



Photos: Marlene Smith

# Deeply Rooted in Native Seed Collecting

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September 18, 2024



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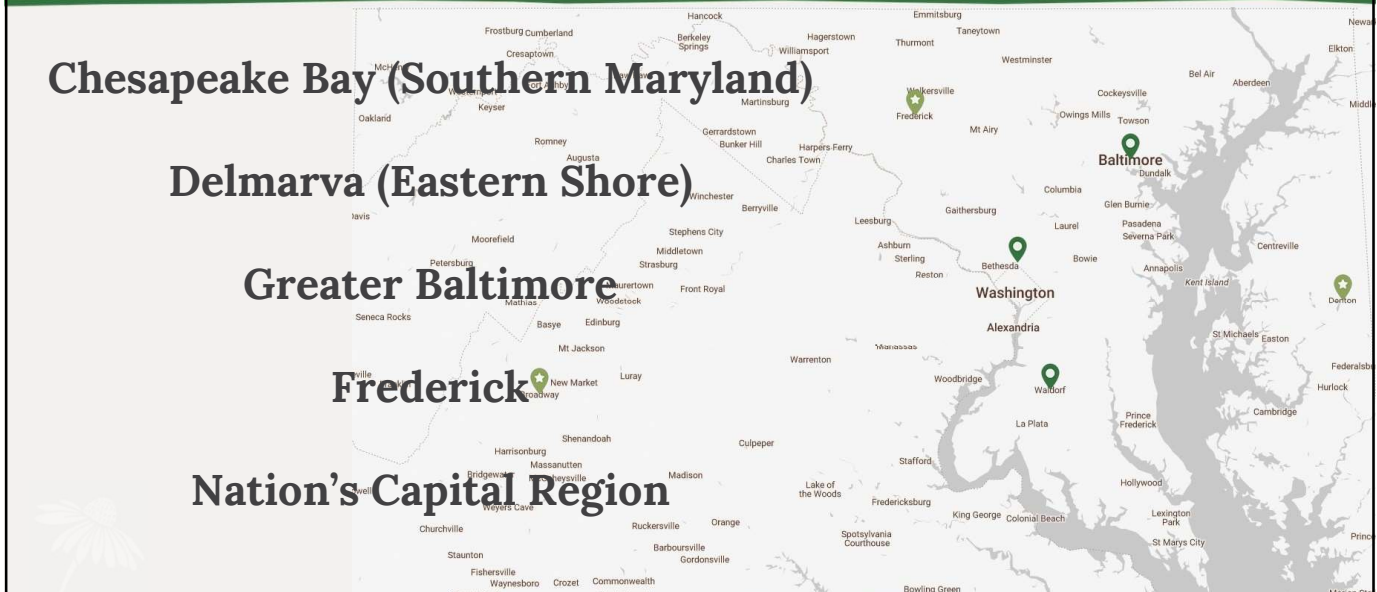
## Wild Ones

- Promotes the use of native plants through local and national educational programs.
- 125 chapters in 36 states!
- Go online to join a chapter near you [join.wildones.org](http://join.wildones.org)



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# Wild Ones Chapters in MD



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## Why collect native seeds?

- **Native plants are adapted to our environment**
- **Provide native habitat for insects/birds/other wildlife**
- **Connects us with history & local cultures**
- **Preserves local ecotype genetic diversity**
- **Provides access hard-to-find plant species**
- **Educational (full life cycle from seed to seed)**
- **Easy, anyone can do it**
- **Economical, budget-friendly way to get new plants**
- **Fun hobby (therapeutic/potentially addictive)**
- **Trading with other gardeners**
- **Great gift for gardeners**

Photo: Marlene Smith

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# 10 Steps to Native Seed Collection

1. **Observe ethical collection guidelines**
2. **Accurately identify source plants**
3. **Learn to recognize when seeds are ready**
4. **Gather collection materials**
5. **Collect seeds**
6. **Dry seeds**
7. **Clean seeds**
8. **Store seeds**
9. **Special handling**
10. **Next steps... Share, Swap, Donate, Winter sow**

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## Step 1: Ethical native seed collection

- Know what the species is and its status prior to collecting—never collect seeds from rare, threatened or endangered plant
- Always seek permission (NOT forgiveness)
- Respect nature—never harvest more than 10-30% of seeds from a single plant or plant community. **You don't need a lot!**
- Collect seeds only from healthy plants (no diseased plants or cultivars).
- Don't collect in the rain or right after rain.



