



University of
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Cranberry Resistance Management 2012

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Resistance Management Delegate and Intrepid

Gregory Comeau
Dow AgroSciences



Susceptible vs. Resistance

- Susceptible –
 - Easily affected or influenced
- Reduced Susceptibility
 - Less Easily affected or influenced
 - Higher rates for effective kill
- Resistant
 - Not affected or influenced
 - Rate increase has no effect on rate of kill

4 Keys to Success

- Rates
- Coverage
- Rotation
- Timing



Use Labeled Rates



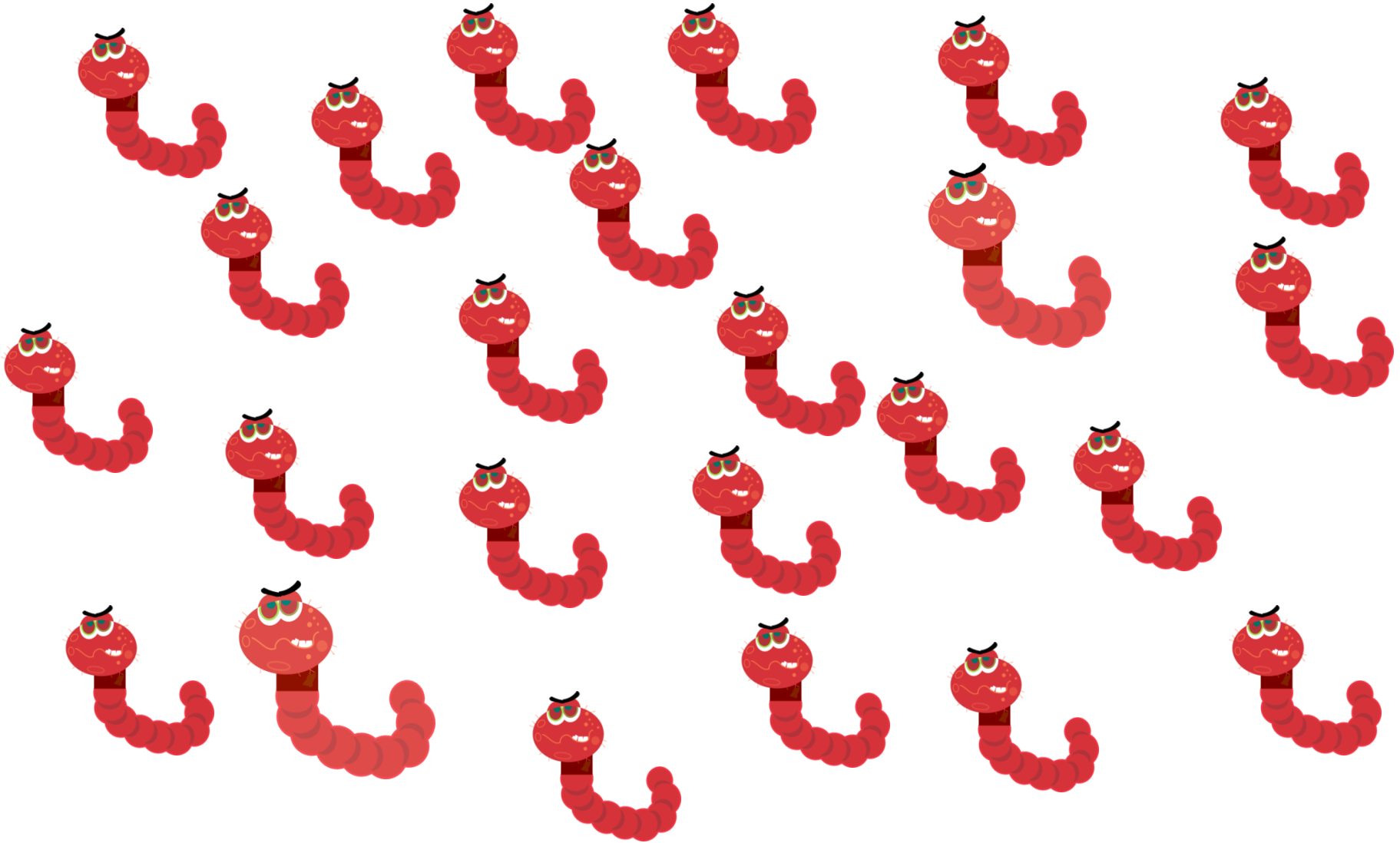
READ THE LABEL!!!

