

SDSU Extension


Using Insects in Your Garden

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Phylum Arthropoda

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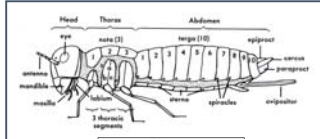

Class	Examples	Body Segments	Pairs of antenna	Pairs of wings	Pairs of legs	Comments
Chilopoda	Centipedes	2	1	0	1 pair per segment	Natural enemy – eats other arthropods
Malacostraca	Pillbugs, sowbugs	2	1 or 2	0	5-7	Minor pests
Arachnida	Spiders, mites, ticks, scorpions	2	0	0	4	Some natural enemies, some pests, some of human health concern
Diplopoda	Millipedes	2	1	None	2 pairs per segment	Minor pests
Insecta	Insects: beetles, true bugs, butterflies, aphids, etc.	3	1	0, 1 or 2	3	Some natural enemies, some pests, some of human health concern

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What makes an insect an insect?

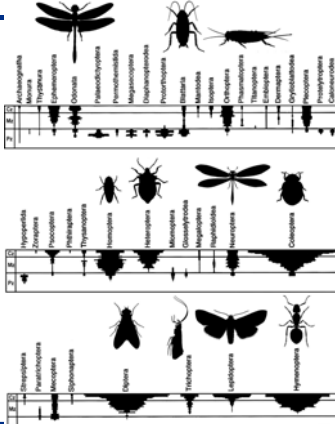
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- 3 body regions
- 6 legs!
- Exoskeleton (crunchy on the outside)
- Jointed appendages
 - Legs
 - Antennae

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Insect diversity



From Schminke H K J. Plankton Res. 2007

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What do insects and their allies do for us?

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- Decomposers
 - Plant material
 - Carrion/dung
- Pollinators
- Biomass movers
 - Food chain
 - Eat and be eaten!
 - Seeds
- Pest control
 - Natural enemies



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Decomposers and recyclers

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Diplopoda - Millipedes

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Isopoda - Pillbugs (aka lots of things)

