

Canola Pest Control

Jim B. Davis

University of Idaho
College of Agricultural and Life Sciences



**WSU Oilseed Cropping
Systems Workshop**

Thursday Feb 2, 2017

8:00 am - 5:00 pm

Registration begins at 7:30 a.m.

Quality Inn and Suites

700 Port Drive, Clarkston, WA

\$20 registration included lunch

<http://css.wsu.edu/biofuels/>

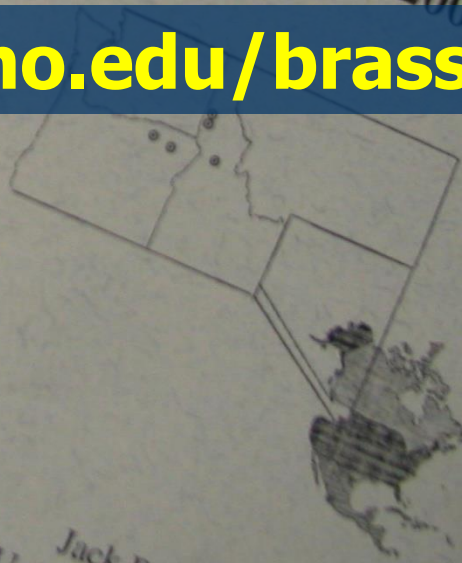


Pacific Northwest
Mustard
Variety Trial
2006

Pacific Northwest
Spring Canola
Variety Trial
2006

Pacific Northwest
Winter Canola
Variety Trial
2005-2006

<http://www.cals.uidaho.edu/brassica/>



Jir
Univ

Jack Brown
University of Idaho

Online Information

University of Idaho Brassica Breeding
WSU Biofuels Website
PNW Pest Management Handbooks
Pacific Coast Canola Website
U.S. Canola Association Website
Canadian Canola Council Website
Canola Encyclopedia Website

Before seeding...



EMERSON COMBINED DISC AND SEED

Weed Control

Limited selection of herbicides

Good agronomic practices

Preplant glyphosate

Good plant establishment

firm seed bed, packers on drill

appropriate planting dates

Competitive stand

moderate seeding rate

good insect control

Herbicide-Resistant Canola

Roundup Ready Canola

High yielding spring varieties

Broad spectrum weed control

Liberty Link

High yielding varieties

Alternate mode of action

Possibly weak on some grasses

tank mix with grass herbicide

Herbicide-Resistant Canola

Clearfield Canola

fewer plant back restrictions

tolerant to imidazolinone herbicides

**often cross-tolerant to sulfonylurea
herbicides**

non-GMO

very common mode of action (Group 2)

**overuse increases chance of resistant
weeds**

Traditional Weed Control

Preplant, Incorporated

Sonolan 10G or HFP (*ethalfluralin*)

Treflan TR-10, Triflurex HFP (*trifluralin*)

Postemergence Grassy Weeds

Select 2EC (*clethodim*)

Assure II, Targa (*quizalofop P-ethyl*)

Poast (*sethoxydim*)

Postemergence Canada Thistle

Stinger, Clopyr Ag (*clopyralid*)

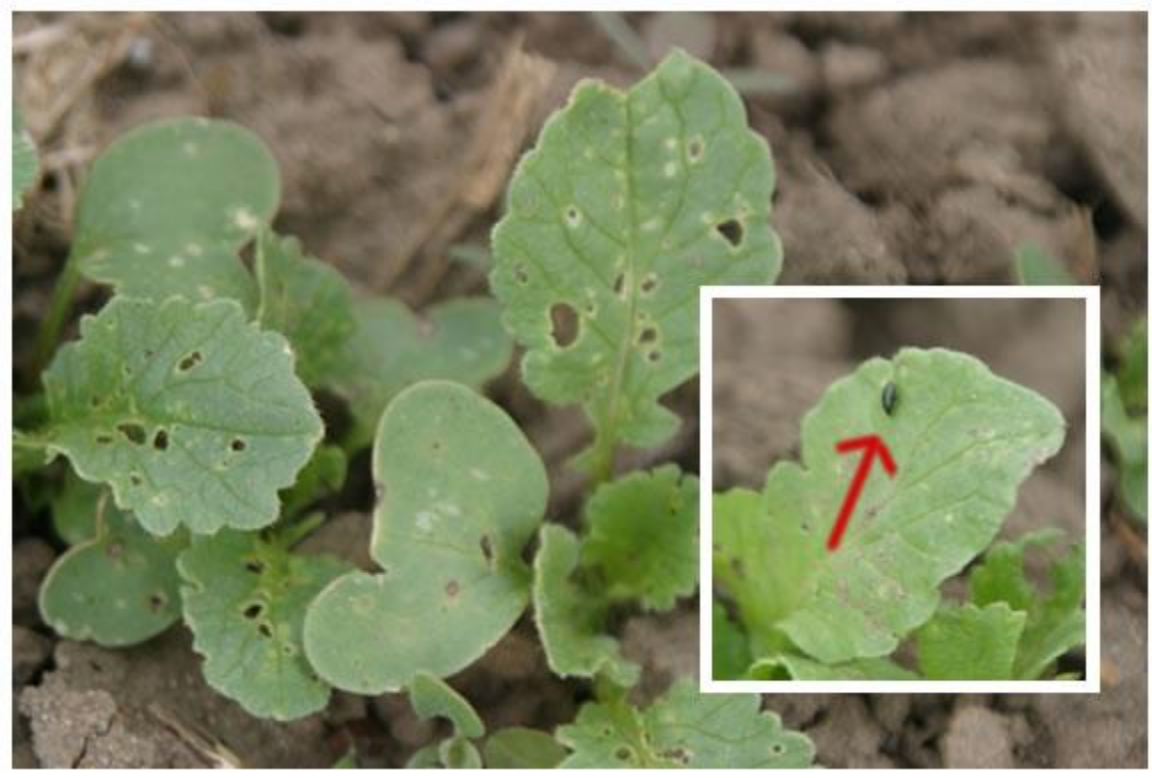


Flea Beetle

Crucifer Flea Beetle

Striped Flea Beetle

Hop Flea Beetle



Flea Beetle

Seed Treatments

Helix Xtra/Cruiser 5FS

Prosper 400

Helix Vibrance

Prosper Evergol

Winter Canola, fall







Grasshoppers

Can be a problem in new winter canola stands in the late summer.