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## Step 2: Identify your source plants

- Types of seeds you can collect:  
 Annuals    Biennials    Perennials  
 Vines      Shrubs      Trees  
 Grasses    Sedges
- Select plants while flowers are in bloom.
- Record location.
- Mark with flags, flagging tape, string, mesh bags, etc.



Photos: Marlene Smith

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## Step 3: Recognize when seeds are ready

- Wait 6-8 weeks after blooms have finished; seeds need to ripen on the plant
- Seed structure and point where it attaches to stem should be tan or brown
- For some species, use techniques like organza bags or rubber bands to contain seeds until ripe
- Be patient! How seeds are harvested can affect viability and lifespan.

Photos: Marlene Smith

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# Not all seeds on one plant ripen at the same time

- Some seeds ripen & disperse suddenly
- Others ripen slowly, a few seeds or pods at a time over days or weeks
- *Lobelia* species flower and seeds ripen in sequence from bottom of stem upwards over several weeks
- *Liatriis* species flower and seeds ripen from top of the stem down



*Lobelia cardinalis*



*Zizia aurea*



*Liatriis spicata*

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# When can you collect native seeds?

Species	Late spring	Early summer	Summer	Late summer	Early fall	Fall	Late fall
Pussytoes, <i>Antennaria plantaginifolia</i>							
Wild Columbine, <i>Aquilegia canadensis</i>							
Twin leaf, <i>Jeffersonia diphylla</i>							
Wild Bergamot, <i>Monarda fistulosa</i>							
Coral honeysuckle, <i>L. sempervirens</i>							
Orange Jewelweed, <i>Impatiens capensis</i>							
Golden Alexanders, <i>Zizia aurea</i>							
Purple Coneflower, <i>E. purpurea</i>							
Butterfly weed, <i>Asclepias tuberosa</i>							
Sneezeweed, <i>Helenium autumnale</i>							
Panicked Ticktrefoil, <i>D. paniculatum</i>							

Graphic: Marlene Smith

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## Step 4: Gather what you need to harvest seeds



Paper bags, envelopes,  
or other collection  
containers

Images: Marlene Smith



Markers



Scissors, knife,  
pruner, etc.



Gloves

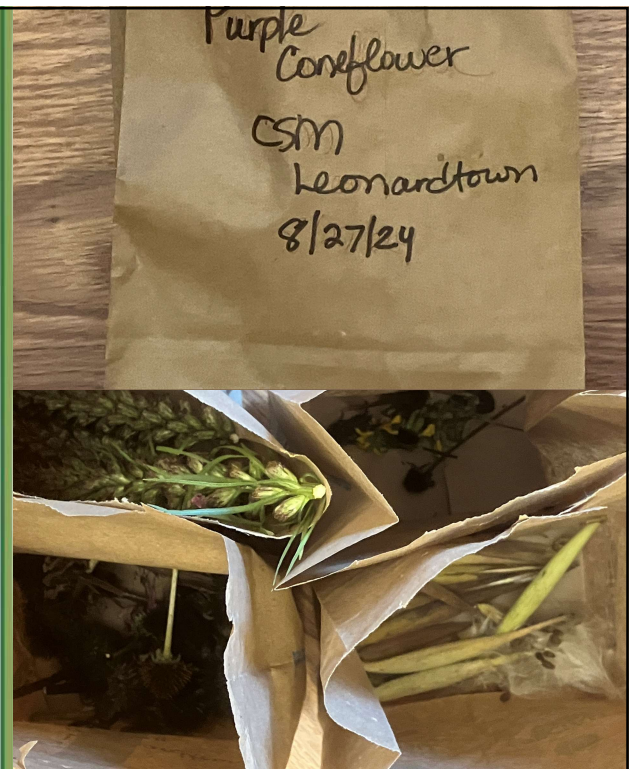
*(Mostly stuff from around your house!)*

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## Step 5: Collect your seeds

- Label collection containers
- Remove seeds/pods/fluff from plant and place in paper bag or envelope, seed heads down, stems up
- Leave collection containers open overnight for insects to crawl out
- Pay attention to different collection methods for each type of seed structure
- Know your seed groups!