Spintor/ Delegate

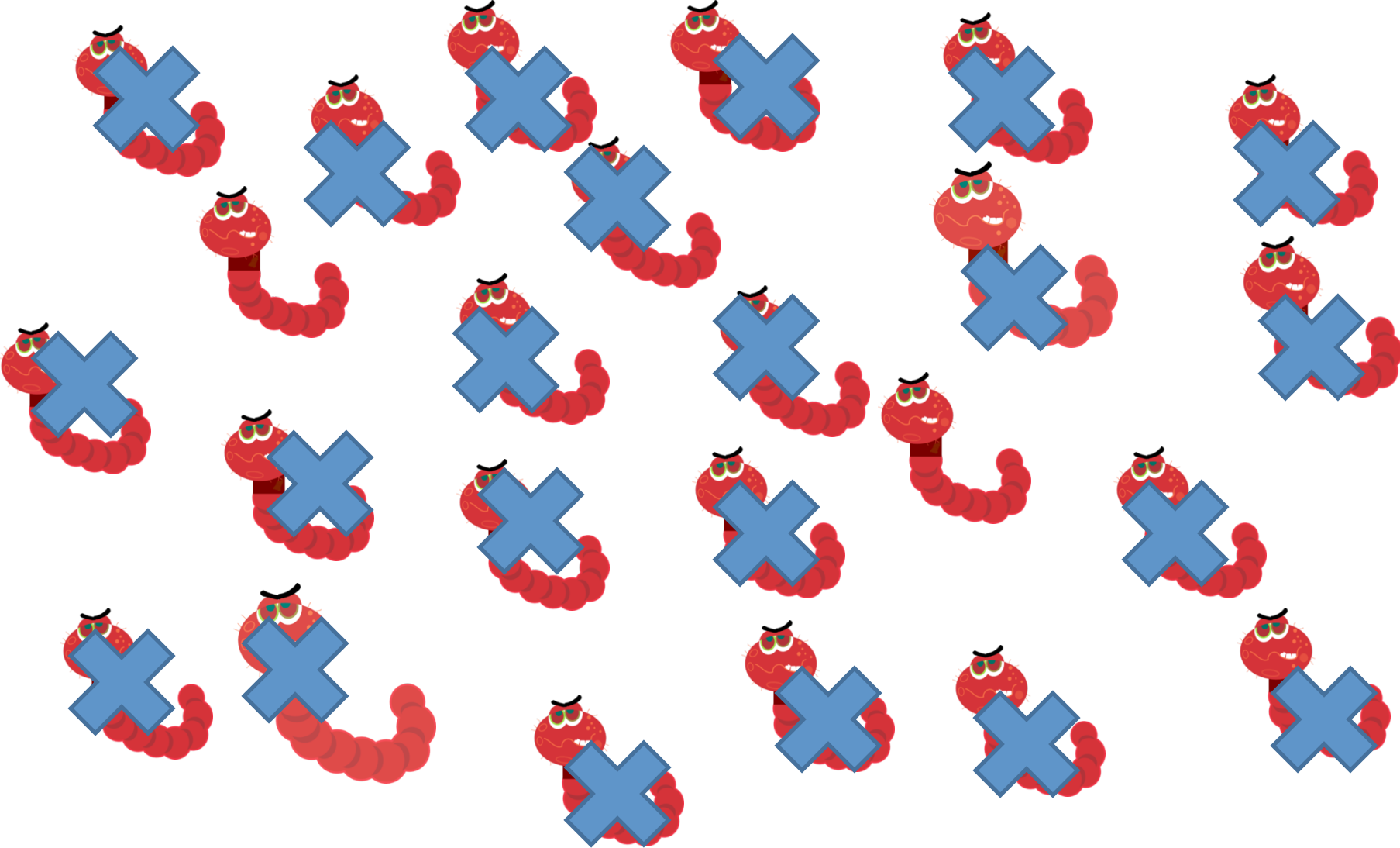
- See resistant management section
- Rotate Class 5 Chemistry after 2 application
- No more than 3 applications per season for thrips
- 3-6 oz rate depending on size of pest and infestation
- 19.5 oz allowed per season