Scout your fields regularly...



Foliar Insecticides

lambda-cyhalothrin (Warrior...)

bifenthrin (Capture 2EC...)

zeta-cypermethrin (*Mustang Maxx...*)

chlorantraniliprole , *l-cyhalothrin* (Besiege)

deltamethrin (Battalion 0.2 EC...)

gamma-cyhalothrin (Declare...)

flonicamid (Beleaf 50 SG aphidicide)

sulfoxaflor (Transform WG aphidicide)

Fall-applied Insecticide Efficacy - 2011

	Insecticide Treatment			
	None	Seed Treatment	Foliar	Seed & Foliar
	----- <i>1 to 9</i> -----			
Control	1.21 ^c	5.31 ^b	5.69 ^b	7.68 ^a
	----- <i>lbs. per acre</i> -----			
Yield	3,425	3,424	3,451	3,348

Fall-applied Insecticide Effect on Yield

Year	Insecticide Treatment			
	None	Seed Treatment	Foliar	Seed & Foliar
	----- <i>lbs. per acre</i> -----			
2011	3,425	3,424	3,451	3,348
2012	4,276	4,499	4,143	3,925
2013	1,503	1,592	1,648	1,652
2014	1,251 a	1,474 ab	1,666 b	1,676 b

***Rhizoctonia* Stem and Root Rot**

Caused by *Rhizoctonia solani* AG 2-1

(different than the wheat race)

-Damping-off

(seedlings do not emerge)

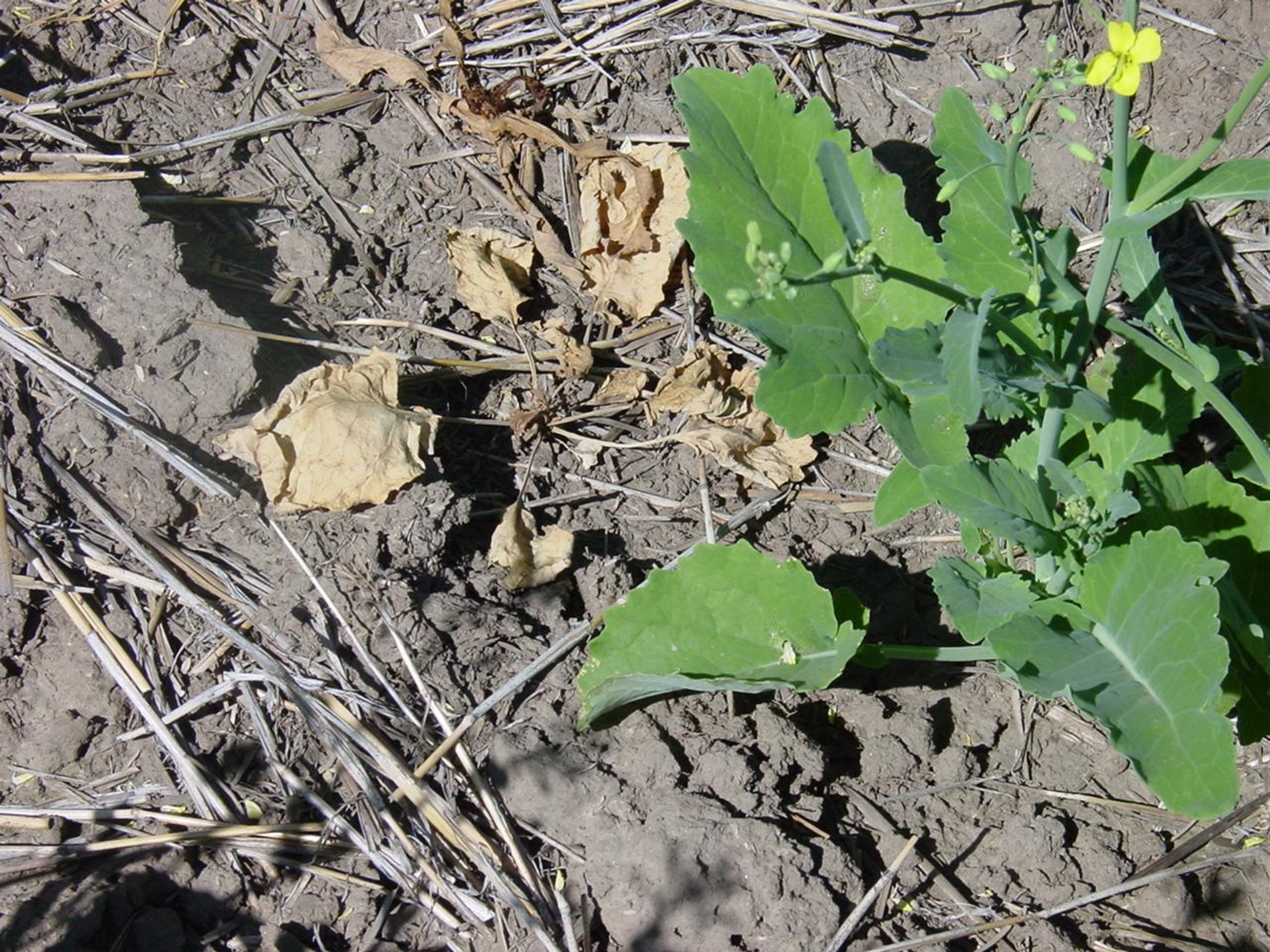
-Wirestem

(stem girdling in young seedlings)

-Root rot

Wirestem







Rhizoctonia

Control

Worst in fallow-planted winter canola?

Crop rotation?

Canola race harbored by other crops.

