Managing Weeds in and around the Greenhouse

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The cost of weeds in a greenhouse or nursery...

increased labor costs

decreased plant quality

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Who belongs in the the greenhouse weed club?

(only well-adapted weeds need apply)

Plant species:

- with short life cycles
- many light seeds produced in a short time
- Seeds that can move into and around a greenhouse easily

How do weeds move into greenhouses?

Vectors that move weeds into houses:

- **Wind/air movement**
- **equipment**
- **humans and other animals**
- **plant material**
- **stored growing media**

Abiotic vectors that move weeds around

- Several pesky weeds are moved by **wind** to new sites.

Horseweed (marestail)
Conyza canadensis

Common groundsel
Senecio vulgaris

Epilobium spp. Willowherb

Easy to ignore until infestations get large

Weeds can move by animal vectors

- **Dodder** seeds can be dropped into houses by birds landing on air vents.

Weed seed vectors: equipment, soil components, clothing

On clothing and equipment

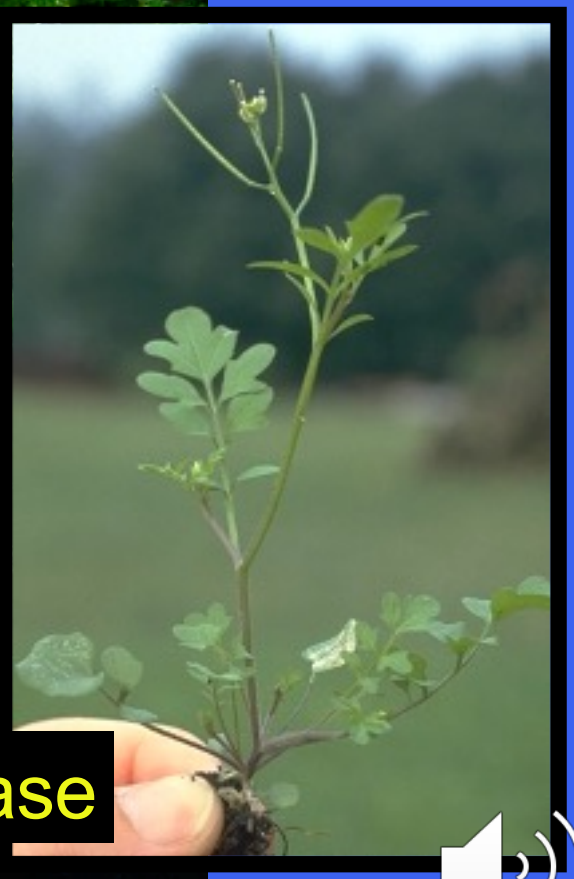
Weeds like Carolina geranium have structures which allow for ‘hitchhiking’ when they are mature.

How do weeds move around in the greenhouse?

Vectors that move weeds **around** houses:

- **self propulsion**
- irrigation
- air movement
- human traffic
- plants and pots

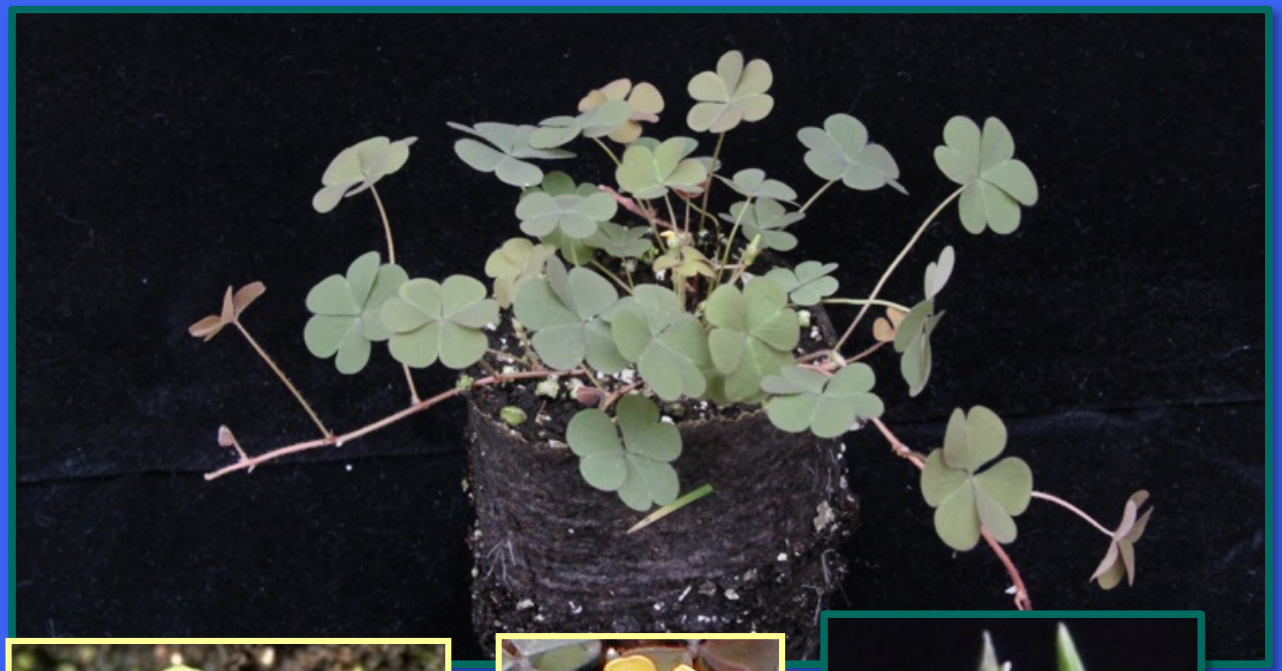
Bittercress
(Cardamine spp.)



