HERBICIDE GROUPS AND SITES OF ACTION

PART II OF IV:

GROUP 1 HERBICIDE RESISTANCE

The target site in plants inhibited by Group 1 herbicides is the **ACCase enzyme**. It is an important enzyme for producing short chain fatty acids, the building blocks for lipids, cell membranes, and protective waxes in the plant cuticle.

Farmers may think they are rotating herbicides when they are not.

Although there are 7 different active ingredients and numerous different trade names within Group 1, they all work on the same target site and select for resistant biotypes. Additionally, **herbicides may have different trade names, but contain the same active ingredient** — for example, Horizon, Ladder, Cadillac, Foax, Aurora, Foothills, Slam'R, and Signal all contain clodinafop.

The only way to determine if wild oat within your field possesses cross resistance is through **RESISTANCE TESTING**. You might notice that a fop product such as fenoxaprop no longer controls your wild oat; however, testing will determine whether a different Group 1 family will control it (for example, pinoxaden). **In some cases, wild oats are cross-resistant to all 3 families.**

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Number of chemical families within this group. These include:

1. **Fops (fenoxaprop, quizalofop, clodinafop)**
2. **Dims (tralkoxydim, sethoxydim, clethodim)**
3. **Dens (pinoxaden)**

A wild oat population can be resistant to one or more of these families depending on the specific mutation within the target site. Plants that are resistant to more than one chemical family within the same herbicide group are known as possessing **cross resistance.**

For more information on Wild Oat management,
- visit: **weedscience.ca/wild-oat-action-committee/**
- scan: the QR code with your smartphone.
- email: wildoataction@gmail.com
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RESISTANT WILD OAT ACTION COMMITTEE

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