New seed treatments (with insecticides)

Prosper Evergol

Helix Vibrance

Blackleg

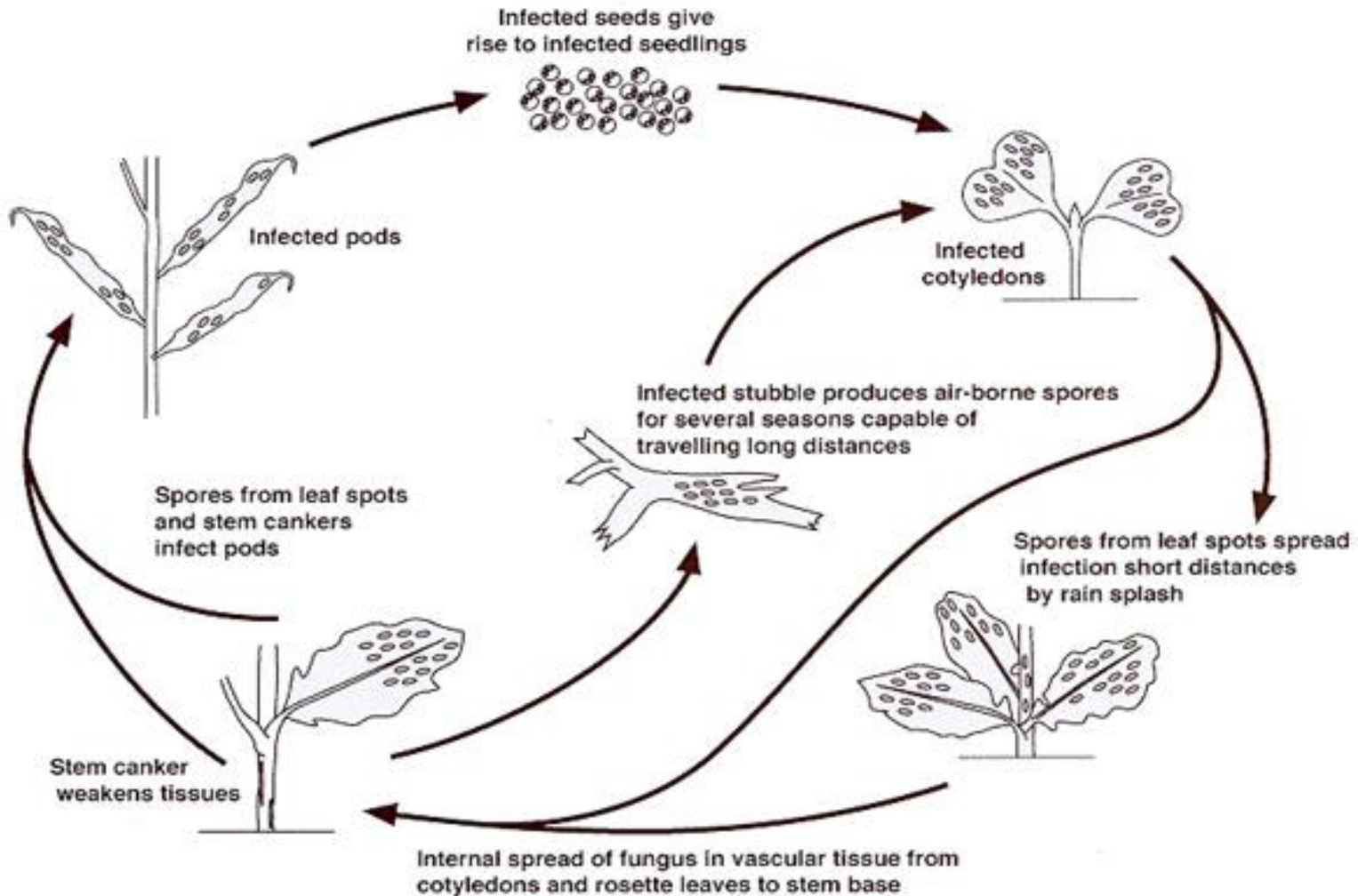
Caused by a seed borne fungus.

Leptosphaeria maculans aka *Phoma lingam*

Once it is established, can spread by splash or airborne spores.

Survives in crop residue, volunteers and weeds for years.

Blackleg Life Cycle



Blackleg Symptoms



Blackleg Management

Prevention - Required by Idaho Law.

Start with disease-free, certified seed.
(Phyto-sanitary certificate required for seed imported to Idaho.)

Use fungicidal seed treatments.

Blackleg Management

Tillage - bury residue

**Crop rotation - 3 years between
canola or *any* mustard family crop.**

**Includes cover crops - turnips,
radish, mustards, etc.**

Blackleg Management

-Use resistant cultivars.

-Foliar fungicides can reduce in-crop spread when present.