Photos: Marlene Smith



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# Time sensitive group

Eliasomes

Ballistic

Fluffy

Milkweed

Berries



Photos: Marlene Smith, Molly Moore, Sue Williams

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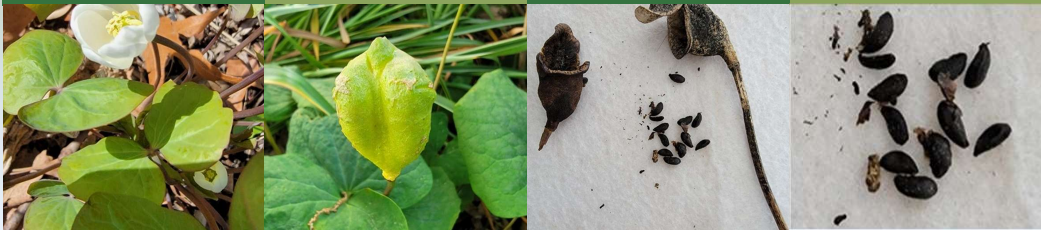
# Eliasomes

Fleshy structures attached to seeds. Nutrient-rich in lipids & proteins. Sometimes called "ant candy."

Dispersal: Ants are strong & motivated, able to quickly carry the candy home to feed larvae while tossing heavy "candy wrapper" (seeds) into their compost piles.

To harvest: Check these species frequently; ants will rapidly collect all of the seeds.

To clean/store: These seeds have higher germination when sown within a day or two.



*Jeffersonian diphylla*, Twinleaf

Photos: Sue Williams, Marlene Smith

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## Ballistic Capsules

Catapult their seeds up to several feet

**Dispersal:** Seed forcefully ejected by flinging seeds from parent plant (explosive dehiscence)

**To harvest:** Just before explosion, cover seed capsules with a mesh bag on the plant, or clip and store capsules in a covered paper bag for a day or two.

**To clean/store:** After the seeds have popped in either the mesh bag on the plant or indoors, carefully open the bag and collect the seeds.



*Impatiens capensis*, Orange Jewelweed

Photos: Marlene Smith

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## Fluffy Seeds

Quite common, with “feather-duster” seed heads (pappus).

**Dispersal:** Fluff allows wind to efficiently move seeds long distances. Spring fluffy seeds are more sensitive to strong wind.

**To harvest:** Collect when fluffy. It is ok to collect these seeds \*slightly\* early, by collecting entire stems when petals have dropped or when seeds have fully matured. Snip stems & let seeds fluff in the bag.

**To clean/store:** Seeds can be stored with fluff once completely dry.



*Antennaria plantaginifolia*, Pussytoes

Photos: Marlene Smith

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## Milkweed Seeds

Pods (follicles) split open when ripe, revealing brown seeds on white, silky, filament-link hairs (floss).

**Dispersal:** Seeds become wind born when left on plant, carried away by filament.

**To harvest:** Ignore pod color; may still be green. Place rubber band around unripe pods (or cover with organza bag) to prevent seeds from flying away.

**To clean/store:** Remove seeds from filaments; save filaments and put outside in spring for hummingbirds use as nesting material.



*Asclepias incarnata*, Butterfly milkweed

Photos: Marlene Smith

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## Berries

Seed stored in juicy flesh that turns vibrant & mushy when ripe: An advertisement to wildlife that they are ready to eat.

**Dispersal:** Wildlife disperse seeds by chewing, digestion & dispersal in a pile of "fertilizer" distances from parent plant.

**To harvest:** Collect when ripe before wildlife eat them. Cover with organza bags while ripening to protect from wildlife.

**To clean/store:** These seeds are not used to drying out and need to be sown fresh in damp soil OR cleaned & stored in plastic in the refrigerator.



*Lonicera sempervirens*, Coral honeysuckle

Photos: Marlene Smith

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# Mama's Boys

Shakers
Beaks
Coneheads
Crumbly  
Coneheads
Shatterers
Hitchhikers

Photos: Marlene Smith, Molly Moore

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## Shakers

**"Petals"** (florets) fall off, leaving tube-shaped calyx behind. Seeds are inside these tubes. Seeds drop very close to mother plant & can remain for weeks.

**Dispersal:** Naturally shaken loose by wind or wildlife

**To harvest:** The seed heads, a collection of calyx tubes, turn from green to brown when ripe. Tip the seed head into your hand or container & tap. Or collect entire seed head for further processing.

**To clean/store:** Tip the seed head over and tap the seeds out, or mash them over a screen or strainer to free the seeds located at the base of the tubes. Store dry seeds.

***Monarda bradburnia*, Eastern beebalm**

Photos: Marlene Smith

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## Beaks

Subset of shaker group with seed capsules that split open like a beak when seeds are ripe.

