

Pyraflufen (Vida) and Aceto-diquat as a desiccant on dryland potatoes. Harlene Hatterman-Valenti and Collin Auwarter.

This study was conducted at the Northern Plains Potato Growers Association Non-irrigated research site near Grand Forks, ND to compare desiccation with Vida at different rates and timings compared with diquat. Red Norland seed pieces (2 oz) were planted on 36 inch rows and 12 inch spacing on June 11, 2009. Plots were 4 rows by 25 ft arranged in a randomized complete block design with 4 replicates. Extension recommendations were used for cultural practices throughout the year. The desiccant treatments were applied to the middle 2 of 4 rows using a CO<sub>2</sub> backpack sprayer equipped with 8002 flat fan nozzles with an output of 20 gpa and a pressure of 40 psi on September 3 ('A') and September 10 ('B'). The pH of water before adding Vida to the bottles was 5.85. We added Tri-Fol @ 1 pt/100 gal to lower the pH. Potatoes were harvested on October 13.

Application Date:	9/3/09	9/10/09
Air Temperature (F):	74	77
Rel. Humidity (%):	68	73
Wind (mph):	2	7
Soil Moisture:	Adequate	Above Normal
Cloud Cover (%):	5	10

Anything with diquat faired better than the Vida treatments throughout the trial on both the leaves and stems. By 4 DAA 'A' the Vida treatments had between 21 and 29% leaf necrosis, while the treatments with diquat (including ones tank mixed with Vida) had between 36 and 41% leaf necrosis, with the highest being Vida @ 4.125 floz/a + Reglone @ 1 pt/a + Preference @ 0.25% v/v (treatment 4). All stems at this point showed between 10 and 20% necrosis. By 14 DAA 'A' and 7 DAA 'B' the best treatment was Vida @ 4.125 floz/a + Reglone @ 1 pt/a + Preference @ 0.25% v/v (treatment 4) with 96% leaf necrosis and 86% stem necrosis. The next best treatment was Vida @ 2.75 floz/a + Reglone @ 1 pt/a + Preference @ 0.25% v/v (treatment 6) applied 2X with 95% desiccated leaves and 84% desiccated stems. During the last ratings (18 DAA 'A' and 11 DAA 'B') all treatments had 100% desiccation of leaves, except the treatments where Vida was not tank mixed with any other herbicide (treatments 2 and 3). All stems at this point were at least 96% desiccated. All treatments had a yield between 335 and 441 cwt/A with no statistical difference between treatments. The highest yielding treatments were Vida @ 5.5 floz/a + Persist Ultra @ 1% v/v (treatment 2) with 441 cwt/A, and Reglone @ 1 pt/a + Preference fb Vida @ 2.75 floz/a + Persist Ultra @ 1% v/v (treatment 10) with 425 cwt/A. The lowest yielding was a Aceto-diquat @ 2 pt/a + Preference @ 0.25% v/v (treatment 13) with 335 cwt/a. The untreated (treatment 1) yielded 397 cwt/a.

Potato desiccation with pyraflufen and Aceto-diquat.

No.	Name	Rate		Code	----9/7/09-----		----9/10/09----		-----9/17/09-----		-----9/21/09-----		Yield cwt/a
		Rate	Unit		4 DAA'A'		7 DAA'A'		14 DAA'A', 7 DAA'B'		18 DAA'A', 11 DAA'B'		
1	Untreated				0c	0d	0e	0e	0d	0d	0c	0c	397a
2	*Vida	5.5	floz/a	A	23b	10c	53cd	23d	86bc	73c	99b	96b	441a
	Persist Ultra	1	%v/v	A									
3	*Vida	5.5	floz/a	A	29b	13bc	55cd	25cd	85c	75bc	99b	97ab	354a
	Syl-Tac	4	floz/a	A									
4	*Vida	4.125	floz/a	A	41a	19a	69a	35a	96a	86a	100a	100a	392a
	Reglone	1	pt/a	A									
	Preference	0.25	%v/v	A									
5	*Vida	2.75	floz/a	A	38a	18a	66ab	33ab	91abc	79abc	100a	100a	356a
	Reglone	1	pt/a	A									
	Preference	0.25	%v/v	A									
6	*Vida	2.75	floz/a	AB	39a	20a	70a	35a	95a	84ab	100a	100a	403a
	Reglone	1	pt/a	AB									
	Preference	0.25	%v/v	AB									
7	*Vida	2.75	floz/a	AB	23b	13bc	55cd	25cd	86bc	74bc	100a	97ab	373a
	Persist Ultra	1	%v/v	AB									
8	*Vida	2.75	floz/a	A	25b	13bc	53cd	26bcd	86bc	73c	100a	98ab	357a
	Persist Ultra	1	%v/v	A									
	*Vida	5.5	floz/a	B									
	Persist Ultra	1	%v/v	B									
9	*Vida	2.75	floz/a	A	21b	10c	48d	21d	90abc	80abc	100a	99a	395a
	Persist Ultra	1	%v/v	A									
	Reglone	1	pt/a	B									
	Preference	0.25	%v/v	B									
10	Reglone	1	pt/a	A	36a	19a	66ab	31abc	93abc	80abc	100a	99a	425a
	Preference	0.25	%v/v	A									
	*Vida	2.75	floz/a	B									
	Persist Ultra	1	%v/v	B									
11	Reglone	1	pt/a	A	35a	16ab	68ab	35a	94ab	83abc	100a	100a	356a
	Preference	0.25	%v/v	A									
	Reglone	1	pt/a	B									
	Preference	0.25	%v/v	B									
12	Aceto-diquat	1	pt/a	A	38a	19a	65ab	33ab	89abc	79abc	100a	98ab	342a
	Preference	0.25	%v/v	A									
13	Aceto-diquat	2	pt/a	A	39a	19a	70a	38a	93abc	83abc	100a	100a	335a
	Preference	0.25	%v/v	A									
14	Aceto-diquat	1	pt/a	A	36a	19a	59bc	30abc	91abc	83abc	100a	99a	386a
	Preference	0.25	%v/v	A									
	Aceto-diquat	1	pt/a	B									
	Preference	0.25	%v/v	B									

\*pH was brought down to 5.85 by adding Tri-Fol @ 1 pt/100 gal before adding Vida.