Weed Seedling ID Guide

For Weed Identification & Management Solutions

BASF

We create chemistry

Scout early and reduce your risks.

Timing is critical when it comes to early season weed management. The critical weed-free period is the growth stages, depending on the crop, at which fields must be kept weed-free to limit yield loss potential[1]. Controlling weeds early in the season protects your return on investment.

It is also important to control herbicide-resistant weeds to prevent them from surviving, reproducing or adding more resistant seeds to the soil seed bank[2].

Using multiple modes of action and applying when weeds are small decreases the risk of target weeds selecting for resistance[2].

Weed seedlings can appear very different from mature weeds. This guide will help you identify key weeds present in your fields so you can choose the best management solution to get the most out of your crop.

Weed Seedling vs. Mature Weed ID

Flixweed
Descurainia sophia

SEEDLING

MATURE

Characteristic differences

- Seedlings have cotyledons that are stalked and oblong. Later leaves have one or two lobes[3]
- Mature weeds have erect stems (30 – 90 cm high) branched above with alternating, feather-like leaves. Stems and leaves are grayish-green in colour[4]
- Mature weeds can have small, pale yellow flowers crowded at the end of stems/branches[4]

Other common names

Herb-Sophia, Tansy mustard

Apply:

Certitude™ Herbicide

Smoulder™ Powered by Kixor™ Herbicide

Weed Seedling vs. Mature Weed ID

Russian thistle

Salsola pestifer

SEEDLING

MATURE

Characteristic differences

- Seedlings have narrow, grass-like cotyledons[5]
- Mature weeds have shorter, needle-like leaves that are rounded or slightly flattened cross-sectionally[5]
- Mature weeds can have small green or pinkish flowers[5]

Other common names

Saltwort, Tumbleweed

Apply:

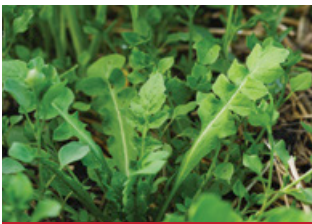
Certitude™ Herbicide

Weed Seedling vs. Mature Weed ID

Shepherd's purse

Capsella bursa-pastoris

SEEDLING



MATURE

Characteristic differences

- Seedlings have lobed basal leaves, more or less uniform on each side, and hairy lobes[6]
- Mature weeds have erect stems (10 – 60 cm high) with lobed leaves (5 – 10 cm long) that are coarsely toothed and grow from a rosette at the base[6]
- Mature weeds can have small, white flowers[6]
- The seed pod is triangular and flat with a notch at the tip and small beak in the centre of the notch

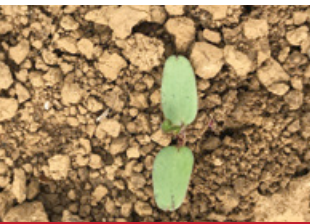
Apply:

Certitude™
Herbicide

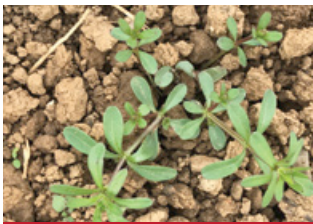
Voraxor™
Powered by **Tirexor**® Herbicide

Cleavers

Galium aparine



COTYLEDON STAGE



SEEDLING

Characteristic differences

- Oval-shaped cotyledons, with a small inward notch, on a square stem with downward pointing hairs[7]
- True leaves in whorls[7]
- Stems are square and are covered with stiff, backward-pointing hairs that allow them to adhere to plants, animals and people alike

Other common names

Bedstraw, Spring cleavers, Goose-grass, Gratteron

Apply:

Certitude™ Herbicide

Smoulder™ Powered by **Kixor®** Herbicide

Voraxor™ Powered by **Tirexor®** Herbicide

Kochia

Kochia scoparia

EARLY SEEDLING STAGE

SEEDLING

Characteristic differences

- The undersides of the cotyledons are bright pink in colour[8]
- True leaves are pale green, hairy and tapered in shape[8]

Other common names

Summer cypress, Burning bush

Apply:

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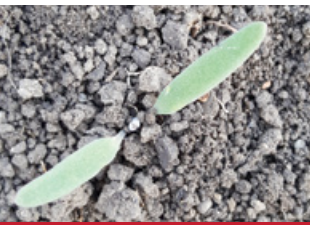
Voraxor™ Powered by **Tirexor®** Herbicide