explosive dehiscence or seed release

Creeping Woodsorrel

(Oxalis corniculata)



- Prostrate stoloniferous perennial, creeps along soil surface.
- Alternate trifoliate leaves with heart-shaped leaflets, often dark green-purple.

seedling

Explosive dehiscence or seed release

Yellow Woodsorrel (*Oxalis stricta*)

- erect perennial
- reproduces primarily by seed. Plants spread by rhizomes
- 5 yellow petals
- cylindrical, hairy fruit capsules
- seeds eject from capsules up to 12 feet away

Weed to watch out for:
Fatoua villosa
(**mulberry weed** or crabweed)

Seeds will ‘pop’ from capsules when ripe

Liverwort

Birdseye pearlwort

Moss

- **All three look alike**
- Spread **within a greenhouse by irrigation**

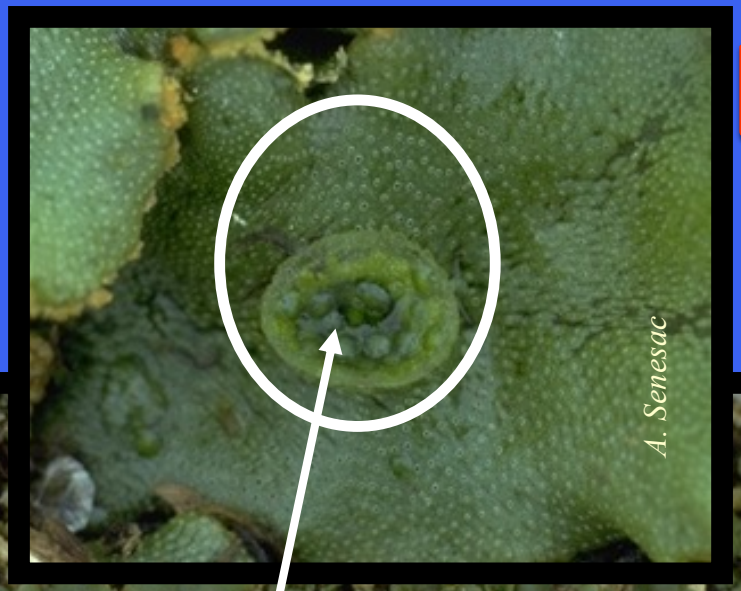
Birdseye Pearlwort

Sagina procumbens

- Winter Annual or perennial
- Carnation or ‘pink’ Family
- Weed of containers & drain holes
- Seed is dust like in size

Liverwort (Marchantia spp.)

Liverwort



Gemmae cup

(Marchantia polymorpha)

Spore structures

- Primitive, mat-forming plants
- Reproduces by gemmae) and spores
- Prefers excessively moist soil; common in frequently irrigated container crops
- no true roots or leaves
- a bryophyte related to mosses


Gemma cup
Gemmae (clones)
Air pore
Liverwort thallus

Other Weeds

Weed problems can be transitory

- this season's problem may not even exist next year.

- It's important to scout often especially on new plants.

Traveling Companions?

‘Southern’ weeds that we may see in the north as temporary pests
~ usually infesting plants or media brought in from southern areas

long stalk Phyllanthus

Eclipta

Several Spurge species

Practicing Weed IPM

- There is usually more than one approach to managing tough weeds.
- The key to best management is to be aware of problem weeds as early as possible.
- Keep a **digital weed log** to refer to for successes and new problems.
- Not all weeds need to be ID-ed, **but anything new and different** is easier to pick out by having a background check on the ‘old’ resident weeds.