**Dispersal:** Naturally shaken loose by wind or wildlife

**To harvest:** Collect when upright capsules, or beaks have dried & open. Tap seed head into your hand or container. Tiny seeds fall out when ripe.

**To clean/store:** Tip the seed head over and tap the seeds out. Store dry seeds.



*Aquilegia canadensis*, Wild columbine

Photos: Marlene Smith

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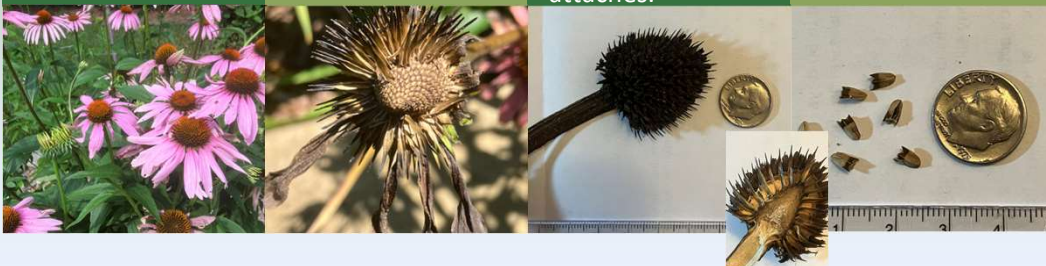
## Coneheads

Flowers with cone-shaped center. Seeds attached to hard cone among spikes.

**Dispersal:** Wildlife eat seeds & disperse in their waste.

**To harvest:** Collect entire cone when the "petals" have fallen off and the stem is brown where the cone attaches.

**To clean/store:** When completely dry, seeds and spikes are easily separated from the cone. Then separate the seeds from the spikes.



*Echinacea purpurea*, Purple coneflower

Photos: Marlene Smith

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## Crumbly Coneheads

Cone-shaped or thimble-shaped. Softer than standard coneheads, they crumble when ripe. Tiny disk florets eventually replaced by seeds.

**Dispersal:** Seeds often dispersed by water.

**To harvest:** Easily stripped by hand

**To clean/store:** Store dry seeds.



*Helenium autumnale*, Common sneezeweed

Photos: Marlene Smith

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## Shatterers

Seeds are attached to stem. Some of these species drop quickly & are not Mama's Boys.

**Dispersal:** Often found in colonies, these seeds do not travel far on their own.

**To harvest:** Seeds can be tough to visually judge for ripeness. Use a \*gentle\* touch test to see if the seeds easily loosen. Spring seeds remain green (perhaps for camouflage) and swell slightly. Fall seeds typically turn brown or beige when ripe.

**To clean/store:** Crush capsules to release dark brown seeds. Store dry.



*Zizia aurea*, Golden Alexander

Photos: Marlene Smith

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# Hitchhikers

Sticky, bristly, or barbed structures or burs that contain the seeds.



**Dispersal:** Seeds will stick to clothing, fur or feathers, and be carried to new habitat.



**To harvest:** Easy to tell when ripe – they hitch a ride on your pants! Color can be an indicator, but not always. Gather in fall & dry in paper bags 1-2 weeks.



**To clean/store:** Use gloves to remove seeds from pods. Store seeds dry.



*Desmodium paniculatum*, Panicked ticktrefoil

Photos: Marlene Smith

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## Step 6: Dry your seeds

- Allow collected material to air dry in the paper bag or envelope (with exception of hydrophilic seeds)
- Why dry seeds?
  - Makes cleaning easier
  - Makes seeds resistant to bacteria and fungi
  - Prepares seed for dormancy

Photos: Marlene Smith



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Photos: Wm Smith

## Step 7: Clean your seeds

- Process seeds to remove chaff and other plant material (leaves, stems, fluff); chaff tends to hold moisture
- Cleaning reduces space required for storage
- Work with one species at a time on newspaper or disposable plates, changing between species

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## Step 8: Store your seeds

- Remember...label your containers.
- Short term storage: use paper envelopes
- Long term storage: use airtight containers such as glass jars, plastic jars, zipper plastic bags, etc.
- **Avoid** moisture, air, light, warmth
- Best conditions for storage are a cool, dark, dry location
- Seed viability decreases over time

Photos: Marlene Smith



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## Step 9: Special handling

### HYDROPHILIC SEEDS WILL NOT SURVIVE DESSICATION

- Some seeds have a high moisture content and should not be allowed to dry out (i.e. hydrophilic seeds)
- If they lose too much moisture, the embryo will die and the seeds will not germinate.