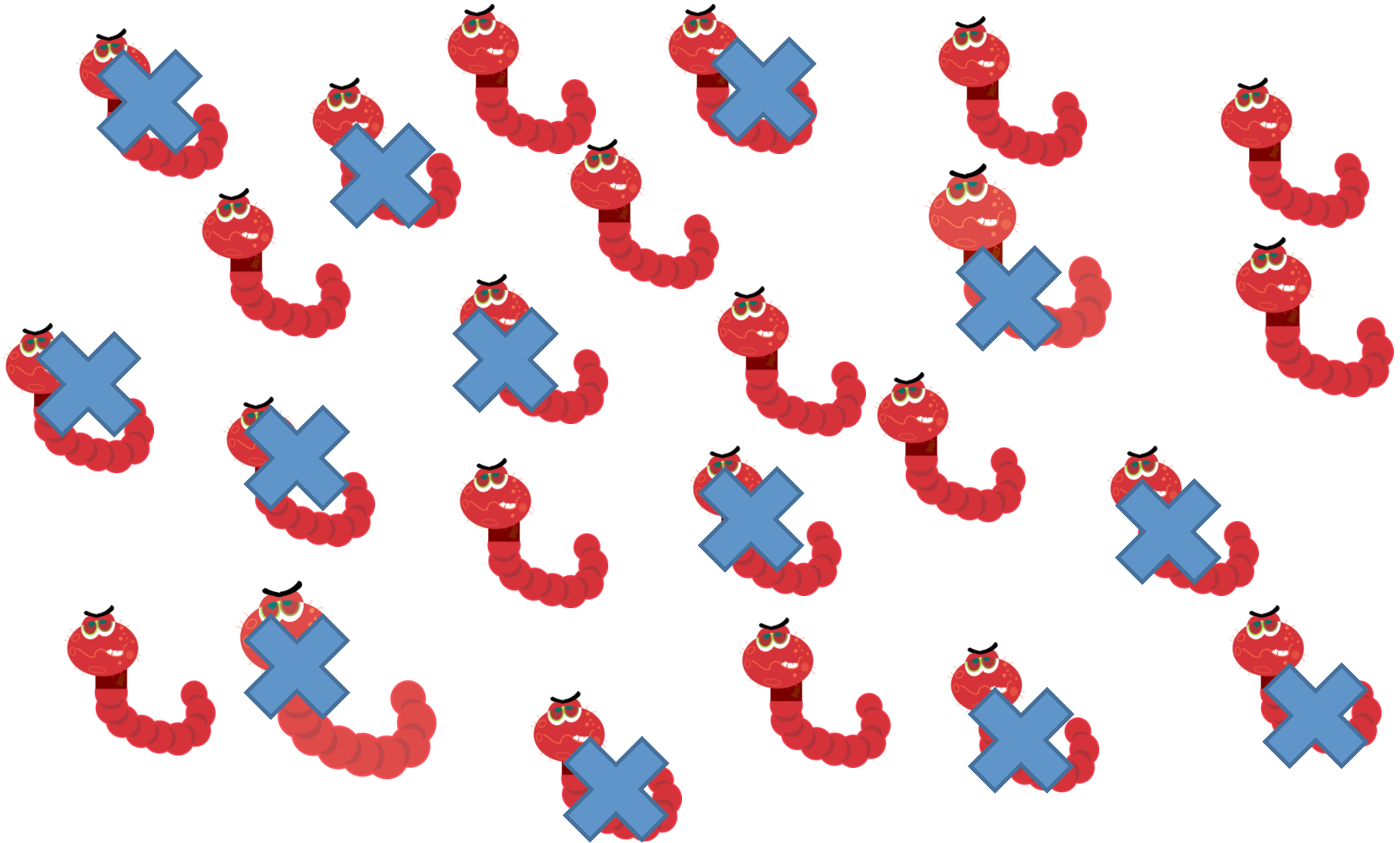
Festering Worm Population