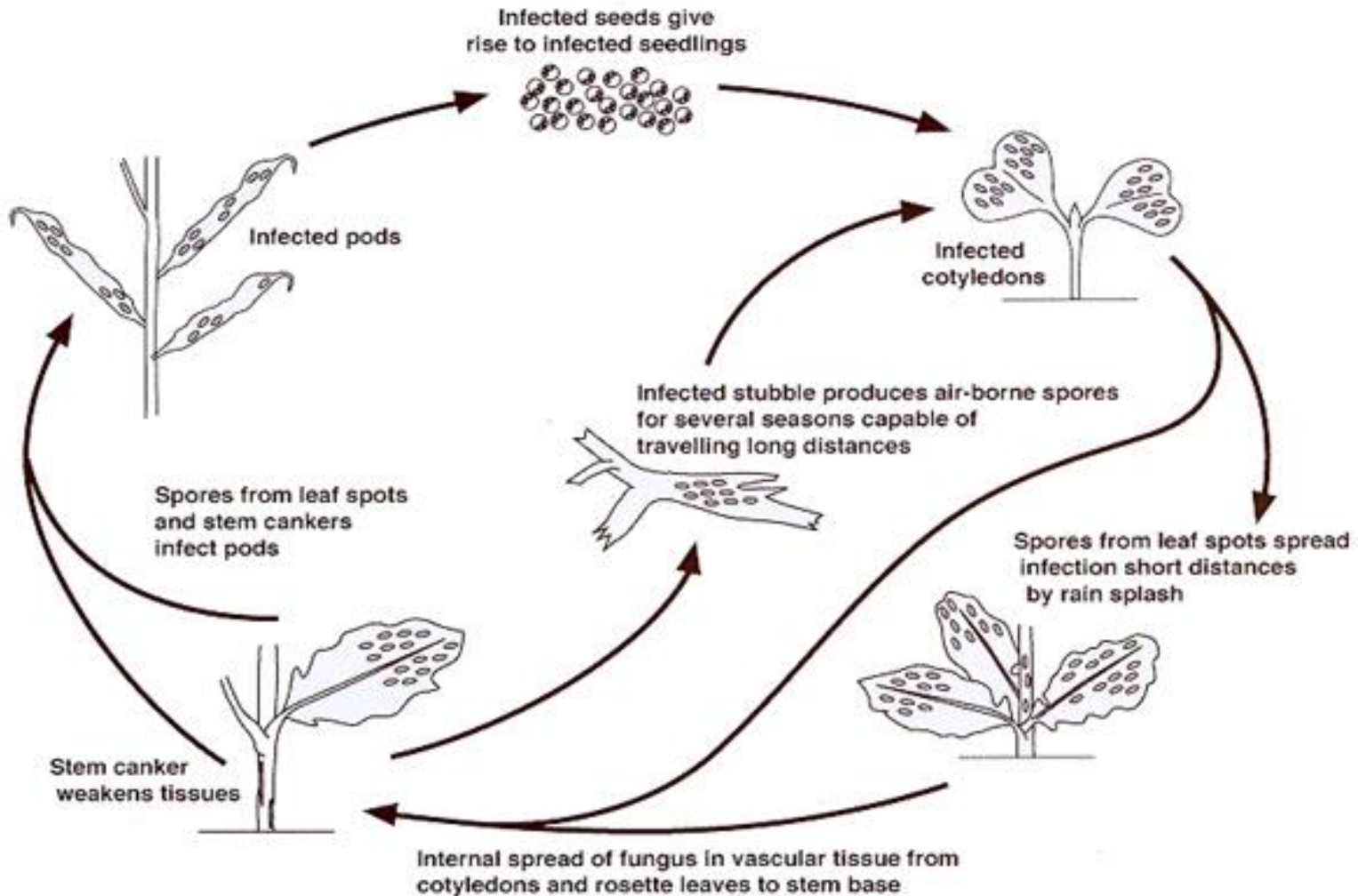
Tilt (3), Quadris (11), Quilt (3+11), Headline (11), Priaxor Xemium (7+11), Approach (11), Proline 480 (3)

Winter Canola, spring

Weed control
Disease control
Insect control



Blackleg Life Cycle



Blackleg Management

- Foliar fungicides can reduce in-crop spread.
- Protection from new infection only.
- Yield loss?

Tilt (3), Quadris (11), Quilt (3+11), Headline (11), Priaxor Xemium (7+11), Approach (11), Proline 480 (3)



Cabbage Seedpod Weevil



Cabbage Seedpod Weevil



Primarily a winter canola pest.

Threshold is 3 to 4 weevils per 180° sweep.

