76.67 g	1.78 b	0 d	3.33 d
3	Trifluralin	2000	ml/ha	A	18.67 d-g	83.33 ef	0 b	0 d	0 e
	Callisto	200	ml/ha	A					
4	Pyroxasulfone	118	g/ha	A	16.44 d-h	88.33 cde	0 b	0 d	0 e
	Callisto	200	ml/ha	A					
5	Pyroxasulfone	118	g/ha	A	14.22 d-i	88.33 cde	0.89 b	0 d	0 e
	Trifluralin	2000	ml/ha	A					
	Callisto	200	ml/ha	A					
6	Pyroxasulfone	118	g/ha	A	24 de	85 def	0 b	0 d	6.67 bc
	Terrain Flow	125	ml/ha	A					
7	Pyroxasulfone	118	g/ha	A	21.33 de	90 bcd	0 b	3.33 cd	0 e
	Boxer Gold	2500	ml/ha	A					
	Callisto	200	ml/ha	A					
8	Pyroxasulfone	118	g/ha	A	18.67 d-g	91.67 bc	0.89 b	0 d	0 e
	Overwatch	1250	ml/ha	A					
9	Overwatch	1250	ml/ha	A	5.33 f-i	95 ab	0 b	6.67 bc	0 e
	Trifluralin	2000	ml/ha	A					
	Boxer Gold	3000	ml/ha	B					
10	Overwatch	1250	ml/ha	A	28 cd	88.33 cde	0.89 b	0 d	5 cd
	Terrain Flow	125	ml/ha	A					
11	Luximax	500	ml/ha	A	19.11 def	90 bcd	0 b	0 d	3.33 d
	Voraxor	200	ml/ha	A					
12	Villan	1500	ml/ha	A	25.78 de	88.33 cde	1.33 b	0 d	11.67 a
13	Overwatch	1250	ml/ha	A	4.44 ghi	97.67 a	0 b	10 ab	3.33 d
	Mateno Complete	1000	ml/ha	B					
14	Trifluralin	2000	ml/ha	A	0.89 i	99.33 a	0 b	10 ab	6.67 bc
	Mateno Complete	1000	ml/ha	B					
15	Terrain Flow	125	ml/ha	A	3.11 hi	98.67 a	0 b	10 ab	8.33 b
	Mateno	1000	ml/ha	B					
16	Boxer Gold	2500	ml/ha	A	2.22 hi	99.33 a	0 b	11.67 a	6.67 bc
	Mateno Complete	1000	ml/ha	B					
17	Pyroxasulfone	118	g/ha	A	12.44 e-i	91.67 bc	0 b	0 d	5 cd
	Boxer Gold	3000	ml/ha	A					
18	Overwatch	1250	ml/ha	A	51.56 b	80 fg	0.44 b	0 d	0 e
	Callisto	150	ml/ha	A					
LSD P=.05					14.391	5.802	2.753	3.959	3.286
Standard Deviation					8.673	3.497	1.659	2.386	1.98
CV					37.29	4.11	152.69	83.12	59.41
Replicate F					3.019	7.371	2.165	0.569	0
Replicate Prob(F)					0.0621	0.0022	0.1303	0.5712	1
Treatment F					26.006	120.703	10.519	10.646	10
Treatment Prob(F)					0.0001	0.0001	0.0001	0.0001	0.0001

ANVOA Means Table – Assessment 4, 9th September 2024, 96 DA-B

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	9/09/2024 ARG per m2 COU/m2		9/09/2024 ARG % control		9/09/2024 Canola per plot COU/plot		9/09/2024 Phytotoxicity PHYGEN %		9/09/2024 Biomass Reduction BIOMRE %	
	Rating Date				9/09/2024		9/09/2024		9/09/2024		9/09/2024		9/09/2024	
	SE Description				ARG per m2		ARG % control		Canola per plot		Phytotoxicity		Biomass Reduction	
	Rating Type				COU/m2				COU/plot		PHYGEN		BIOMRE	
	Rating Unit										%		%	
	Number of Subsamples				3		1		1		1		1	
	Rating Timing				A4		A4		A4		A4		A4	
	Treatment Appl. Interval				96 DA-B		96 DA-B		96 DA-B		96 DA-B		96 DA-B	
1	UTC				201.33	a	0	f	15	-	0	na	0	c
2	Terrain Flow	125	ml/ha	A	60.89	b	69.67	e	1	-	0	na	0	c
3	Trifluralin	2000	ml/ha	A	33.78	cde	83	d	3	-	0	na	0	c
	Callisto	200	ml/ha	A										
4	Pyroxasulfone	118	g/ha	A	26.22	c-f	87	cd	1.33	-	0	na	0	c
	Callisto	200	ml/ha	A										
5	Pyroxasulfone	118	g/ha	A	26.67	c-f	86.33	cd	0	-	0	na	0	c
	Trifluralin	2000	ml/ha	A										
	Callisto	200	ml/ha	A										
6	Pyroxasulfone	118	g/ha	A	27.11	c-f	86.33	cd	1.67	-	0	na	0	c
	Terrain Flow	125	ml/ha	A										
7	Pyroxasulfone	118	g/ha	A	30.67	cde	84.67	cd	1	-	0	na	0	c
	Boxer Gold	2500	ml/ha	A										
	Callisto	200	ml/ha	A										
8	Pyroxasulfone	118	g/ha	A	31.11	cde	84.33	cd	4.67	-	0	na	0	c
	Overwatch	1250	ml/ha	A										
9	Overwatch	1250	ml/ha	A	20	def	90	bc	3.33	-	0	na	0	c
	Trifluralin	2000	ml/ha	A										
	Boxer Gold	3000	ml/ha	B										
10	Overwatch	1250	ml/ha	A	34.22	cd	82.67	d	5.67	-	0	na	0	c
	Terrain Flow	125	ml/ha	A										
11	Luximax	500	ml/ha	A	32.44	cde	83.67	d	2.33	-	0	na	3.33	b
	Voraxor	200	ml/ha	A										
12	Villan	1500	ml/ha	A	31.56	cde	84.33	cd	5	-	0	na	11.67	a
13	Overwatch	1250	ml/ha	A	4	f	98	a	0.67	-	0	na	0	c
	Mateno Complete	1000	ml/ha	B										
14	Trifluralin	2000	ml/ha	A	1.78	f	99	a	0	-	0	na	0	c
	Mateno Complete	1000	ml/ha	B										
15	Terrain Flow	125	ml/ha	A	8	ef	96	ab	0	-	0	na	0	c
	Mateno	1000	ml/ha	B										
16	Boxer Gold	2500	ml/ha	A	8.89	def	95.67	ab	0	-	0	na	0	c
	Mateno Complete	1000	ml/ha	B										
17	Pyroxasulfone	118	g/ha	A	26.67	c-f	87	cd	4.33	-	0	na	0	c
	Boxer Gold	3000	ml/ha	A										
18	Overwatch	1250	ml/ha	A	50.67	bc	75	e	4.33	-	0	na	0	c
	Callisto	150	ml/ha	A										
LSD P=.05					26.057		6.239		9.247		.		2.554	
Standard Deviation					15.704		3.76		5.573		0		1.539	
CV					43.09		4.6		188.09		0		184.71	
Replicate F					10.966		22.049		3.832		NaN		0.586	
Replicate Prob(F)					0.0002		0.0001		0.0316		NaN		0.562	
Treatment F					23.313		100.194		1.227		NaN		10.034	
Treatment Prob(F)					0.0001		0.0001		0.2965		NaN		0.0001	