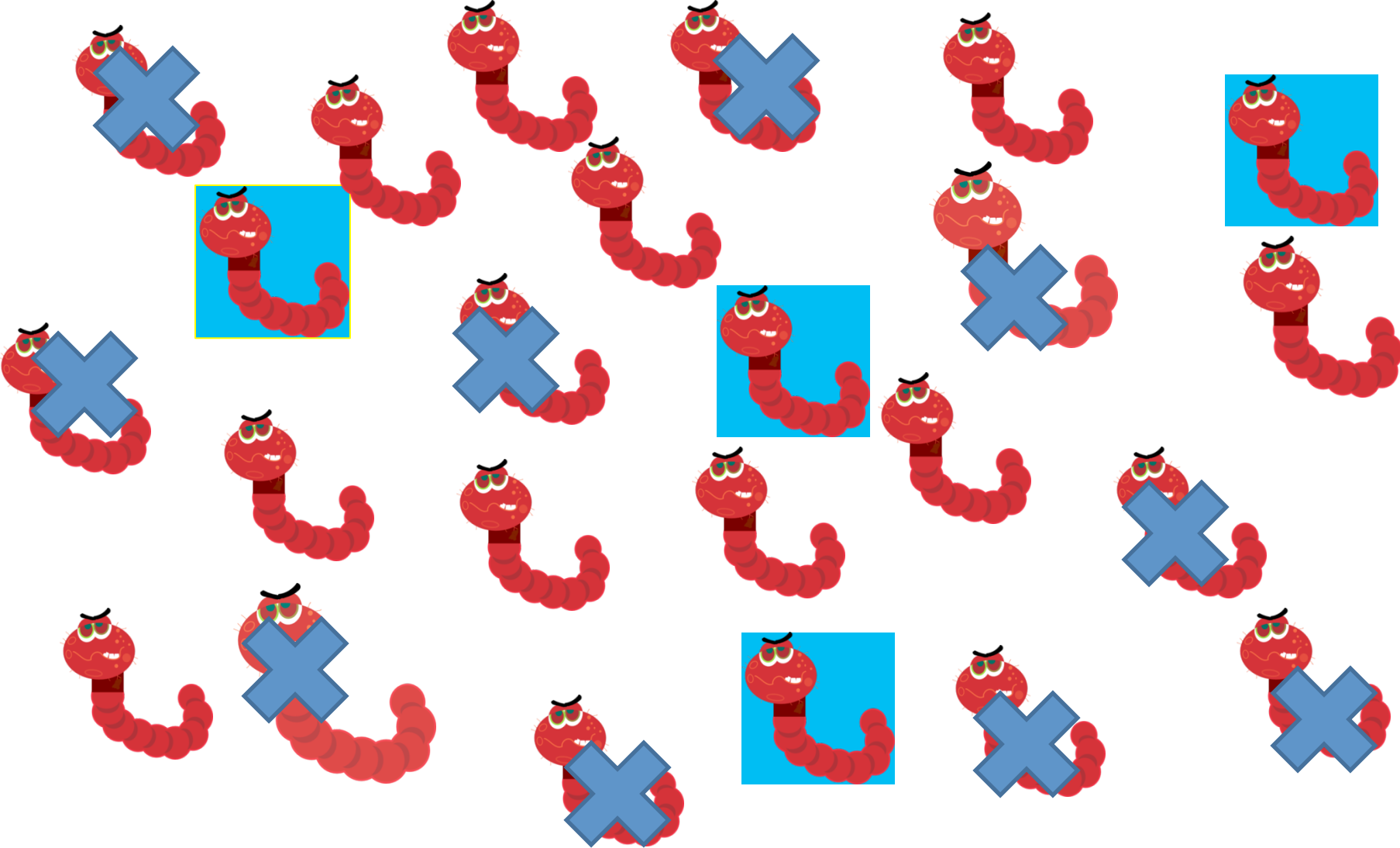
Proper Rates Controls Population