***Sclerotinia* White Mold or Stem Rot**

**Infects from sclerotia in field and
by spores that are ejected and
land on flower petals**

Needs wet and warm conditions

Winter Canola

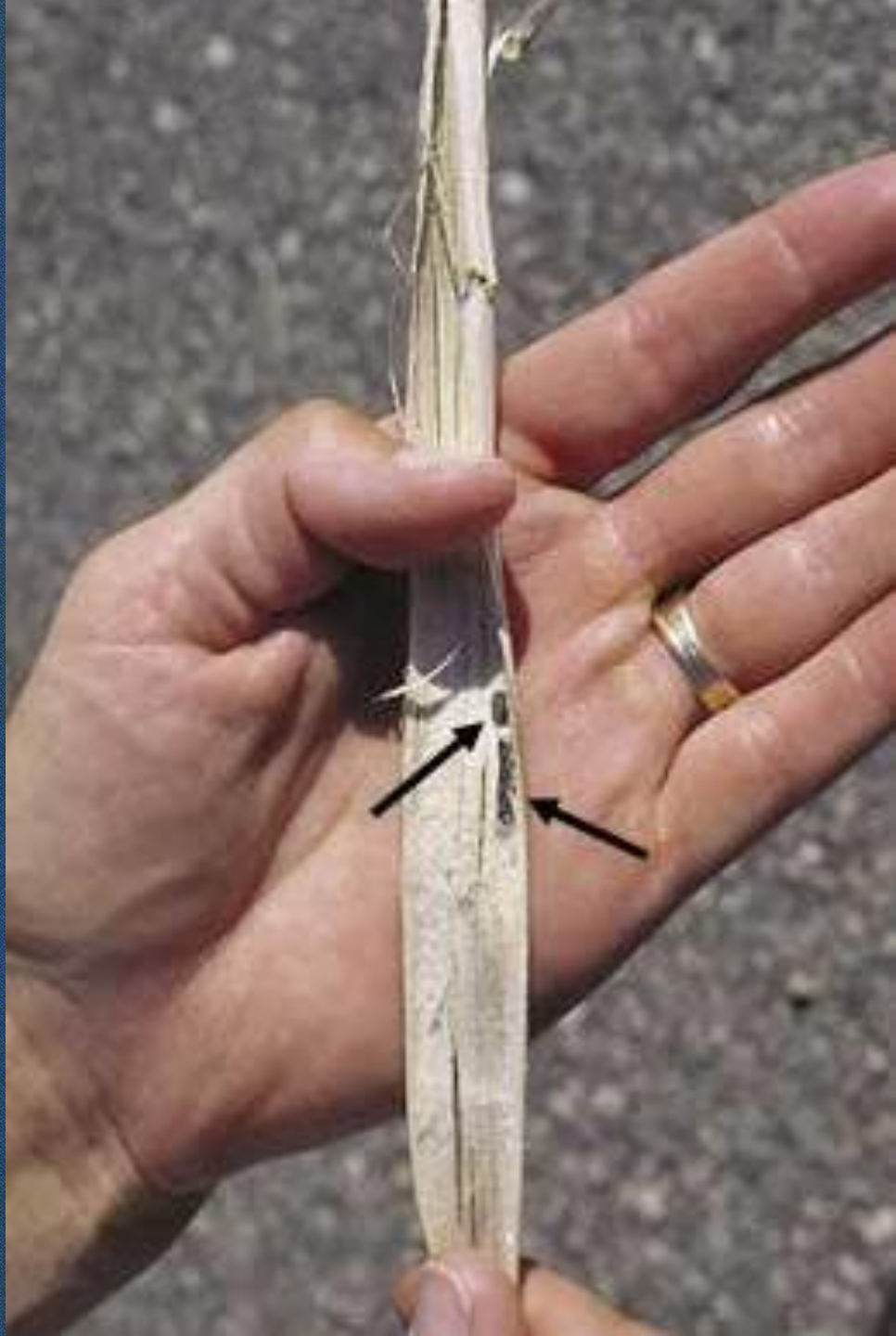
Irrigated Canola











Sclerotinia Management

Control:

Use disease-free seed

4-year crop rotation from broadleaf plants

Fungicides

Apply during flowering

Only if **infection rate** is expected to be **>20%**
or **score** is greater than **40**

Labeled fungicides

Endura, Quadris Flowable

Headline is NOT labeled

Sclerotinia Stem Rot Checklist

(For each risk factor, circle the risk points that apply to your field).

RISK FACTOR	POSSIBLE ANSWERS	RISK POINTS
NUMBER OF YEARS SINCE LAST CANOLA CROP	More than six years	0
	Three to six years	5
	One to two years	10
DISEASE INCIDENCE IN LAST HOST CROP	None	0
	Low (1 to 10%)	5
	Moderate (11 to 30%)	10
	High (31 to 100%)	15
CROP DENSITY	Low	0
	Normal	5
	High	10
RAIN IN THE LAST TWO WEEKS	Less than 10 mm (0.4")	0
	10 to 30 mm (0.4 to 1.2")	5
	More than 30 mm (1.2")	10
WEATHER FORECAST	High pressure	0
	Variable	10
	Low pressure	15
REGIONAL RISK FOR APOTHECIA DEVELOPMENT	None found	0
	Low numbers	10
	High numbers	15

TOTAL RISK POINTS FOR ALL RISK FACTORS =

Spring Canola





Flea Beetle

Seed Treatments

Helix Xtra/Cruiser 5FS

Prosper 400

Helix Vibrance

Prosper Evergol



Flea Beetle

Rescue foliar applications

Scout during wet springs even with seed trts.

Scout every 2 to 3 days in warm weather.

Spray at 20% -25% defoliation.

Youtube "Flea beetle management."





Cutworms

Potentially
devastating
to seedlings.



Cutworms

Cutworms are nocturnal.

Scout regularly at crop emergence.

Foliar insecticides available.

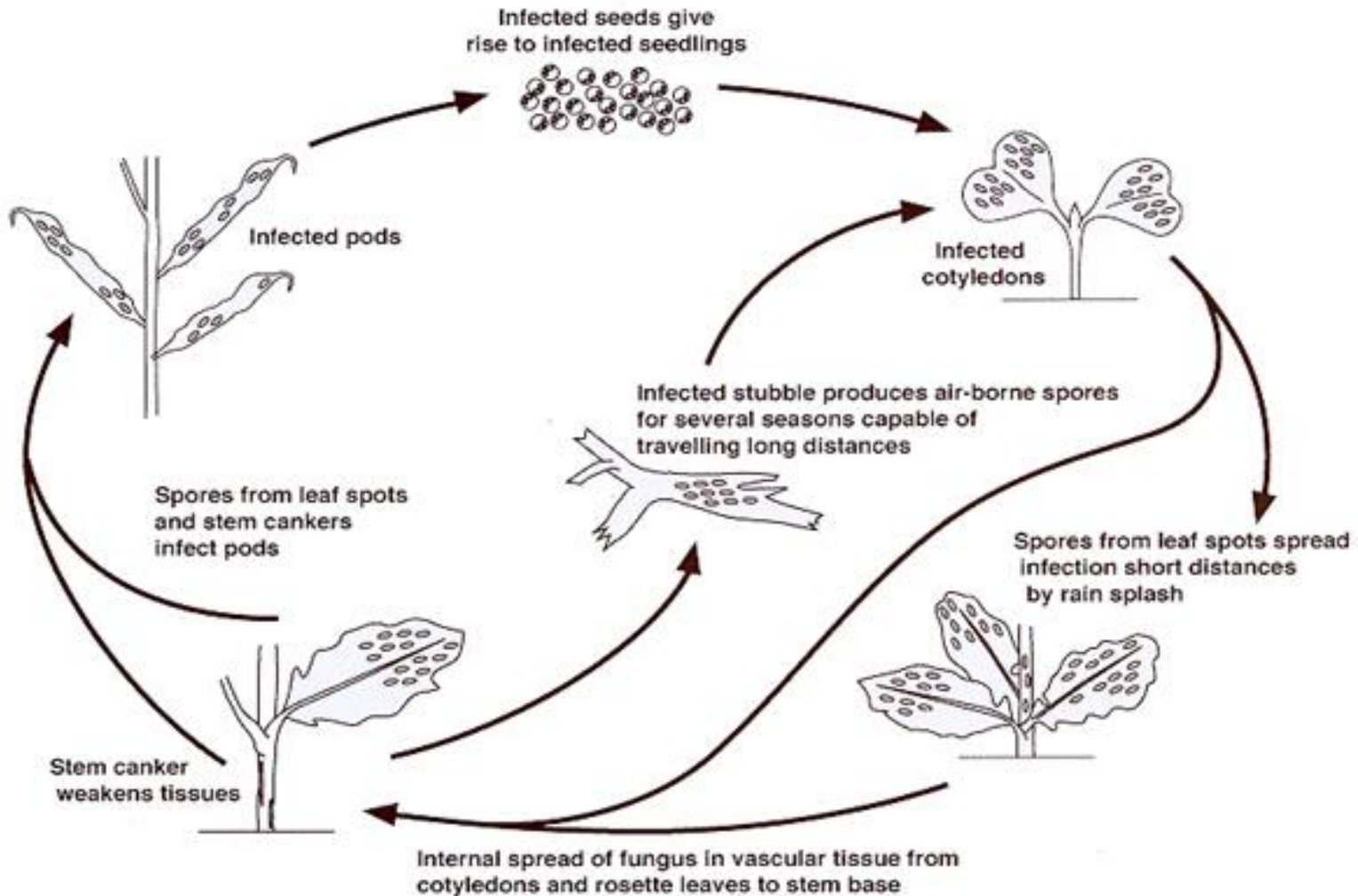
**Spray late evening, at night,
or early morning before sunrise.**