ANVOA Means Table – Harvest Data

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code		
Rating Date					17/11/2024	
SE Description					t/ha	
Number of Subsamples						1
Days After First/Last Applic.					188, 165	
1	UTC				3.08	f
2	Terrain Flow	125	ml/ha	A	4.09	cde
3	Trifluralin	2000	ml/ha	A	3.78	e
	Callisto	200	ml/ha	A		
4	Pyroxasulfone	118	g/ha	A	4.34	a-d
	Callisto	200	ml/ha	A		
5	Pyroxasulfone	118	g/ha	A	4.19	b-e
	Trifluralin	2000	ml/ha	A		
	Callisto	200	ml/ha	A		
6	Pyroxasulfone	118	g/ha	A	4.11	cde
	Terrain Flow	125	ml/ha	A		
7	Pyroxasulfone	118	g/ha	A	4.39	a-d
	Boxer Gold	2500	ml/ha	A		
	Callisto	200	ml/ha	A		
8	Pyroxasulfone	118	g/ha	A	4.39	a-d
	Overwatch	1250	ml/ha	A		
9	Overwatch	1250	ml/ha	A	4.71	ab
	Trifluralin	2000	ml/ha	A		
	Boxer Gold	3000	ml/ha	B		
10	Overwatch	1250	ml/ha	A	4.18	b-e
	Terrain Flow	125	ml/ha	A		
11	Luximax	500	ml/ha	A	4.49	a-d
	Voraxor	200	ml/ha	A		
12	Villan	1500	ml/ha	A	3.99	de
13	Overwatch	1250	ml/ha	A	4.63	abc
	Mateno Complete	1000	ml/ha	B		
14	Trifluralin	2000	ml/ha	A	4.78	a
	Mateno Complete	1000	ml/ha	B		
15	Terrain Flow	125	ml/ha	A	4.49	a-d
	Mateno Complete	1000	ml/ha	B		
16	Boxer Gold	2500	ml/ha	A	4.44	a-d
	Mateno Complete	1000	ml/ha	B		
17	Pyroxasulfone	118	g/ha	A	4.58	abc
	Boxer Gold	3000	ml/ha	A		
18	Overwatch	1250	ml/ha	A	3.97	de
	Callisto	150	ml/ha	A		
LSD P=.05						0.549
Standard Deviation						0.331
CV						7.77
Grand Mean						4.257
Replicate F						9.421
Replicate Prob(F)						0.0006
Treatment F						4.419
Treatment Prob(F)						0.0001

Treatment application details

Treatment application	A	B
Application Timing	IBS	EPE
Crop Stage	-	Z15.5 to 12 - 1.5 to 2 leaves emerged
Weed Stage	-	1 leaf annual ryegrass
Date	13th May 2024	5th June 2024
Time	2:30pm to 4:00pm	1:00pm to 2:00pm
Cloud cover (%)	40	60%
Temperature (°C)	26.2	21.3
Relative Humidity (%)	21.9	40.7
Delta T (°C)	12.1	7
Wind Speed Km/hr	9	16
Wind Direction	NE	N
Soil moisture	Moisture at 10mm below soil surface	Moisture at soil surface
Dew point (°C)	2.8	7.4

Application equipment	A	B
Application equipment	Brolga 2m Hand boom	Brolga 2m Hand boom
Nozzles	110 – 015 Agrotop - Flat fan air induction	110-010 Agrotop
Number of nozzles	4	4
Nozzle spacing	50cm	50cm
Boom height	50cm above canopy	50cm above canopy
Water volume	80 L/ha	80 L/ha
Spraying pressure	220 kPa	220 kPa
Mix size	2 L	2 L
Spray Quality	Coarse	Coarse
Propellant	CO_2	CO_2

SLR Pre and Early Post Emergent Contributors