*Asimina triloba*



*Diospyros virginiana*

Photos: Marlene Smith

Paw paw and persimmon seeds need to stay moist.

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## Step 10: Next steps.....

Collecting seeds is NOT enough! The goal of seed collecting should be sharing and sowing seeds to get more native plants in the ground.

- Share with family and friends
- Swap with others
- Donate to your local seed library
- Winter sow

Photos: Marlene Smith



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## Resources

- [Lake County Seed Collection Guide for Native Gardeners](#)
- IUN Community Garden: Collecting and Cleaning Seeds from the Garden - 2022 <https://youtu.be/wXQ43Y7VQIs>
- UME Talbot County, Mikaela Bolely Seed Saving 101: Native Plant Seed Saving video: <https://youtu.be/dVEsoq9d78U> and webinar slides: <https://files.constantcontact.com/d9ced8a6601/721efafa-1d5b-462e-907c-060bb49f8a23.pdf>
- Xerces Society- Collecting and Using Your Own Wildflower Seed <https://xerces.org/publications/guidelines/collecting-and-using-your-own-wildflower-seed>
- Tallgrass Prairie Seed Collecting Guide [https://tallgrassprairiecenter.org/sites/default/files/techguide1\\_seedcollecting\\_2015\\_web.pdf](https://tallgrassprairiecenter.org/sites/default/files/techguide1_seedcollecting_2015_web.pdf)
- Pleasant Valley Conservancy seed collecting chart <https://pleasantvalleyconservancy.org/seedcollectingtimes.html>
- U.S. Forest Service- Native Seed Collecting [https://www.fs.usda.gov/wildflowers/Native\\_Plant\\_Materials/developing/collecting.shtml](https://www.fs.usda.gov/wildflowers/Native_Plant_Materials/developing/collecting.shtml)

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## More Resources

- Wild Ones Front Range Collecting and Cleaning Native Seeds <https://frontrange.wildones.org/collecting-cleaning-native-seeds/>
- Wild Ones Front Range Germination Guide for Native Seeds <https://frontrange.wildones.org/wp-content/images/sites/105/2023/10/Jan-Midgley-Germination-Guide-10-24-2023.pdf>
- Wild Plants from Seed <https://www.wildplantsfromseed.com/html/guidelines.php>
- Charles County Master Gardeners Native Plants webpage. <https://extension.umd.edu/locations/charles-county/master-gardener/native-plants>
- Audubon "Plants for Birds" webpage. <https://www.audubon.org/plantsforbirds>
- Charles County Master Gardeners Resources webpage. <https://extension.umd.edu/locations/charles-county/master-gardener/resources>

Adapted from: All the Dirt on Native Seed Collecting by Marlene Smith and Molly Moore, Charles County Master Gardeners

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*Deeply rooted in natives.....*

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**Help us make a difference!**

**Our work**

**depends on you!**

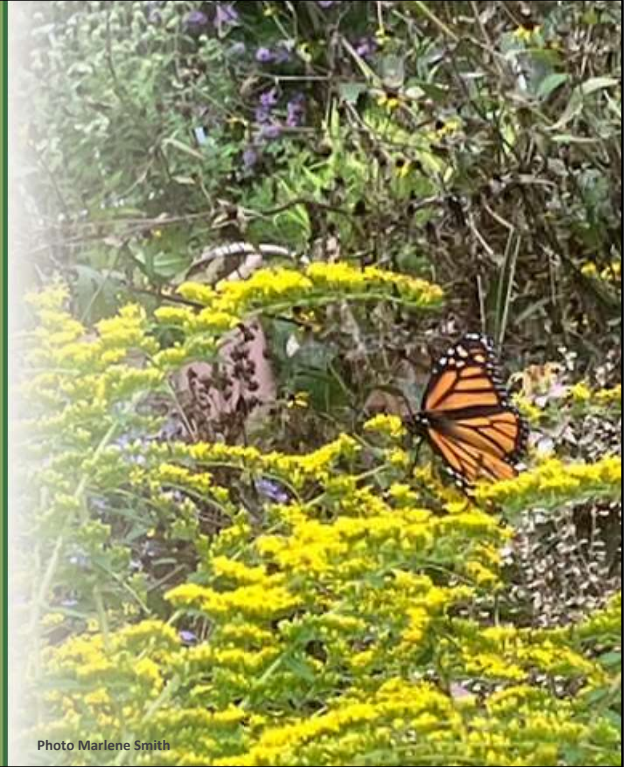


Photo Marlene Smith



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Photo: Wm Smith