Photo by Brian Grabowke

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Earwigs

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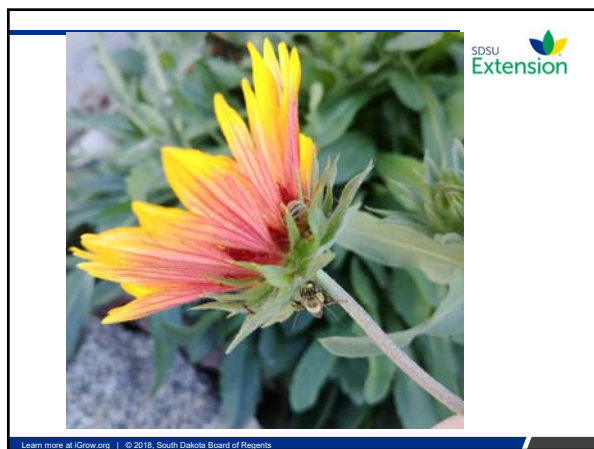
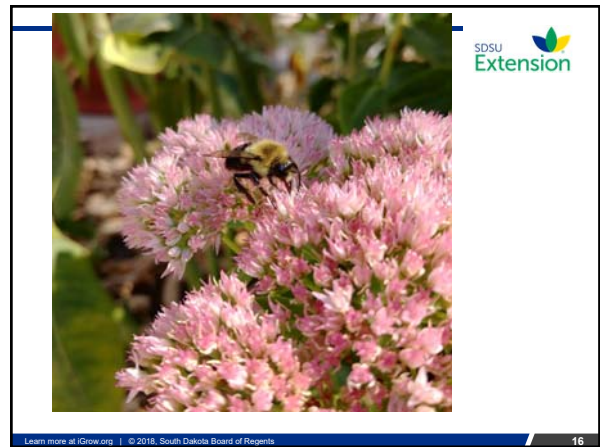
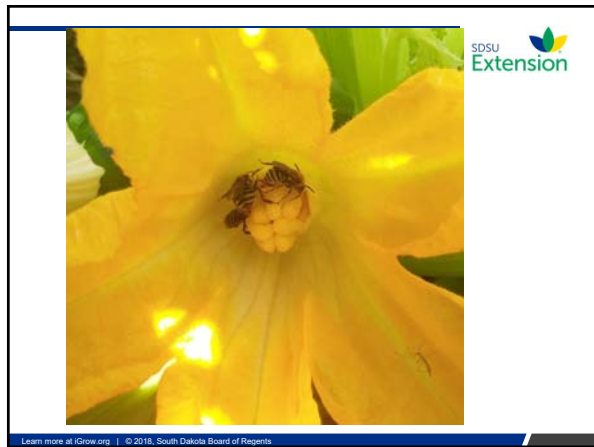
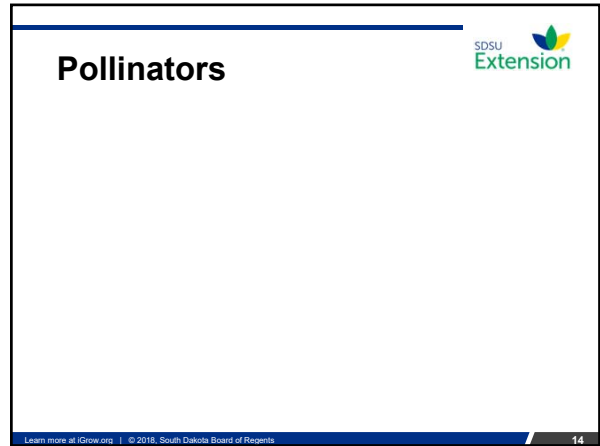
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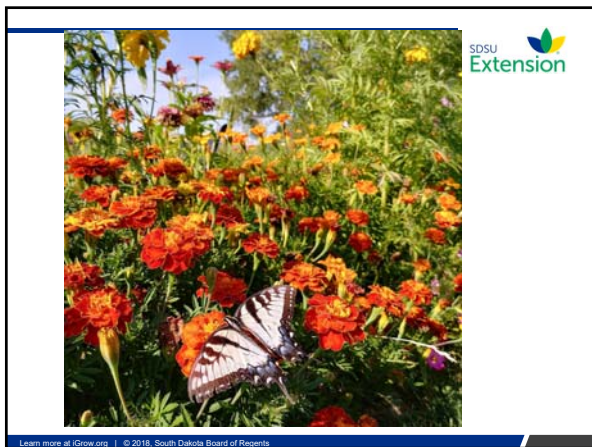
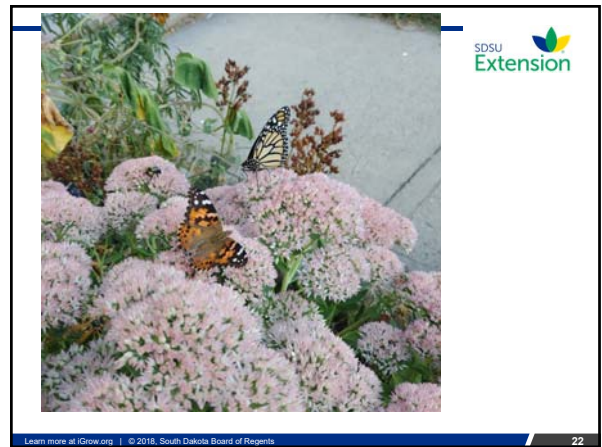
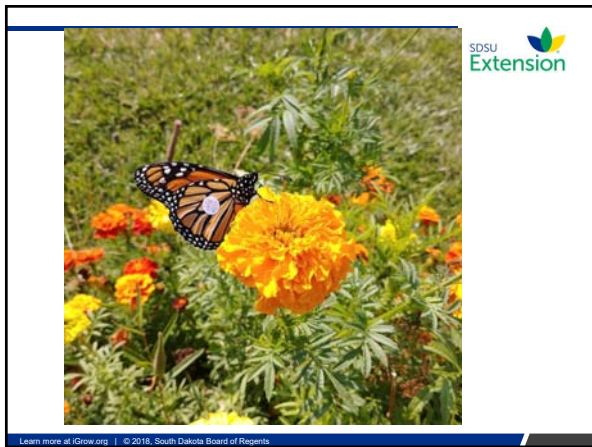
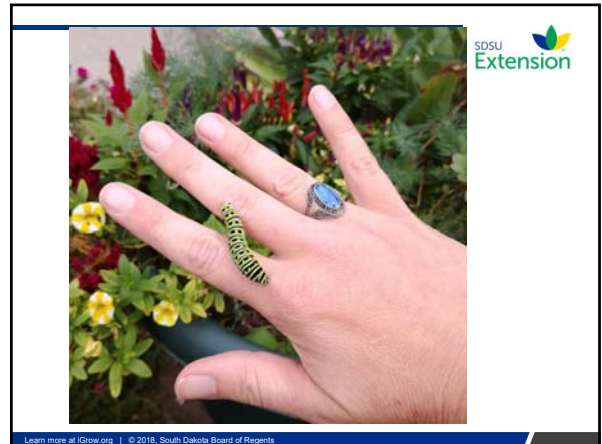
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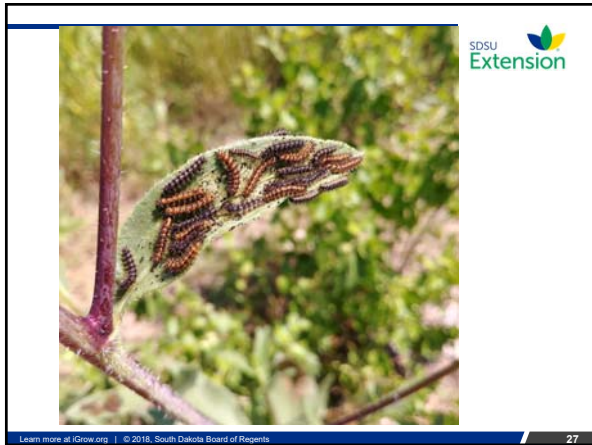


