Alternatives to Paraquat in a Double Knock

Trial ID: LB1715 **Location:** St Ruth **Trial Year:** 2017
Investigator: Linda Bailey

Objective:	To investigate alternative products and mixtures that can be used as a second knock on common sowthistle or fleabane		
Situation:	Fallow		
Application Code:	A	B	C
Application Date:	25/11/2017	27/11/2017	6/12/2017
Application Timing:	Late Post-Emergent	Late Post Emergent + Residual	'Double Knock' applied 9 days later
Weed Name:	Tall Fleabane (*Conyza sumatrensis*)		
Weed Stage:	Flower buds visible, 70cm tall		
Weed Population:	0.1/m²		
Trial Quality:	Poor (target population too low)		
Keywords:	Tall fleabane, fallow, knockdown		
NB: Application A was Roundup UltraMax at 2L/ha. Application B Amicide 625 1L/ha + Starane 500mL/ha + Dual Gold 1L/ha Applications A and B were commercially applied to ALL plots			

NB: The table below shows the performance of the 'second knock' treatments applied on 6/12/2017 (Feathertop Rhodes grass was a secondary species at this site with an initial populations of ~4/m²)

Pest Scientific Name				*Conyza sumatrensis*		*Chloris virgata*	
Pest Name				Tall Fleabane		Feathertop Rhodes grass	
Assessment Date				22/12/2017	8/01/2018	22/12/2017	8/01/2018
Assessment Type				BURNDOWN	COUNT	BURNDOWN	COUNT
Assessment Unit				%	/m²	%	/m²
Pest Stage Majority				51	51	24	24
Treatment-Evaluation Interval				16 DAC	33 DAC	16 DAC	33 DAC
ARM Action Codes					AA	ER2	
Trt No.	Treatment	Product Rate	Appln. Code				
1	Untreated	-		23e	0.07-	55-	3.4-
2	Nuquat	800ml/ha	C	22e	0.07-	85-	2.7-
3	Nuquat	1600ml/ha	C	67abc	0.01-	65-	2.5-
4	Nuquat Hasten	1600ml/ha 1% v/v	C C	43de	0.09-	75-	3.0-
5	Nuquat	2000ml/ha	C	78a	0.03-	78-	3.7-
6	Nuquat	2400ml/ha	C	73ab	0.04-	55-	2.1-
7	Sharpen Hasten	9g/ha 1% v/v	C C	62a-d	0.03-	90-	3.4-
8	Sharpen Hasten	17g/ha 1% v/v	C C	55bcd	0.04-	70-	4.0-
9	Sharpen Hasten	26g/ha 1% v/v	C C	77ab	0.01-	40-	1.9-
10	Sharpen Hasten	34g/ha 1% v/v	C C	72ab	0.08-	53-	2.9-
11	Nuquat Sharpen Hasten	800ml/ha 9g/ha 1% v/v	C C C	82a	0.04-	75-	4.1-
12	Nuquat Sharpen Hasten	1600ml/ha 9g/ha 1% v/v	C C C	70ab	0.06-	63-	3.2-
13	Nuquat Sharpen Hasten	800ml/ha 17g/ha 1% v/v	C C C	60a-d	0.05-	63-	3.5-
14	Experimental Adigor	1600ml/ha 1% v/v	C C	47cd	0.02-	70-	3.2-
			LSD P=	21.9	nsd	nsd	nsd
			Treatment Prob.(F)=	0.0001	0.4605	0.0526	0.8859

Means followed by same letter do not significantly differ (P=.05, LSD)
t=Mean descriptions are reported in transformed data units, and are not de-transformed.
Mean comparisons performed only when AOV Treatment P (F) is significant at mean comparison OSL.

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Assessment Type
BURNDOWN = % Burndown/brown out
Pest Stage Majority
51 = Inflorescence or flower buds visible
24 = 4 Tillers visible
ARM Action Codes
AA = Automatic arcsine square root % transformation
ER2 = Excluded replicate 2

DAC= Days after Application C

Application Description			
	A	B	C
Application Date:	25/11/2017	27/11/2017	6/12/2017
Application Start Time:			9:00 AM
Application Stop Time:			11:25 AM
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:			LATE POSTEM
Application Placement:	FOLIAR	FOLIAR	FOLIAR
Air Temperature, Unit:			24 C
% Relative Humidity:			32
Wind Velocity, Unit:			5 km/h
Wind Direction:			NE
Dew Presence (Y/N):			No
Soil Moisture:			SLIWET
% Cloud Cover:			5
Next Moisture Occurred On:	3/12/2017	3/12/2017	9/12/2017

Application Equipment			
	A	B	C
Application Equipment:	JD4730	JD4730	Quad bike
Equipment Type:	SPTRMO	SPTRMO	BOOM
Operation Pressure, Unit:	380 kPa	550 kPa	300 kPa
Nozzle Type:	AIRMIX	TEEJTU	AIXR
Nozzle Size:	MD11002	TTI110015	110015
Nozzle Spacing, Unit:	50 cm	25 cm	50 cm
Boom Length, Unit:	36 m	36 m	4 m
Boom Height, Unit:	60 cm	60 cm	50 cm
Ground Speed, Unit:	27 km/h	25 km/h	7.2 km/h
Carrier:	Water		
Spray Volume, Unit:	40 L/ha	80 L/ha	100 L/ha