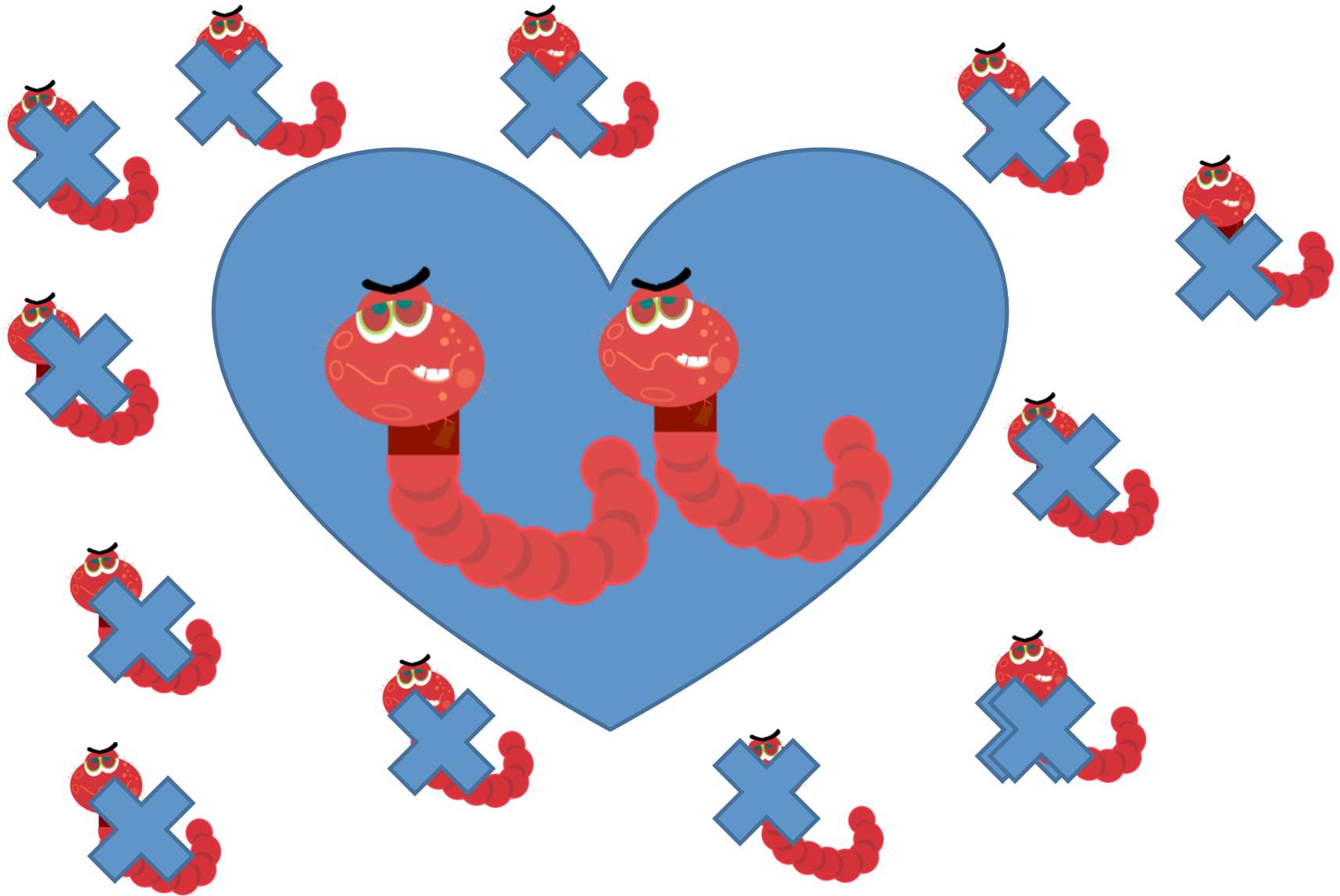
Reduced Rates Controls Partial Population