Lamb's quarters

Chenopodium album



COTYLEDON STAGE

SEEDLING

Characteristic differences

- The undersides of the cotyledons and early leaves are pinkish in colour[9]
- Cotyledons are long, narrow and elliptical in shape
- True leaves are coarsely toothed and are green on top and mealy white on the underside[10]

Other common names

Fat-hen, White goosefoot

Apply:

Certitude™ Herbicide

Smoulder™ Powered by **Kixor®** Herbicide

Voraxor™ Powered by **Tirexor®** Herbicide

Narrow-leaved hawk's beard

Crepis tectorum

EARLY SEEDLING STAGE

SEEDLING

Characteristic differences

- True leaves are long, stalked[11] and have distinct barbs on the margin[9]
- Leaf margins range from smooth to deeply lobed
- Winter or spring annual

Other common names

Yellow hawk's beard

Apply:

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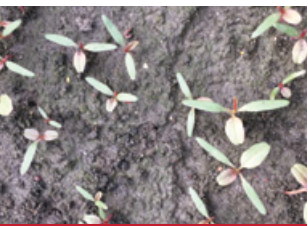
Voraxor™ Powered by **Tirexor®** Herbicide

Redroot pigweed

Amaranthus retroflexus



COTYLEDON STAGE

SEEDLING

Characteristic differences

- Underside of cotyledons and base of stem are often dark red[9]
- Cotelydons are narrow and elliptical, tapering to a rounded point
- True leaves are broad and veined[9]
- Mid-vein extends to form a small bristle at the leaf's tip[9]

Other common names

Rough pigweed, Tall pigweed

Apply:

Certitude™ Herbicide

Smoulder™ Powered by **Kixor®** Herbicide

Voraxor™ Powered by **Tirexor®** Herbicide

Stinkweed

Thlaspi arvense

COTYLEDON STAGE

SEEDLING

Characteristic differences

- Cotyledons are oblong with short stalks, and can be distinguished from other weeds by a strong, turnip-garlic like odor when crushed
- True leaves have shallow, irregular teeth and are rounded towards the tip[12]
- True leaves have stalks and form a basal rosette at the ground[12]

Other common names

Fanweed, Field pennycress, Frenchweed, Pennycress

Apply:

Certitude™ Herbicide

Smoulder™ Powered by **Kixor®** Herbicide

Voraxor™ Powered by **Tirexor®** Herbicide

Volunteer canola

Brassica napus

COTYLEDON STAGE

SEEDLING

Characteristic differences

- Cotyledons are broad, heart-shaped[13] and indented at the tip
- Leaves are hairless on the upper surface and have hairs on the underside[13]

Apply:

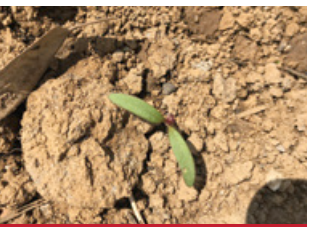
Certitude™ Herbicide

Smoulder™ Powered by **Kixor®** Herbicide

Voraxor™ Powered by **Tirexor®** Herbicide

Wild buckwheat

Polygonum convolvulus



COTYLEDON STAGE

SEEDLING

Characteristic differences

- Cotyledons are linear and positioned at 120 degrees from each other
- True leaves are arrowhead-shaped[14]
- True leaves have elongated slender tips and pointed basal lobes[14]

Other common names

Black bindweed, Climbing bindweed, Corn bindweed

Apply:

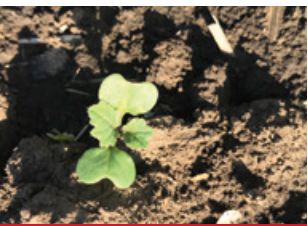
Certitude™ Herbicide

Smoulder™ Powered by **Kixor®** Herbicide

Voraxor™ Powered by **Tirexor®** Herbicide

Wild mustard

Sinapis arvensis



COTYLEDON STAGE

SEEDLING

Characteristic differences

- Cotyledons are broad, kidney-shaped and indented at the tip[15]
- True leaves have a dense covering of hair and can have shallow to deep lobes[15]

