

## Relative Effectiveness of Potato Herbicide

| Target Species                | Dual<br>Pre | Eptam<br>Pre | Linuron<br>Pre | Matrix<br>Pre,<br>Post | Metribuzin<br>Pre,<br>Post | Poast<br>Post | Prowl<br>Pre | Treflan<br>Pre |
|-------------------------------|-------------|--------------|----------------|------------------------|----------------------------|---------------|--------------|----------------|
| <b>Annual broadleaf weeds</b> |             |              |                |                        |                            |               |              |                |
| Black nightshade              | E*          | F*           | G              | P                      | P                          | N             | P            | P              |
| Carpetweed                    | -           | _*           | _*             | -                      | E <sup>a</sup>             | N             | -            | _*             |
| Lady's thumb                  | P           | F            | E              | F                      | E                          | N             | -            | P              |
| Lambsquarters                 | F           | G*           | E*             | F*                     | E*                         | N             | G*           | G*             |
| Pigweed, redroot              | G*          | G*           | E*             | E*                     | E*                         | N             | G*           | G*             |
| Pigweed, prostrate            | -           | G*           | -              | E*                     | - <sup>a</sup>             | N             | G*           | G*             |
| Purslane, common              | G           | _*           | E*             | F*                     | G <sup>b</sup>             | N             | _*           | E*             |
| Ragweed, common               | F           | F            | E*             | F*                     | E*                         | N             | P            | P              |
| Shepard's purse               | -           | _*           | -              | E*                     | - <sup>a</sup>             | N             | -            | -              |
| Smartweed, Pennsylvania       | F           | F            | E*             | F*                     | E*                         | N             | P            | P              |
| Velvetleaf                    | P           | G            | G              | F*                     | E*                         | N             | P            | P              |
| Wild buckwheat                | P           | F            | F              | F                      | -                          | N             | -            | P              |
| <b>Annual grasses</b>         |             |              |                |                        |                            |               |              |                |
| Barnyard grass                | E*          | F            | G*             | E*                     | P                          | E             | G*           | E*             |
| Crabgrass, large              | E*          | E*           | G*             | F*                     | G                          | E             | E*           | E*             |
| Foxtail, green                | E*          | E*           | G*             | E*                     | G*                         | E             | E*           | E*             |
| Sandbur                       | F           | _*           | -              | -                      | P                          | E             | G*           | _*             |
| Witchgrass                    | _*          | E*           | F              | -                      | P                          | E             | E*           | E              |
| <b>Perennial grass</b>        |             |              |                |                        |                            |               |              |                |
| Quackgrass                    | P           | F            | P              | G*                     | P                          | G*            | P            | P              |

**Abbreviations: E = Excellent ; G = Good ; F = Fair ; P = Poor ; N = None**

Note: Because the performance of herbicides is affected by many variables, these ratings can only indicate the relative effectiveness. Actual performance may be better or worse.

\* Weeds listed as controlled on the herbicide label.

<sup>a</sup> Metribuzin label lists carpetweed, jimsonweed, wild mustard, prostrate pigweed, and shepherd's purse as controlled by preemergence sprays only.

<sup>b</sup> Metribuzin label states preemergence treatment will suppress purslane.

## Herbicide Rate and Usage for Weed Control in Potatoes

| Weed         | Active Ingredient<br>rate/a      | Commercial Product<br>rate/a  | PHI | Additional Comments   |
|--------------|----------------------------------|---|-----|---|
| Annual weeds | 0.56 – 0.98 lb<br>dimethenamid-p | <i>Course soils:</i> 12.0 – 18.0 fl<br>oz Outlook<br><i>Medium- and fine-textured<br/>soils:</i> 14.0 – 21.0 fl oz<br>Outlook | 40  | Make preemergence applications after drag-off or after hilling, but before weeds emerge. In cold and wet conditions, Outlook may delay emergence or stunt potatoes. |