Diamondback Moth



Diamondback Moth Larvae
10-15 per sq ft, or 10 per plant

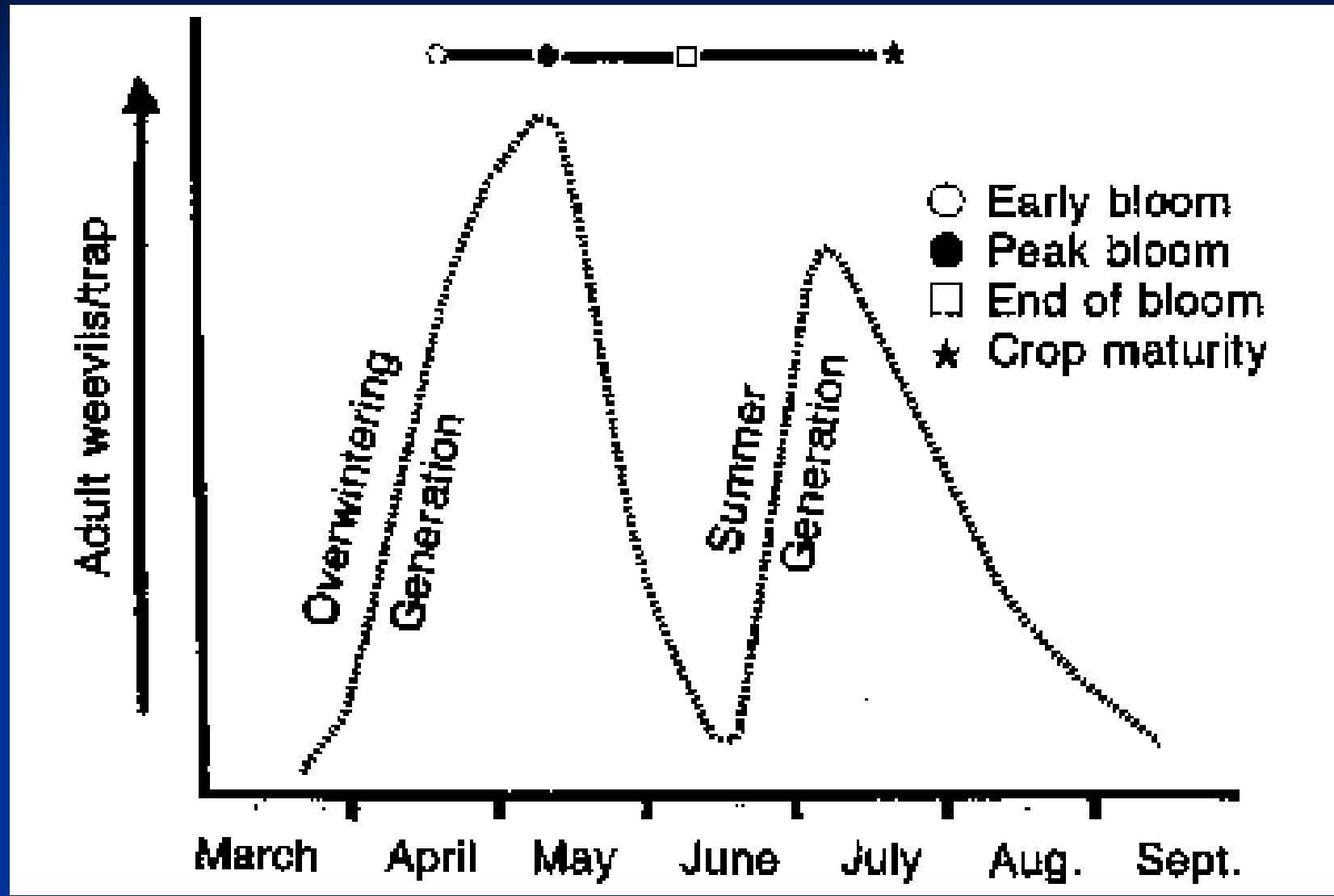
Blackleg Life Cycle



Cabbage Seedpod Weevil



Cabbage Seedpod Weevil



Don't spray for new adults in July.

Cabbage Aphid



Cabbage Aphid



Threshold

- **1 in 5 flower stalks infested.**
- **Look among unopened flower buds.**



Cabbage Aphid





Online Information

U.S. Canola Growers Manual

www.uscanola.com/site/epage/102387_956.htm

PNW Pest Management Handbooks

<https://pnwhandbooks.org/>

Canola Encyclopedia

www.canolacouncil.org/canola-encyclopedia/

Online Information

Canola Council of Canada Canola Growers Manual

www.canolacouncil.org/crop-production/canola-grower's-manual-contents/

Canola Council of Canada Fact Sheets

<http://www.canolacouncil.org/publication-resources/print-resources/crop-production-resources/>

Canola Watch

<http://www.canolawatch.org/>

Questions?

