TABLE 6A –Weed Response to Herbicides in Potatoes*

			ANNUAL BROADLEAVES										ANNUAL GRASSES								PERENNIALS				
	SITE OF ACTION	CROP TOLERANCE**	COCKLEBUR	JIMSONWEED	LAMBSQUARTERS	NIGHTSHADE (E. BLACK)	PIGWEED	RAGWEED (COMMON)	SMARTWEED	VELVETLEAF	WILD MUSTARD	WILD BUCKWHEAT	BARNYARDGRASS	CRABGRASS	GIANT FOXTAIL	GREEN FOXTAIL	YELLOW FOXTAIL	FALL PANICUM	WITCHGRASS	SANDBUR	BINDWEED (FIELD)	BINDWEED (HEDGE)	CANADA THISTLE	QUACKGRASS	YELLOW NUTSEDGE
Preplant Incorporated																									
EPTAM	8	1	P	P	**G**	F	F	F	F	F	F	P	**E**	**E**	**E**	**E**	**E**	**E**	**E**	**G**	N	N	N	F	F
Preemergence																									
BOUNDARY	5/15	2	F	F	**E**	F	**E**	**G**	**E**	**G**	**E**	**G**	**E**	**E**	**E**	**E**	**E**	**G**	**G**	F	N	N	N	N	**G**
DUAL MAGNUM/PARALLEL/OTHERS	15	2	N	N	P	F	**G**	P	P	N	P	P	**E**	**E**	**E**	**E**	**E**	**G**	**G**	F	N	N	N	N	**G**
LOROX/LINEX	7	1	P	P	**G**	F	**E**	**G**	**G**	F	**G**	F	F	F	F	F	F	F	F	P	N	N	N	N	N
MATRIX	2	1	**G**	F	F	P	**E**	F	F	F	**E**	F	**G**	F	**G**	**G**	**G**	F	F	P	N	N	P	P	P
METRIBUZIN	5	2	F	F	**E**	N	**E**	**G**	**E**	**G**	**E**	**G**	P	F	**G**	**G**	**G**	F	F	P	N	N	N	N	N
OUTLOOK[a]	15	2	N	N	P	**G**	**G**	P	P	N	P	P	**E**	**E**	**E**	**E**	**E**	**G**	**G**	P	N	N	N	N	F
PROWL H_20/PROWL	3	1	N	N	**G**	P	F	P	P	F	P	P	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	N	N	N	N	N
REFLEX	14	2	P	F	P	**G**	**E**	**G**	P	P	**E**	N	N	N	N	N	N	N	N	N	N	N	N	N	N
SEQUENCE	9/15	2	N	N	P	F	**G**	P	P	N	P	P	**E**	**E**	**E**	**E**	**E**	**G**	**G**	F	N	N	N	N	**G**
Postemergence																									
MATRIX[a]	2	1	**G**	P	F	F	**E**	F	F	F	**E**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	**G**	N	N	F	F	F
METRIBUZIN	5	2	**G**	F	**E**	N	**G**	**E**	**E**	**G**	**E**	F	P	P	F	F	F	F	F	P	N	N	N	N	N
POAST	1	1	N	N	N	N	N	N	N	N	N	N	**E**	**G**	**E**	**E**	**E**	**E**	**E**	**E**	N	N	N	F	N
SELECT MAX/																									
SELECT/ARROW	1	1	N	N	N	N	N	N	N	N	N	N	**E**	**G**	**E**	**E**	**E**	**E**	**E**	**E**	N	N	N	**G**	N

Herbicide Site of Action: The site of action key is located on pages 15-16.

Herbicide Effectiveness: P = Poor; F = Fair; **G** = Good; **E** = Excellent; N = None; – = Not enough information to rank

* *The above ratings are a relative comparison of herbicide effectiveness. Weather conditions greatly influence the herbicide's effectiveness, and weed control may be better under favorable conditions or poorer under unfavorable conditions.*

** Crop Tolerance: 1=Minimal risk of crop injury; 2=Crop injury can occur under certain conditions (soil applied—cold, wet: foliar applied—hot, humid); 3=Severe crop injury can occur. Follow precautions under Remarks and Limitations and on the label; 4=Risk of severe crop injury is high.

[a] Fair to good control of hairy nightshade.

