

Rain, Rain go away, hope my herbicides work today (and tomorrow)!

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Last tillage operation performed and preemergence herbicides all applied – I'm good to go, right?

Some herbicides are more soluble than others so depending upon weed spectrum in a field, "breaks" could occur because the controlling herbicide has moved below the weed seed germination zone.

- Watch for breaks in weed control because of solubility differences and weed spectrum known to be present in a given field.
- If breaks occur and/or possibility of break exists, additional control measures can be taken.

Relative herbicide solubility: Matrix > metribuzin, Outlook > Dual Magnum, Eptam > Linex, Reflex >> Chateau, Sonalan, Treflan, Prowl.

Example: hairy nightshade and common lambsquarters control with Matrix + metribuzin + Prowl H2O tank mix. Hairy nightshade may germinate and emerge since Matrix may have moved below germination zone. Even though metribuzin also may have moved, common lambsquarters should still be good because Prowl is still in the weed seed germination zone.

What are my options for specific scenarios whether or not I've already applied herbicides?

Some herbicides, herbicide combinations can be applied sequentially: preemergence (PRE) + preemergence; PRE + postemergence (POST); POST + POST

- *Make sure to follow annual total amount limitations stated on the herbicide label(s) and also restrictions/allowances for sequential applications.*

Potatoes and weeds have not yet emerged:

- Follow your usual preemergence (PRE) herbicide program.
- Adjust your irrigation incorporation amount to the low end of labeled rate depending upon existing soil moisture.
- Do not apply Eptam to wet soils because possibility of loss through volatility increases compared with application to dry soils.

Potatoes have not yet emerged, weeds have emerged:

- Burndown" herbicides with foliar activity only (no soil residual activity) - Aim EC (carfentrazone), glyphosate, paraquat.
- Herbicides with foliar and soil activity and can be applied before or after potato emergence – Matrix, metribuzin.
- Herbicides which *must be applied preemergence to potatoes*, have soil activity and *may possibly* have some foliar activity on weeds – Linex, Chateau.
- TANK MIX herbicides with foliar and soil residual activity to control emerged and not-yet-emerged weeds...

Potatoes emerged, weeds have not emerged:

- Herbicides with residual soil activity and can be applied early postemergence (EPOST) to potatoes – Matrix, metribuzin, Dual Magnum, Eptam, Prowl.

Both potatoes and weeds have emerged:

- **NOTE:** only Matrix and metribuzin have foliar activity on the emerged weeds, the others will not control emerged weeds.
- Herbicides with residual soil activity and can be applied early postemergence (EPOST) to potatoes – Matrix, metribuzin, Dual Magnum, Eptam, Prowl.

NOTE: If ground equipment is used, make sure soil is dry enough so as to minimize soil compaction.

What about hilling/reservoir tillage (common equipment trade name – Dammer Diker)?

Tillage after herbicides already have been applied will disrupt the herbicide barrier and bring up untreated soil, and maybe additional weed seed.

Cultivation of potatoes larger than 8 to 10 inches tall may result in root pruning and reduced tuber yields and quality

Ideal emerged weed size for control with cultivator is < 2 leaf.

- 3 to 4 inch tall weeds can still be eliminated sometimes, however, when > 4 inch, then cultivation is not effective.
- If cultivator is not set up properly, weeds may be left on side of hills
- Even though large weeds are initially covered with soil during a cultivation, they can survive and re-emerge.
- If soil is wet, delay after cultivation so that compaction does not occur and weeds can't "re-root" in the wet soil.

In-row weeds probably will not be controlled with in-furrow tillage, although soil thrown up onto tops of hill may cover small, emerged weeds enough to kill them.

READ AND FOLLOW ALL HERBICIDE LABEL INSTRUCTIONS.