Jim Davis

jdavis@uidaho.edu

208-885-4266

Jack Brown

<jbbrown@uidaho.edu>

208-885-7078

<http://www.cals.uidaho.edu/brassica/>



**Herbicide Residue Injury
(Normal Plants)**

Pursuit Residue Injury





Sulfonylurea Residue Injury









Sulfur Deficiency

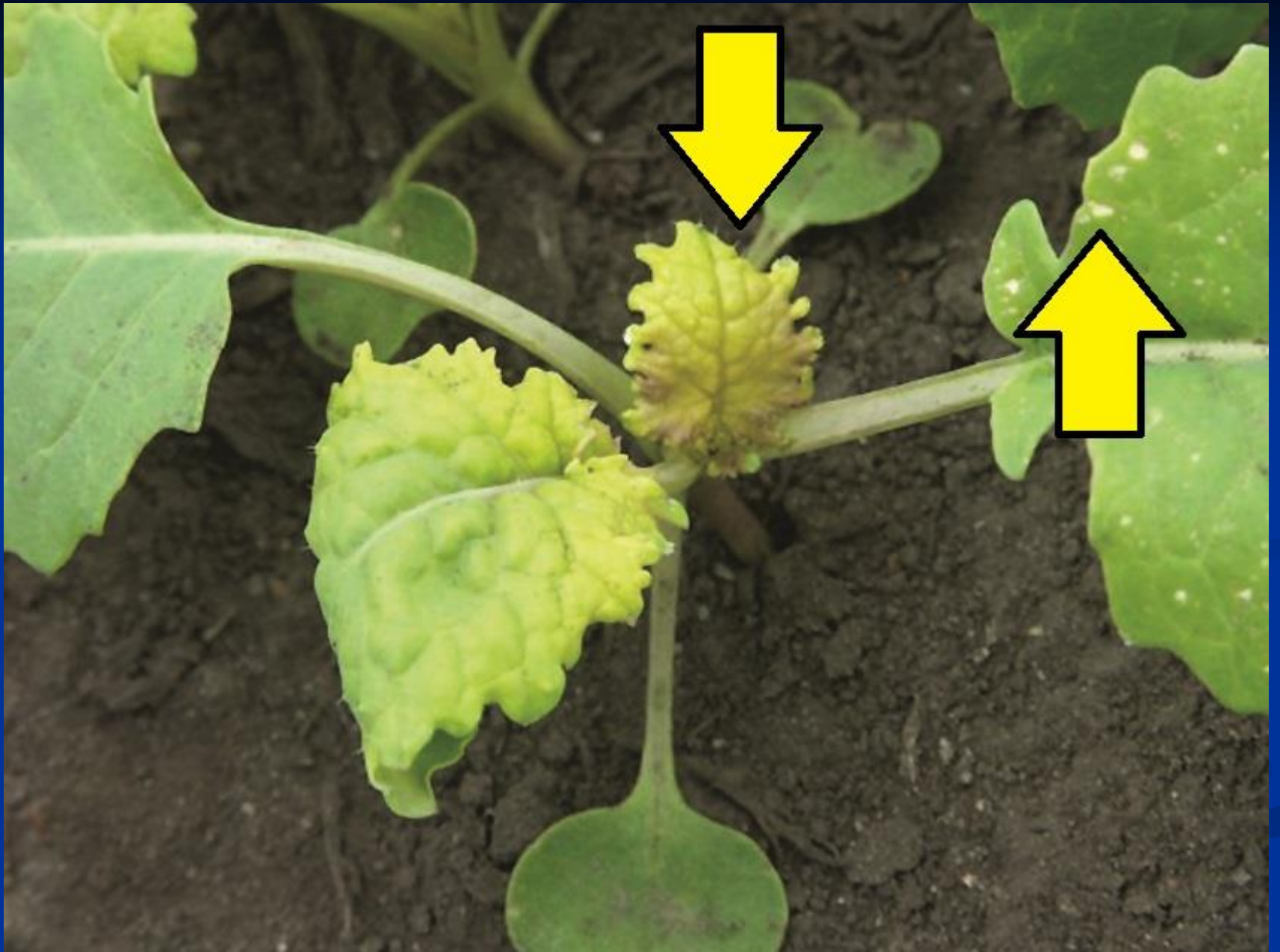