TABLE 6B – Potato herbicides – Remarks and Limitations

Potatoes – Preplant Incorporated Only

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
Annual grasses	EPTC *(Eptam)*	4	4.5 pt 7EC	• **Apply preplant incorporated only.** • Refer to Table 6A for weed control and crop tolerance ratings. • Work into soil immediately after application. • Increase the rate to 6.75 pt/A for nutsedge control. • DO NOT exceed 14 pt/A *Eptam* per crop. • Tank mixtures and/or sequential programs are needed for a complete weed control program. • Refer to label and Table 12 for crop rotation restrictions.

Potatoes – Soil Applied Herbicides

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
Annual grasses	s-metolachlor *(Dual Magnum)* OR *(Dual II Magnum, Cinch)*	1.27	1.33 pt 7.62EC OR 1.33 pt 7.64EC	• **Apply preplant incorporated or preemergence following planting, hilling or drag-off.** • Refer to Table 6A for weed control and crop tolerance ratings. • Can be tank mixed with other soil-applied herbicides for improved control of certain weeds. • Can be applied postemergence after hilling or drag-off, but this application will not control emerged weeds. • DO NOT apply more than 3.6 pt/A per year. • DO NOT use on muck or peat soils. • DO NOT harvest potatoes within 60 days of preemeregence application and 40 days of postemergence applications. • Tank mixtures and/or sequential programs are needed for a complete weed control program. • Refer to label and Table 12 for crop rotation restrictions.
	dimethenamid-P *(Outlook)*	0.66	14 oz 6L	• **Apply preemergence following planting, hilling or drag-off.** • Refer to Table 6A for weed control and crop tolerance ratings. • *Outlook* rates range from 12 to 18 oz/A (coarse textured soils) and 18 to 21 oz/A (medium- to fine-textured soils). • DO NOT incorporate. • DO NOT apply more than one application of *Outlook* per acre per year. • Under cold or wet conditions, applications of *Outlook* may result in delayed emergence or early season stunting. • DO NOT apply within 40 days of potato harvest. • Tank mixtures and/or sequential program are needed for a complete weed control program. • Refer to label and Table 12 for crop rotation restrictions.
	metolachlor *(Parallel)*	1.3	1.33 pt 7.8EC	• **Apply preplant incorporated or preemergence following planting, hilling or drag-off.** • *Parallel* contains the R and S-isomers of metolachlor. Rates would need to be increased to 2 pt/A to provide the same amount of s-metolachlor (the more active isomer) as the 1.33 pt/A rate of *Dual Magnum*. • Refer to the Remarks and Limitations section for *Dual Magnum*.

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Potatoes – Soil Applied Herbicides *(continued)*

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
(continued)				
Annual grasses	pendimethalin *(Prowl H_2O)* OR (Prowl)	0.75	 1.6 pt 3.8CS OR 1.8 pt 3.3EC	• **Apply preemergence following planting, hilling or drag-off.** • Refer to Table 6A for weed control and crop tolerance ratings. • Can be tank mixed with other soil-applied herbicides for improved control of certain weeds. • Can be applied early postemergence to the 6-inch stage of growth, but this application will not control emerged weeds. • DO NOT apply more than one application of *Prowl H_2O/ Prowl* per acre per year. • Tank mixtures and/or sequential programs are needed for a complete weed control program. • Refer to label and Table 12 for crop rotation restrictions.
	glyphosate + s-metolachlor *(Sequence)* + ammonium sulfate	1.64	3.5 pt 2.25L + 17 lb/100 gal	• **Apply preemergence following planting, hilling or drag-off.** • *Sequence* at 3.5 pt/A contains 0.9 lb a.e./A of glyphosate and 1.2 pt/A of *Dual Magnum*. • DO NOT apply to emerged potatoes – severe injury will occur. • Refer to Table 6A for residual weed control and crop tolerance ratings. • DO NOT apply more than 4 pt/A per season. • DO NOT apply within 60 days of potato harvest. • Refer to label and Table 12 for crop rotation restrictions.
Annual broadleaves	linuron *(Lorox DF)* OR *(Linex 4L)*	1	 2 lb 50DF OR 1 qt 4L	• **Apply preemergence immediately after hilling or drag-off.** • Refer to Table 6A for weed control and crop tolerance ratings. • Apply before grasses exceed 2 inches and broadleaves exceed 6 inches tall, but BEFORE POTATOES EMERGE – surfactant at 0.125% v/v can be added. • *Lorox/Linex* should be tank mixed with a soil-applied grass herbicide, such as *Dual Magnum* for control of grass weeds. • *Lorox/Linex* will provide some control of triazine-resistant common lambsquarters. • DO NOT exceed 3 pt/A per acre per crop season. • Tank mixtures and/or sequential programs are needed for a complete weed control program. • Refer to label and Table 12 for crop rotation restrictions.
	rimsulfuron *(Matrix SG)*	0.023	1.5 oz 25WG	• **Apply preemergence immediately after hilling or drag-off.** • Refer to Table 6A for weed control and crop tolerance ratings. • Rainfall or irrigation of 1/3 to 1 inch is needed within 5 days of application to achieve the greatest activity. • *Matrix* may be tank mixed with other soil-applied herbicides for improved control of certain weeds. • DO NOT exceed 2.5 oz/A per acre per crop season. • DO NOT apply *Matrix* within 30 days of potato harvest. • Tank mixtures and/or sequential programs are needed for a complete weed control program. • Refer to label and Table 12 for crop rotation restrictions.