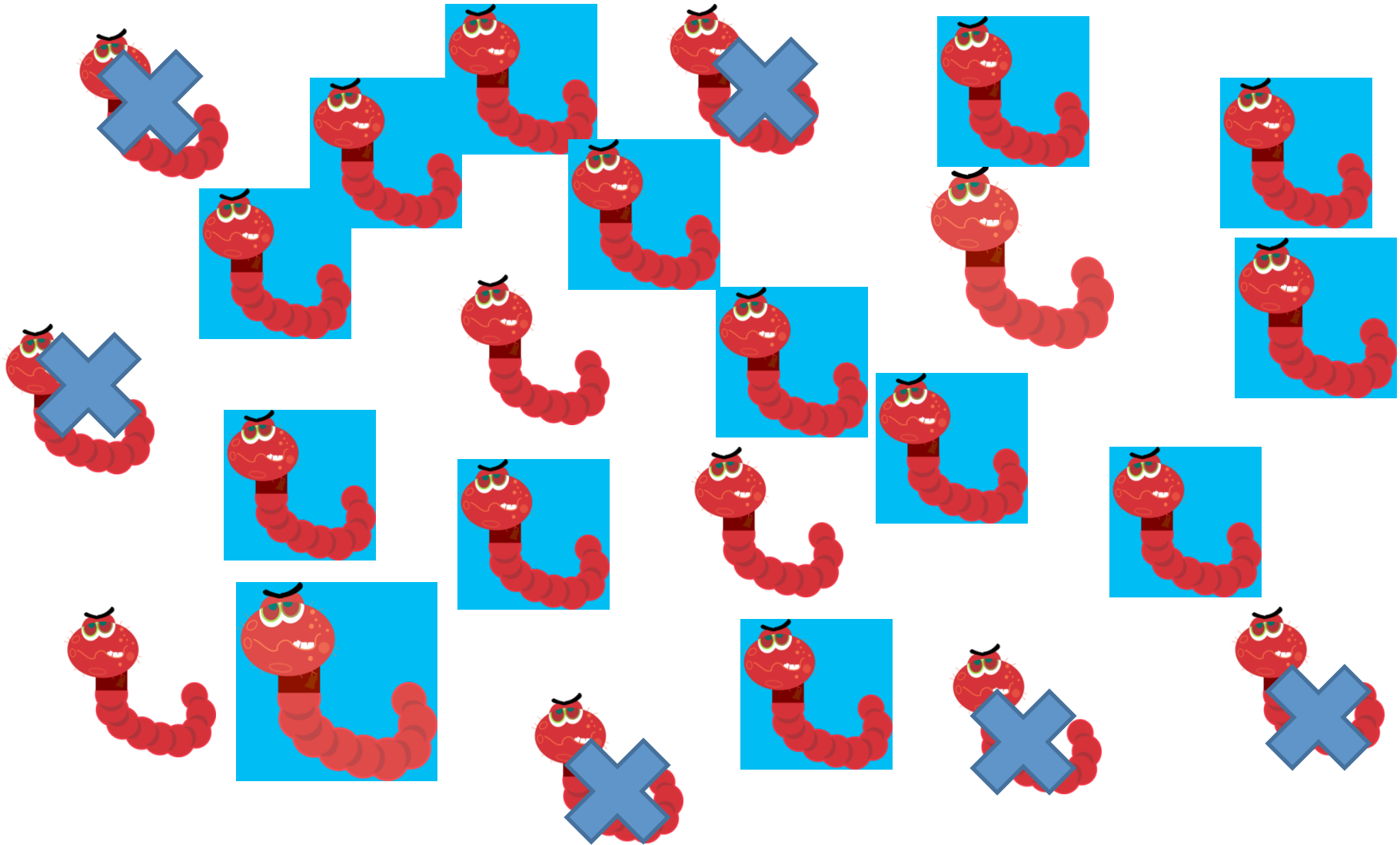
Reduced Rates Selects for Resistance



The Birds & Bee's Prevail!