Frost Injury

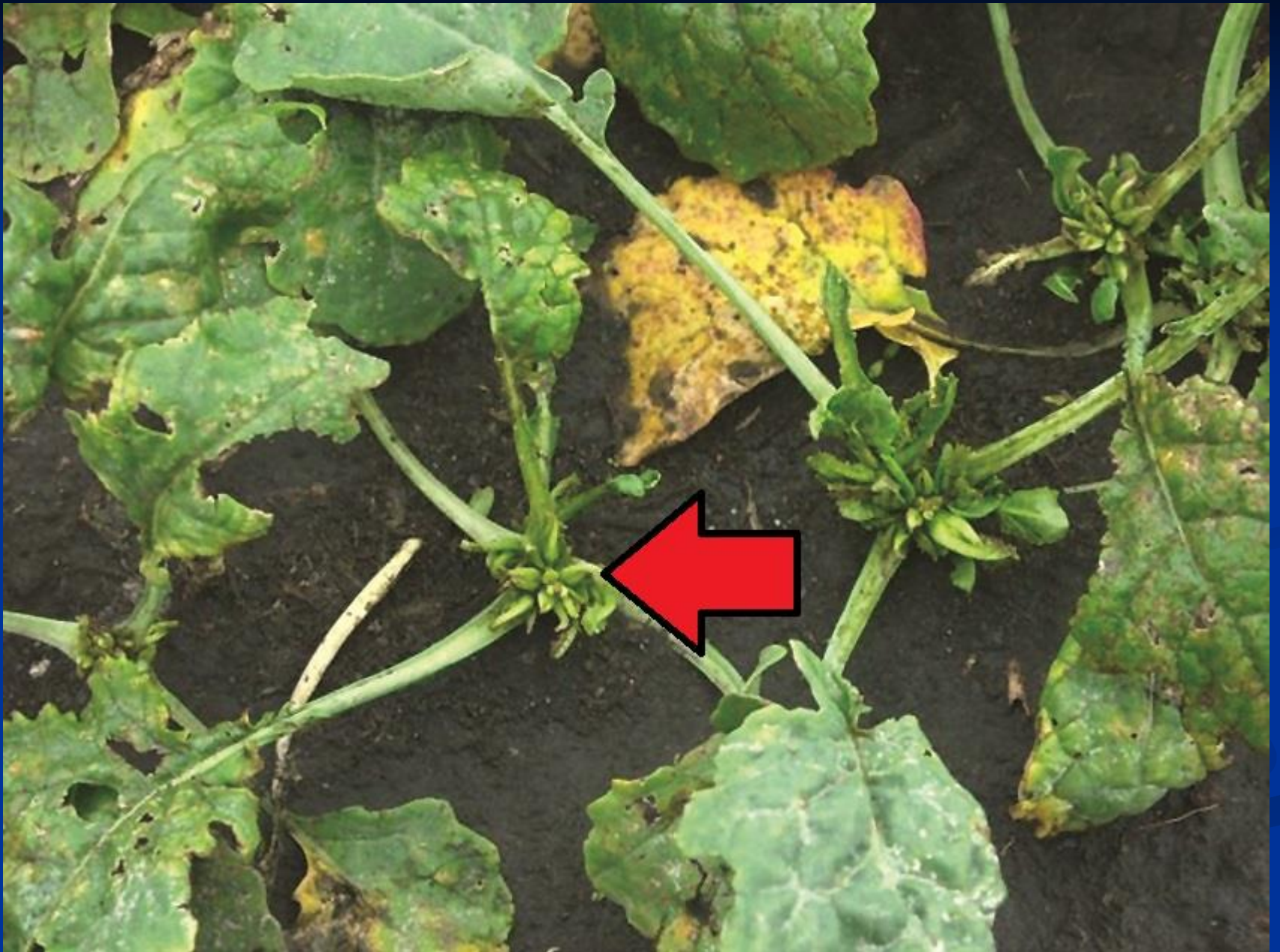


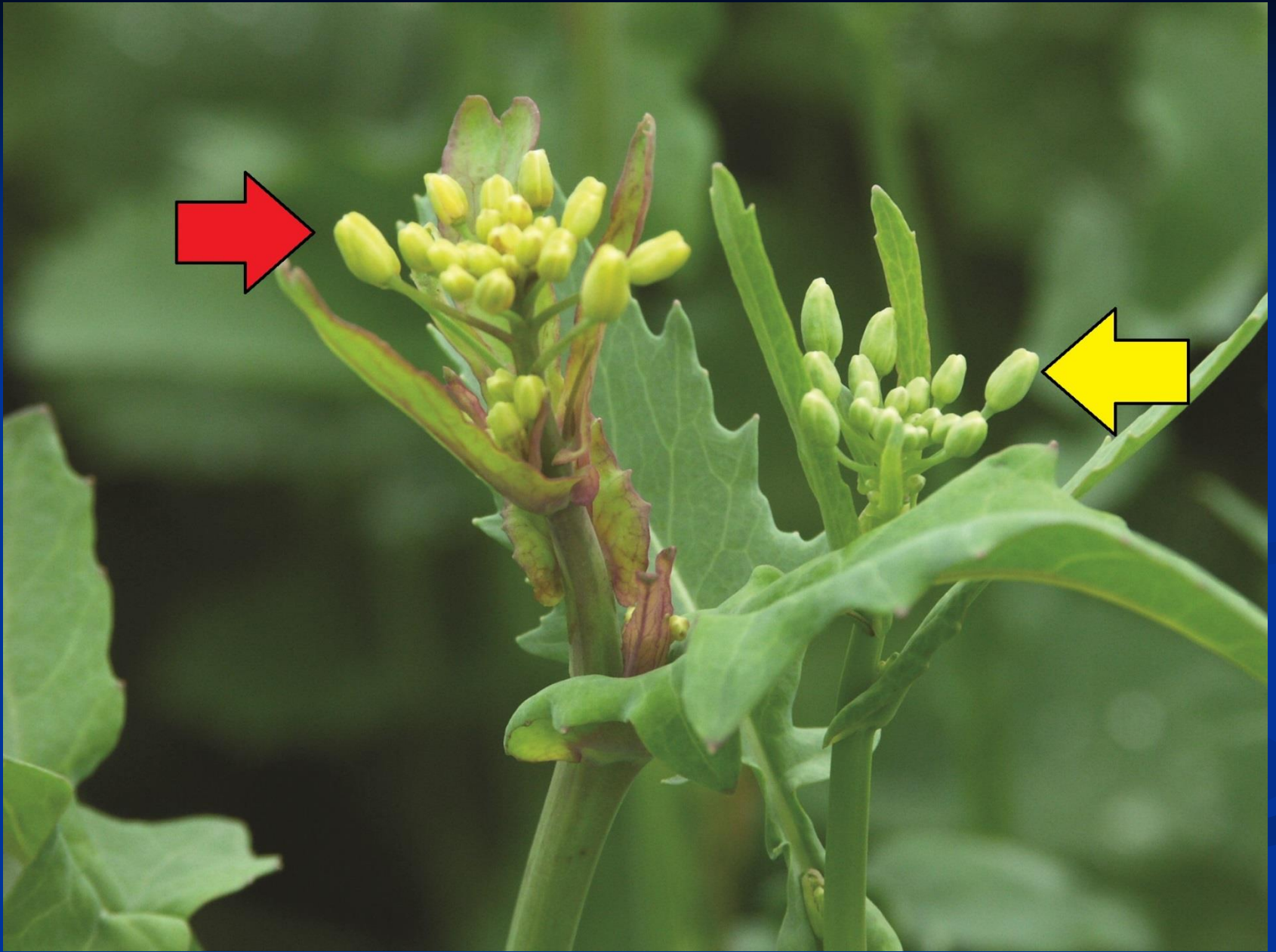
Herbicide Drift















Questions?

Jim Davis

jdavis@uidaho.edu

208-885-4266

Jack Brown

<jbrown@uidaho.edu>

208-885-7078

<http://www.cals.uidaho.edu/brassica/>