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Potatoes – Soil Applied Herbicides *(continued)*

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
(continued)				
Annual broadleaves	metribuzin (*Metribuzin*, others)	0.5	0.67 lb 75DF	• **Apply preemergence immediately after hilling or drag-off.** • Refer to Table 6A for weed control and crop tolerance ratings. • Under adverse weather conditions (cool-wet) – crop injury can occur and may be more pronounced with specific varieties. • *Metribuzin* may be tank mixed with other soil-applied herbicides for improved control of certain weeds. • *Metribuzin* will not provide control of triazine-resistant common lambsquarters. • Can be applied in split-applications (once preemergence and once postemergence). • DO NOT exceed 1.33 lb/A per acre per crop season. • DO NOT apply within 60 days of potato harvest. • Tank mixtures and/or sequential programs are needed for a complete weed control program. • Refer to label and Table 12 for crop rotation restrictions.
	fomesafen *(Reflex)*	0.25	1 pt 2L	• **Apply preemergence following planting, hilling or drag-off.** • Refer to Table 6A for weed control and crop tolerance ratings. • DO NOT apply to emerged potato plants – severe crop injury will occur. • Potato varieties may vary in their response to *Reflex* – consult seed company. • *Reflex* may be tank mixed with other soil-applied herbicides for improved control of certain weeds. • DO NOT apply *Reflex* to the same field in consecutive years. • Tank mixtures and/or sequential programs are needed for a complete weed control program. • Refer to label and Table 12 for crop rotation restrictions.
Annual grasses **Annual broadleaves**	s-metolachlor + metribuzin *(Boundary 6.5EC)*	1.22	1.5 pt 6.5EC	• **Apply preemergence following planting, hilling or dragoff.** • Refer to Table 6A for weed control and crop tolerance ratings. • *Boundary 6.5EC* at 1.5 pt/A contains 1 pt/A *Dual Magnum* + 5 oz/A *Metribuzin*. • Potato varieties can vary in their response to *Metribuzin* – consult seed company. • *Boundary 6.5EC* may be tank mixed with other soil-applied herbicides for improved control of certain weeds. • DO NOT apply more than 1 lb a.i./A per year of metribuzin. • DO NOT use on muck or peat soils. • DO NOT apply *Boundary 6.5EC* within 60 days of potato harvest. • Tank mixtures and/or sequential program are needed for a complete weed control program. • Refer to label and Table 12 for crop rotation restrictions.