\*Restricted-use pesticide

Always read the pesticide label prior to use.

| Weed                                | Active Ingredient rate/a     | Commercial Product rate/a                  | PHI | Additional Comments  |
|-------------------------------------|------------------------------|--|-----|--|
| Annual weeds (cont.)                | fomesafen                    | Reflex                                     | 70  | Reflex is prohibited from use in many -areas of Wisconsin and is rate-restricted by location. Check label to determine if it can be used in your area and for use instructions.  |
|                                     | 0.08 – 0.11 lb pyroxasulfone | 1.5 – 2.0 oz Zidua                         |     | Apply to potato after planting, drag off, or hilling but prior to crop weed emergence. In all applications ensure the seed piece and sprout/vegetation are covered by at least 2 inches of soil. Up to 1.5 oz/a of Zidua is allowed on coarse soils. Up to 2.0 oz/a of Zidua is allowed on all other soils. Before applying to potato, verify with your local seed supplier that the variety is tolerant of Zidua.   |
| Annual grasses and some broadleaves | EPTC                         | Eptam 7E or registered equivalent          | 30  | Rate varies by application timing – see label for details. May be applied and incorporated with various methods before or at planting, or postemergence. Superior may suffer early season stunting if the crop is stressed.  |
|                                     | 0.71 – 1.43 lb pendimethalin | 1.5 – 3.0 pt Prowl H <sub>2</sub> O        |     | Make one preemergence application after potatoes are planted but before weeds or crop emerge. Use rate is based on soil texture. Pendimethalin is more effective if adequate rainfall or irrigation occurs within 1 week of treatment. Incorporate if moisture is inadequate. May also be applied postemergence from crop emergence to 6-inch stage and through chemigation. Do not make applications to potatoes under stress from cold/wet or hot/dry weather. |
|                                     | 0.74 – 1.49 lb pendimethalin | 1.8 – 3.6 pt Prowl 3.3EC                   |     |  |
|                                     | s-metolachlor                | 1.0 – 2.0 pt Dual Magnum or Dual II Magnum |     | Make preemergence applications after drag-off or after hilling but before weeds emerge. Use rates vary with soil organic matter and formulation. PHI varies with type  |

| Weed  | Active Ingredient<br>rate/a | Commercial Product rate/a                                   | PHI | Additional Comments  |
|---|-----------------------------|---|-----|--|
| Annual<br>grasses and<br>some<br>broadleaves<br>(cont.) |                             |   |     | of application, so read the label carefully. Do not use on peat or muck soils. If cool wet soil conditions occur after treatment, Dual may delay maturity or reduce yield of early-maturing varieties.   |
|   | trifluralin                 | Several manufacturers                                       |     | Treat after planting but before emergence, following dragoff or after potatoes have fully emerged. May also be applied through chemigation. Controls annual grasses and some broadleaf weeds but is weak on wild mustard, smartweed, common ragweed, velvetleaf, and black nightshade. Rate varies with soil texture and organic matter. Follow recommended soil preparation, application, and incorporation procedures. May injure potatoes if improperly incorporated. Must be incorporated within 24 hours. See label for plantback restrictions. Ineffective on peat and muck soils. |
| Annual<br>broadleaves<br>and some<br>grasses            | linuron                     | Linuron <i>(use and rate vary by soil type – see label)</i> |     | Linex 4L use included on a Wisconsin Special Local Needs 24c label that addresses restricted soil types, organic matter, and depth to groundwater. See label for details. Apply delay preemergence after planting but just before potatoes emerge. Linuron can be applied in a hill-spray operation. Apply before grasses are 2 inches tall and broadleaf weeds are 6 inches tall, preferably just before or when weed seedlings emerge. If weeds are present, add areas, apply linuron to moist soil and follow with sprinkler irrigation or rainfall                                   |