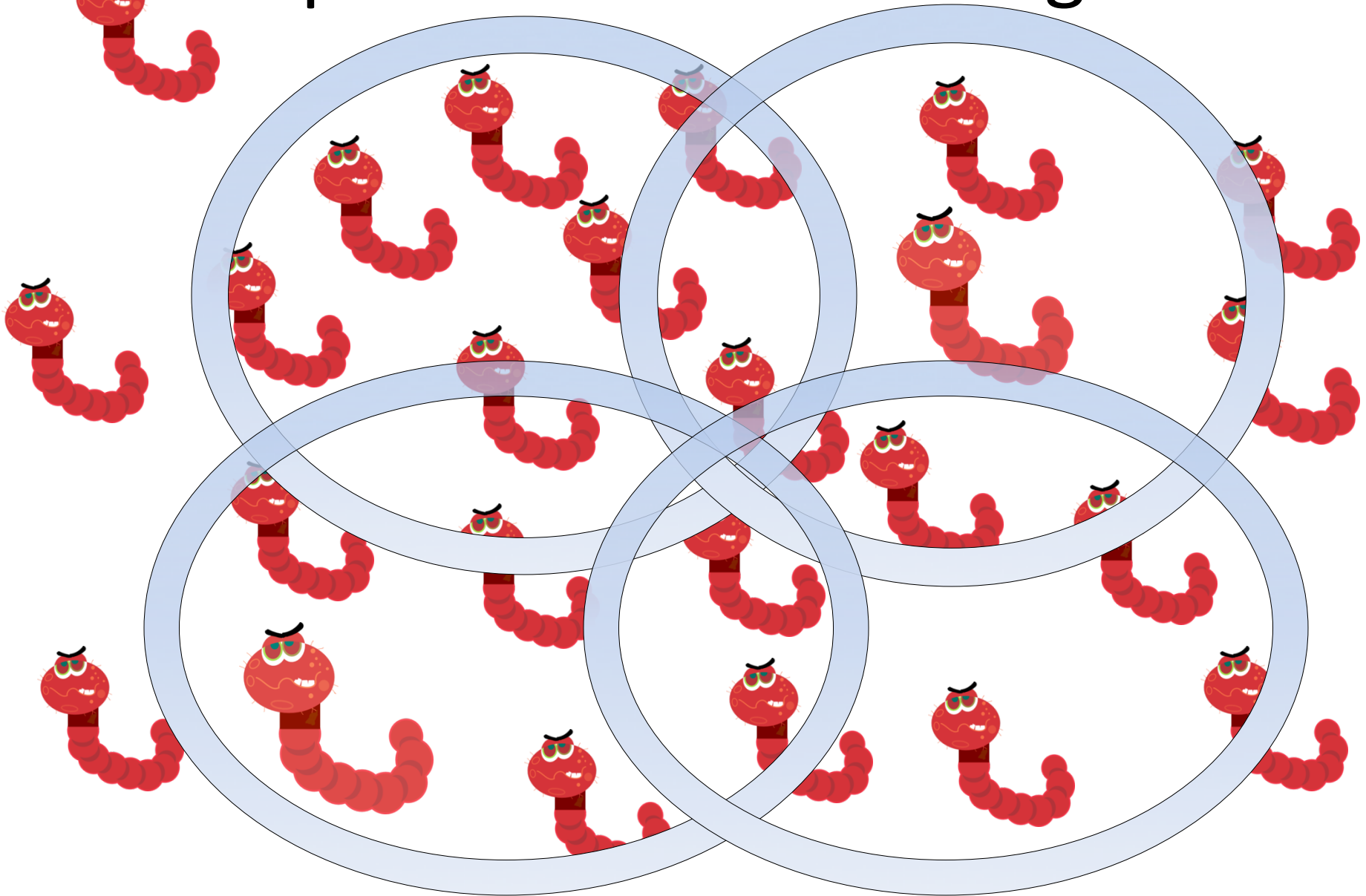
Full Blown Resistance





Proper Coverage

Sprinkler Head Coverage?