Biomass movers



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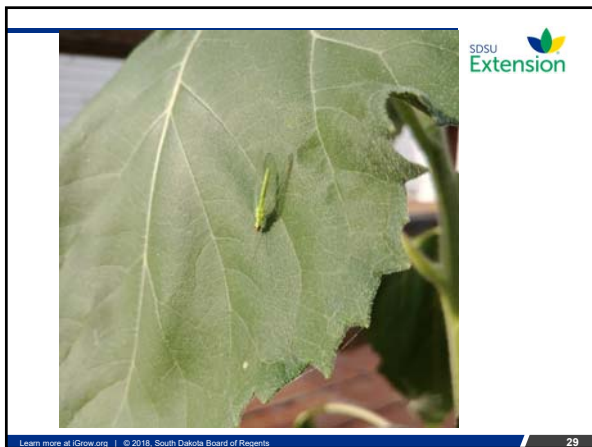


**Pest control
(natural enemies)**

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Conserve these critters!

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Solving pest problems

- Decide how much damage you can tolerate
- Identify the problem
- Start with least toxic control and move up if needed
- Read and follow the product label
- Wear proper protective clothing and follow safety protocols

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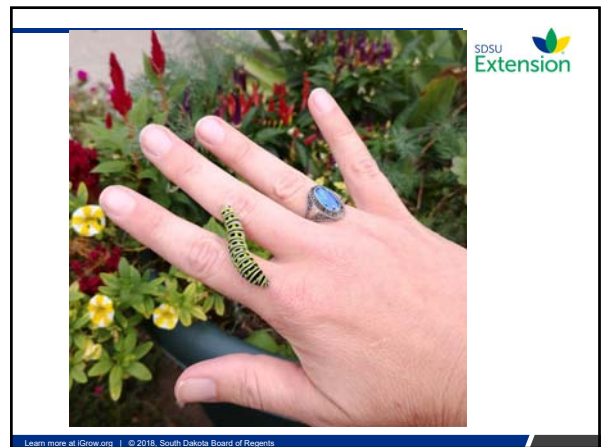
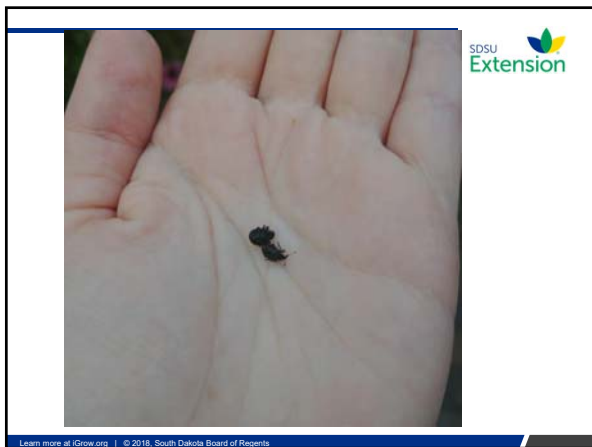
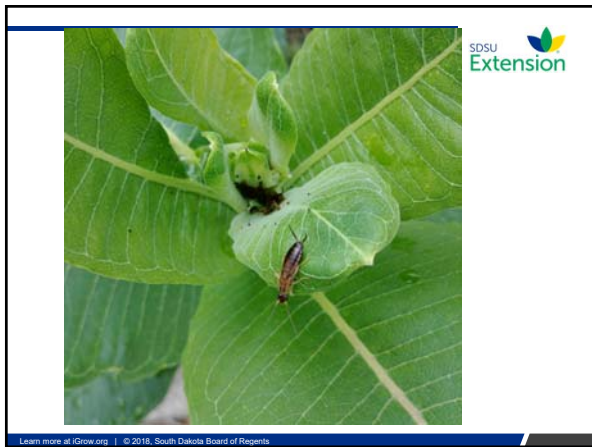
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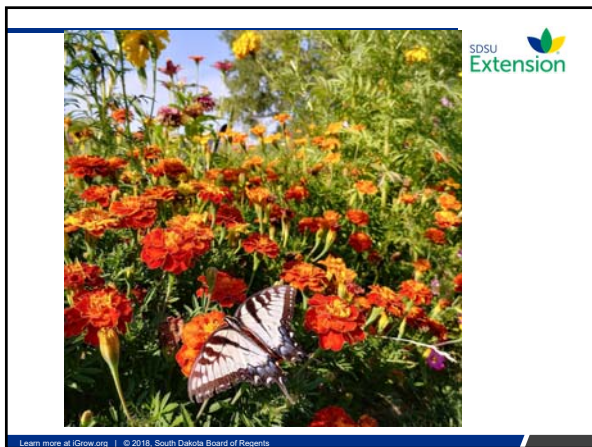
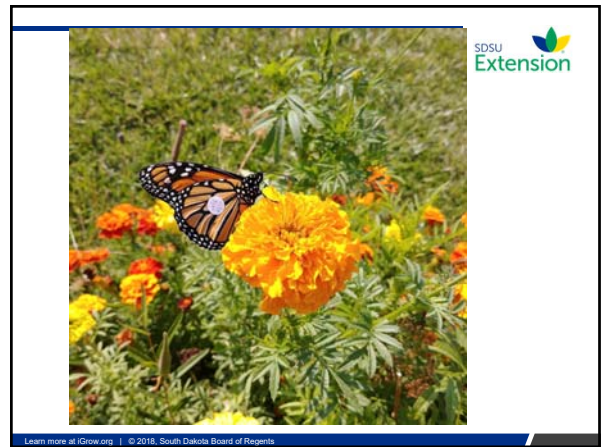
Defoliators

