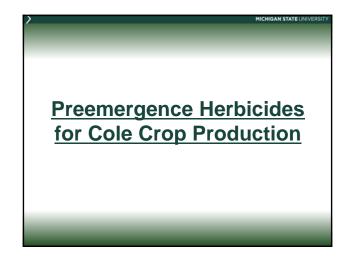
Weed Management in Cole Crops

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Preemergence Herbicides Labeled for Broccoli, Cabbage, and Cauliflower				
Herbicide Trade name	Mode of Action	WSSA (HRAC)		
Prowl H₂O	Mitosis inhibitor	3 (K ₁)		
Treflan	Mitosis inhibitor	3 (K ₁)		
Command	Pigment inhibitor	13 (F ₃)		
GoalTender	PPO inhibitor	14 (E)		
Spartan	PPO inhibitor	14 (E)		
Devrinol	VLCFA inhibitor	15 (K ₃)		
Dual Magnum	VLCFA inhibitor	15 (K ₃)		

Postemergence Herbicides Labeled for Cole Crops WSSA (HRAC) Herbicide **Mode of Action** Trade name ACCase inhibitor Poast 1 (A) Select Max ACCase inhibitor 1 (A) GoalTender PPO inhibitor 14 (E) Stinger Synthetic auxin 4 (0)



Herbicide	Rate, per Acre	Comments
Prowl H₂O (pendi- methalin)	1 – 2.1 pt (0.475 – 0.5 lb ai)	May stunt plants and cause S-shaped stems Apply to area between rows. Do not use below 60 F.



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Herbicide	Rate, per	Comments
	Acre	
Treflan	1 – 2 pt	PPI; stunts plants if soil
(trifluralin)	(0.5 - 1 lb ai)	temperature <60 F.
,	,	Fair - Good control of
		annual grasses,
		pigweeds.
		Fair control of common
		lambsquarters, common
		purslane.
		No control of nutsedge,
		composites, mustards.

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Herbicide	Rate, per	Comments
	Acre	
Command	0.7 - 1.3	Cabbage only.
	pt	Apply before
(clomazone)	(0.25 - 0.5)	transplanting.
 `	lb ai)	May cause bleaching.
	,	Controls velvetleaf,
		annual grasses, common
		purslane, ragweed.
		Do not apply within 1200
		ft of dwellings, fruit trees,
		greenhouses, or
		nurseries.



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Herbicide	Rate, per Acre	Comments
GoalTender (oxyfluorfen)	0.5 – 1 pt (0.25 – 0.5 lb ai)	Apply to soil before transplanting. Do not apply after transplanting. Use with Treflan or Devrinol XT . Do not use with Dual Magnum .



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Herbicide	Rate, per Acre	Comments
Spartan	2.25 – 6 fl. oz.	Processing cabbage
(sulfen- trazone)	(0.07 – 0.188 lb ai)	only. Improves grass control. Controls common lambsquarters, common purslane, nightshades, and pigweeds.

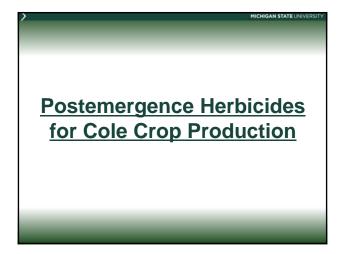


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Herbicide	Rate, per	Comments	
	Acre		
Devrinol XT	2 lb	Apply before or after	
(napropamide)	(1 lb ai)	transplanting.	
		May be incorporated or	
		watered in.	
		Controls annual grasses,	
		purslane, pigweeds.	
		New formulation lasts	
		4-6 weeks.	
		No stunting of	
		transplants below 60 F.	



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Herbicide	Rate, per Acre	Comments	
Dual Magnum (S-metolachlor) 24(c) indemnified label	0.5 – 1.3 pt (0.48 – 1.2 lb ai)	Apply before or after transplanting. Use low rate on sand. Controls annual grasses, nightshades, pigweeds, nutsedge. May stunt plants in cool weather. Post-transplant applications may cause foliar burn. Do not apply with other herbicides post-transplant. Do not use with GoalTender.	



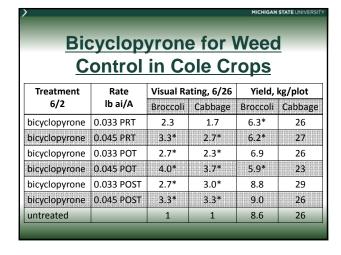


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Herbicide	Rate, per Acre	Comments
Poast	1 – 1.5 pt	Annual grass control.
(sethoxydim)	(0.19 – 0.28 lb ai)	Grass dies slowly and may be present for 2-3 weeks after
Select Max (clethodim)	9 – 16 fl. oz. (0.068 – 0.12 lb ai)	application. 30 day PHI.

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Herbicide	Rate, per Acre	Comments
GoalTender	4 – 8 fl. oz.	Broccoli, cauliflower,
(oxyfluorfen)	(0.125 – 0.25 lb ai)	cabbage. Do not add surfactant. Controls many broadleaves. Weak on mustards and smartweed. Apply to small weeds. 35 day PHI.



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Herbicide	Rate, per Acre	Comments
Stinger (clopyralid)	4 – 8 fl. oz. (0.094 – 0.188 lb ai)	All <i>Brassica</i> crops. Controls composite weeds (ragweed, pineappleweed, horseweed), legumes, nightshades, and smartweeds. 30 day PHI.















<u>in Cole Crops</u>						
Treatment 6/2	Rate	Rate Visual Rating, 6/26		Yield, kg/plot		
	lb ai/A	Broccoli	Cabbage	Broccoli	Cabbage	
Zidua	0.133 PRT	3.3*	4*	7.1	21*	
Zidua	0.133 POT	4.7*	4.3*	5.4*	16*	
Zidua	0.267 PRT	5.7*	6*	3.5*	10*	
untreated		1	1	8.6	26	







A Field Weed Control Program for Cole Crops

- 1. Work the soil twice before transplanting.
- 2. Before final tillage, apply **Treflan** or **Devrinol** and incorporate.
- 3. Apply GoalTender to the soil surface.
- 4. Transplant crops.
- 5. 3 6 weeks after transplanting, apply **GoalTender** or **Stinger** for broadleaf control.
- 6. Apply postemergence grass herbicides as needed.

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Alternative Weed Control Programs

- Dual Magnum before or after transplanting for nightshade and nutsedge control.
- 2. Prowl H₂O directed between rows.
- **3. Command** in cabbage for control of grasses, common lambsquarters, velvetleaf, ragweed.
- Spartan in processing cabbage for control of common lambsquarters, nightshade, pigweed, nutsedge.

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Cultivation

- 1. 4-6 weeks after transplanting, cultivate the field and side-dress with 50 lb nitrogen.
- 2. Disk the field soon after harvest is complete to kill weeds.

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Summary – Cole Crops

- 1. Use 2 preemergence herbicides.
- **2. GoalTender** before transplanting will control mustards and wild radish.
- **3. Command** gives some control of mustards and composites.
- 4. Use **Dual Magnum** to control nightshade and nutsedge. Do not apply with **GoalTender**.

Web Resources

- www.farmassist.com
 - indemnified labels
- www.cdms.net
 - labels
- http://www.hrt.msu.edu/bernardzandstra/

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Thank You

Questions?