Potatoes – Postemergence Herbicides

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
Annual grasses **Volunteer cereals**	sethoxydim *(Poast)* + crop oil concentrate	0.19	1 pt 1.5SC + 1 qt	• Refer to Table 6A for weed control and crop tolerance ratings. • Apply to grasses up to 8 inches tall (crabgrass up to 6 inches). • *Poast* at 0.75 pt/A will control 1 to 4 inch tall barnyardgrass, green and giant foxtails, and fall panicum. • Volunteer cereals need to be treated before tillering (up to 4 inches tall). • DO NOT apply within 30 days of potato harvest. • Refer to label and Table 12 for crop rotation restrictions.
	clethodim *(Select Max)* OR *(Select/Arrow)* + crop oil concentrate	 0.068 0.094	 9 oz 0.97EC OR 6 oz 2EC + 1%	• Refer to Table 6A for weed control and crop tolerance ratings. • Apply to grasses up to 8 inches tall (crabgrass up to 6 inches). • *Select Max* at 6 oz/A or *Select/Arrow* at 4 oz/A will control 1 to 4 inch tall barnyardgrass, green and giant foxtails, and fall panicum. • Volunteer cereals need to be treated between 2 to 6 inches tall. • The addition of ammonium sulfate (2.5 to 4 lb/A) has been shown to improve control of difficult weeds – e.g., quackgrass, Johnsongrass, and volunteer cereals. • There is more adjuvant flexibility with *Select Max* tank-mixtures. Consult label. • DO NOT apply within 30 days of potato harvest. • Refer to label and Table 12 for crop rotation restrictions.
Annual grasses **Annual broadleaves**	rimsulfuron *(Matrix SG)* + surfactant	0.016	1 oz 25WG + 0.25%	• Refer to Table 6A for weed control and crop tolerance ratings. • Apply to small weeds (<1 inch in height or diameter). • *Matrix* may cause some temporary yellowing. • *Matrix* can be tank mixed with *Metribuzin* at 0.25 to 0.67 lb/A for improved control of certain weeds – apply with 0.125% v/v non-ionic surfactant. Refer to the remarks and limitations section for *Metribuzin*. • Apply at 1.5 oz/A for quackgrass control (4-8 inches tall). • DO NOT exceed 2.5 oz/A per acre per crop season. • DO NOT apply *Matrix* within 30 days of potato harvest. • Refer to label and Table 12 for crop rotation restrictions.
	metribuzin (*Metribuzin*, others)	0.25	0.33 lb 75DF	• Refer to Table 6A for weed control and crop tolerance ratings. • Apply to small weeds (<1 inch in height or diameter). • NOT RECOMMENDED on early maturing smooth skinned white and all red skinned varieties. Atlantic, Bellchip, Centennial, Chipbelle, Shepody, and Superior varieties are all sensitive to postemergence applications of metribuzin. • *Metribuzin* can be tank mixed with (Matrix) at 1 oz/A for improved control of certain weeds – apply with 0.125% v/v non-ionic surfactant. • *Metribuzin* will not provide control of triazine-resistant common lambsquarters. • Can be applied in split-applications (once preemergence and once postemergence). • DO NOT exceed 1.33 lb/A per acre per crop season. • DO NOT apply within 60 days of potato harvest. • Tank mixtures and/or sequential programs are needed for a complete weed control program. • Refer to label and Table 12 for crop rotation restrictions.

TABLE 6C –Vine Desiccation in Potatoes

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
Potato Vine Desiccation	carfentrazone *(Aim)* + methylated seed oil	0.047	3.2 oz 2EC + 1%	• Apply from 3.2 to 5.8 oz/A for best results. • Crop oil concentrate (1%) or surfactant (0.25%) may be used instead of methylated seed oil. • DO NOT apply more than 11.6 oz/A per year. • *Aim* is not as effective as *Reglone* or *Rely*. • Sequential applications may be needed — thorough coverage is required. • DO NOT harvest within 7 days of application.
	diquat *(Reglone)* + surfactant	0.25–0.5	1–2 pt 2L + 0.25%	• Make a second application of 1-2 pt/A a minimum of 5 days later if vine growth is dense. • A total of 4 pt/A may be applied, with no more than 2 pt/A at a single application. Allow 5 days between applications. • Apply at 50 psi or less in 20-100 gal. clean water/A. Greater water volumes will provide more thorough coverage of heavy vine growth. • Apply at least 7 days before harvest. • DO NOT apply to drought-stressed potatoes. • No soil persistence. A cover crop can be planted immediately.
	glufosinate *(Rely)* + ammonium sulfate	0.375	3 pt/A 1L + 17 lb/100 gal	• DO NOT use to desiccate potatoes that are being used for seed. • Apply at a total volume of 20-100 gal. water/A with ground equipment. • Increase spray volume to at least 30 gal. water/A when the potato vine canopy is dense or under cool and dry conditions. • Requires a rainfree period for 4 hours after application. • DO NOT make more than one application per harvest. • Apply at least 9 days before harvest.
	pyraflufen ethyl *(Vida)* + crop oil concentrate	0.009	5.5 oz 0.21EC + 1%	• Apply from 2.5 to 5.5 oz/A for best results. • *Vida* is not as effective as *Reglone* or *Rely*. • Use an approved agricultural buffering agent buffering to pH 7.5 or less if using *Vida* in a water source of > pH 7.5. • A total of 11 oz/A may be applied, with no more than 5.5 oz/A at a single application. Allow 7 days between applications. • Make a second application a minimum of 7 days later if vine growth is dense. • Tank mixing or sequential applications with other vine desiccation products result in enhanced control. • Apply in 20 to 50 gal water/A with ground equipment. • Apply at least 7 days before harvest.