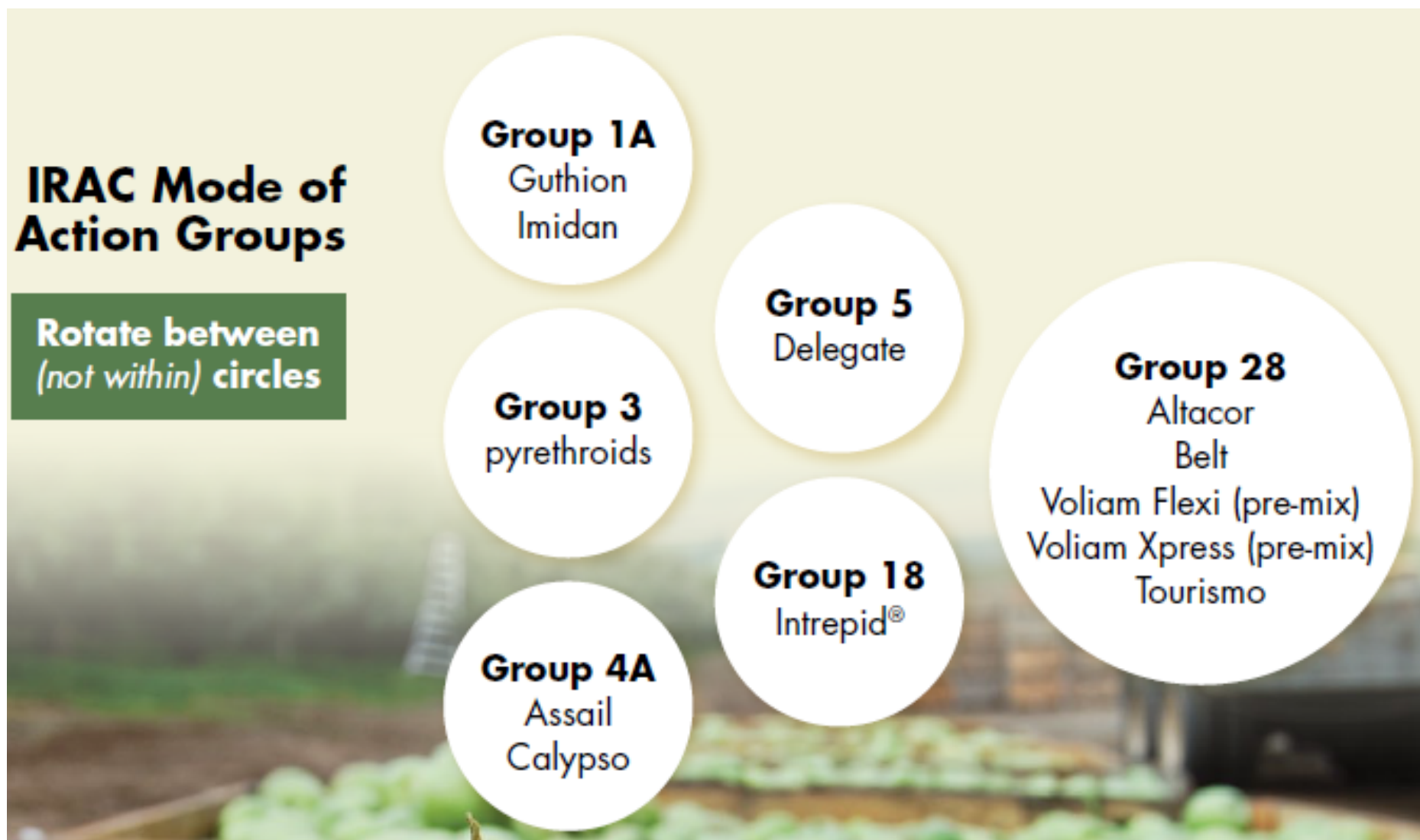
Rotation

Rotate Chemistry

- IRAC
 - Insect
 - Resistance
 - Action
 - Committee
- IRAC Online.org



Delegate and Intrepid are the *Perfect* Rotational Tools

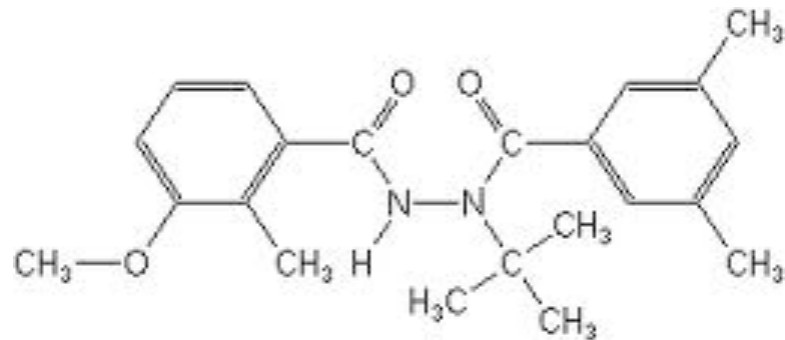


Apples – Key MOAs for Powdery Mildew and Scab

Triazoles (Group 3)	Strobilurin (Group 11)	Anilino- pyrimidines (Group 9)	SDHI (Group 7)	EDBC (Group M3)
Inspire (Difenaconazole) + Inspire Super	Sovran (kresoxim- methyl)	Vangaurd (cyprodinil)	Pristine (Boscalid + pyraclostrobin)	Captan (Group M4)
Indar (fenbuconazole)	Flint (trifloxystrobin)	Scala (pyrimethanil)	Fontellis (Penthiopyrad)	Sulfur
Rally (myclobutanil)	Strobie Pre Mixes -Adament -Pristine	Benzimidazole (Group 1)	Luna Sensation (fluopyram + trifloxystrobin)	Copper
TopGuard (flutriafol)		Topsin-M	Merivon (fluxapyroxad + pyraclostrobin)	

Dow AgroSciences IRAC

- Group 5 Nicotinic Acetylcholine Receptors
 - Chemical Class
 - Spinetoram
 - Spinosad
 - Entrust
- Group 18 Ecdysone antagonist
 - Diacylhydrazine
 - Confirm
 - Intrepid



Timing



Timing

- Time application to egg hatch
- 1-3 instars easiest to kill
- 4-5 instars eat less
- Use Growing Degree Days to plan application
 - 150 egg lay
 - 550 GDD 50% egg hatch
 - 850 80% egg hatch



Wrap Up

- 1) Read the Label
 - See resistance management section
- 2) Switch up chemistries
- 3) Good Coverage
- 4) Proper Timing