| Weed  | Active Ingredient rate/a              | Commercial Product rate/a                   | PHI                 | Additional Comments  |
|---|---------------------------------------|---|---------------------|--|
| Annual broadleaves and some grasses (cont.) | metribuzin                            | See label – rate and use instructions vary. | 60                  | <p>within 2 weeks. Do not incorporate. More effective on annual broadleaf weeds than grasses.</p> <p>Apply delayed preemergence after drag-off or hilling. Do not incorporate. Early postemergence applications are labeled for russet-type or white-skinned varieties that are not early maturing. Can be applied withing 3 days after periods or cool, wet, or cloudy weather, or to weeds taller than 1 inch. Postemergence metribuzin treatment is not recommended for red-skinned varieties or Atlantic, Shepody, Chip Bell, Bellchip, or Centennial. Preemergence application to these varieties may also cause injury. Split applications (preemergence and early postemergence) at reduced rates are often effective and reduce potential for leaching. See label for rotation restrictions.</p> |
|   | Annual weeds and some perennial weeds | 0.15 – 0.3 lb imazosulfuron                 | 3.2 – 6.4 oz League | 45   |
| 0.0156 – 0.02 lb rimsulfuron                |                                       | 1.0 – 1.5 oz Matrix or Solida               | 30                  | <p>Apply 1.0 – 1.5 oz/a immediately after hilling or dragoff, or postemergence to young actively growing weeds. Depending of soil type, rainfall or irrigation of 1/3 to 1 inch is needed within 5 days after application for activation. For postemergence applications, allow at least 4 hours drying time</p>   |

| Weed  | Active Ingredient<br>rate/a               | Commercial Product rate/a   | PHI | Additional Comments   |
|---|---|---|-----|---|
| Annual weeds<br>and some<br>perennial<br>weeds<br>(cont.) |   |   |     | after application. Sequential applications are allowed up to a total of 2.5 oz/a. Check the label for crop rotation guidelines.   |
| Emerged<br>weeds  | glyphosate                                | Several manufacturers and formulations                                      |     | See manufacturer's label to assure that the formulation is labeled for this crop and for specific instructions. Glyphosate may be applied any time before crop emerges. Apply before crop germination in coarse sandy soils. If weeds have been mowed or tilled, wait until they resume active growth and reach the recommended stage on the label. Unless otherwise stated allow for 7 or more days before tilling treated fields. Do not tank mix with soil-residual herbicides unless otherwise specified. |
|   | *paraquat ( <i>rate varies by label</i> ) | Several manufacturers and formulations, not all are registered for this use |     | Make application up to cracking. Always add crop oil concentrate or non-ionic surfactant to spray mixture. Follow precautions on label. In preplant and preemergence (to the crop) uses, do not apply to soils lacking clay minerals (i.e., muck, pure sand).   |
| Emerged<br>grasses  | 0.068 – 0.24 lb<br>clethodim              | 9.0 – 32.0 oz Select Maxx   | 30  | Apply to actively growing grasses. Repeat treatments may be made at 14-day intervals up to the maximum annual use rate. Do not cultivate grasses within 7 days before or after application. Include appropriate surfactant as required by product label. Do not apply if rain is expected within 1 hour.  |
|   | clethodim                                 | Several manufacturers   | 30  |   |

| Weed                          | Active Ingredient<br>rate/a  | Commercial Product rate/a | PHI | Additional Comments  |
|-------------------------------|------------------------------|---------------------------|-----|--|
| Emerged<br>grasses<br>(cont.) | 0.19 – 0.48 lb<br>sethoxydim | 1.0 – 2.5 pt Poast        | 30  | Make postemergence applications to actively growing grasses within the size ranges indicated on the label. Check the label for wild proso millet and rescue treatment rates. Do not exceed 5 pt/a Poast in one crop season. Consult label for rate and adjuvant instructions for specific weeds. Specific tank-mix restrictions for potato included on label, including longer preharvest intervals. |