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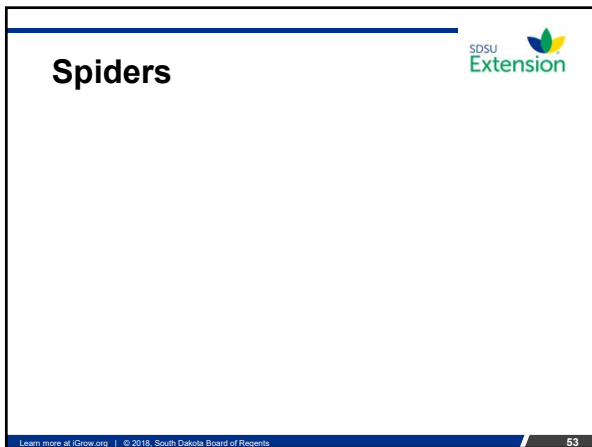


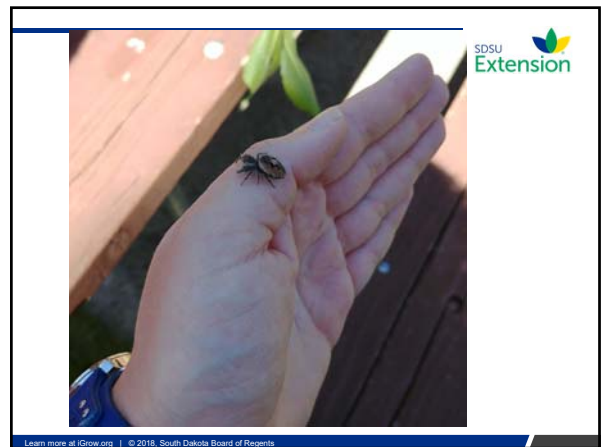
Stinging insects

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Congregators

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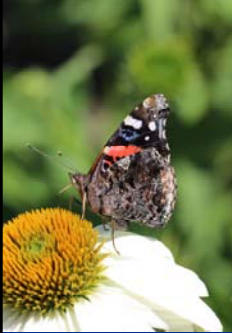
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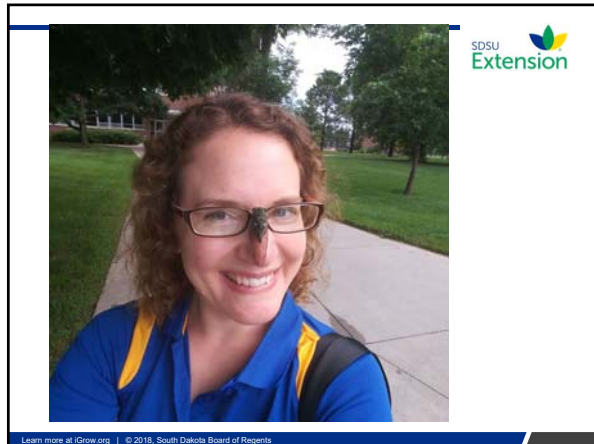
Submitting samples

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- Check with your local Extension office
- When mailing critters
 - Freeze them first
 - Use a hard sided container

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