Other common names

Charlock, Common mustard, Field mustard, Herrick

Apply:

Certitude™ Herbicide

Smoulder™ Powered by **Kixor®** Herbicide

Voraxor™ Powered by **Tirexor®** Herbicide

Certitude™

Herbicide

Crops

Canola

Product rate

40 ac/case

Herbicide group

6 & 27

How it works

- Burns down emerged weeds
- Combines Group 6 mode of action with contact activity for rapid leaf burn and Group 27 mode of action with systemic bleaching activity for thorough burndown of emerged weeds

When to re-assess after application:

Susceptible weeds will appear bleached and chlorotic shortly after application, turning brown and necrotic after 14 days.

Symptomology of Certitude

DAY OF TREATMENT

9 DAYS AFTER TREATMENT

26 DAYS AFTER TREATMENT

Certitude was applied with glyphosate on shepherd's purse.

Source: Grower-applied Research Authorization Trial, Mundane, AB, 2020

Smoulder™

Powered by **Kixor**® Herbicide

Crops

Barley
Wheat (durum, spring and winter)

Product rate

80 ac/case

Herbicide group

2 & 14

How it works

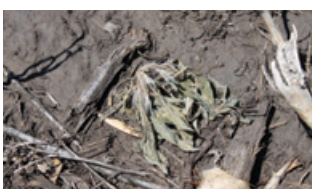
- Rapidly burns down weeds in as few as 5 days
- Secondary flushes of canola will emerge but will only reach the cotyledon stage before eventual death

When to re-assess after application:

Re-assess 10 days after application for burndown efficacy. To evaluate residual efficacy, scout for flushing volunteer canola. Seedlings will emerge but the growing points are necrotic and plant death will occur following true leaf emergence.

Symptomology of Smoulder

DAY OF TREATMENT



7 DAYS AFTER TREATMENT

Smoulder was applied with Merge® adjuvant on kochia.
Source: Winkler, MB, 2021

Voraxor™

Powered by **Tirexor**® Herbicide

Crops	Product rate
Barley	27 – 80 ac/case
Field corn	(27 – 40 ac/case
Lentils	for residual control)
Peas (dried field)	
Soybeans	
Wheat (durum, spring and winter)	

Herbicide group

14

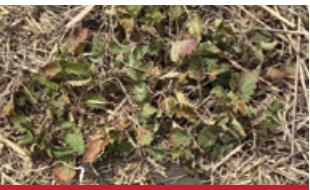
How it works

- Rapidly burns down weeds in as few as 5 days
- At residual rates, flushing weeds will experience stem pinching and eventual death during emergence from the soil

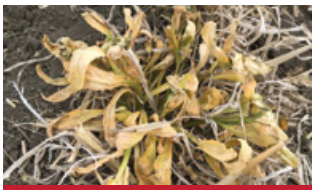
When to re-assess after application:

Works rapidly and weeds should show symptoms 10 days after application.

Symptomology of Voraxor



3 DAYS AFTER TREATMENT



8 DAYS AFTER TREATMENT

Source: BASF Research Authorization Trial, South SK, 2020

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[9] *Weed seedling identification guide.* Government of Manitoba. 2008.

[10] *Lamb's quarters.* Government of Manitoba. https://www.gov.mb.ca/agriculture/crops/weeds/lambs-quarters.html

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[12] *Stinkweed, Thlaspi arvense.* Ontario Weed Committee, 2021. http://www.weedinfo.ca/en/weed-index/view/id/THLAR

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[14] *Ontario weeds: Wild buckwheat.* Ontario Ministry of Agriculture, Food and Rural Affairs, 2016. http://www.omafra.gov.on.ca/english/crops/facts/ontweeds/wild_buckwheat.html

[15] *Ontario weeds: Wild mustard.* Ontario Ministry of Agriculture, Food and Rural Affairs, 2016. http://www.omafra.gov.on.ca/english/crops/facts/ontweeds/wild_mustard.html

Results may vary on your farm due to environmental factors and preferred management practices.











To learn more about Certitude, Smoulder and Voraxor, visit **agsolutions.ca/preseed** or call **AgSolutions®** Customer Care at 1-877-371-2733 (BASF).

BASF
We create chemistry

Always read and follow label directions.

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