**Crimson-eyed Rosemallow**

*Hibiscus moscheutos*

**Scientific Name**
*Hibiscus moscheutos* L.

**Common Name**
Crimson-eyed Rosemallow

**Group**
Dicotyledon

**Family**
Malvaceae

**Wetland Indicator Category**
OBL

**Growth Form**
Shrub-like herb, forming isolated clumps or large colonies

**Habitat**
Along riverine systems and the upper edges of low salinity marshes

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**Propagation Guide**
1 Seed Collection

Observe inflorescence development of *Hibiscus moscheutos* in the field. In coastal Mississippi and along the northern Gulf of Mexico, this generally occurs between May and July (Eleuterius and Caldwell 1984); however, this may vary from year to year depending on weather conditions.

The *Hibiscus moscheutos* flower has five large petals, 3-4” (7-10 cm) long, which are white to cream in color with a red to reddish-purple base. The brown seeds are contained inside a capsule. Snow et al. (2000) have reported approximately 120 seeds per capsule.

The seeds can be harvested in the field by removing the capsules after they have turned brown and started to open. The capsules can then be placed into plastic bags. Not all inflorescences mature at the same time. Repeated site visits may be necessary to collect seeds that ripen at different times.

2 Seed Preparation

Store the plastic bags with the collected capsules open in a cool dry room for two to four weeks. This will permit any insects to escape, allows the capsules to dry out slowly, and prevents fungal growth. After the capsules have dried and opened, the seeds can then be removed from the capsule by shaking the plastic bag. When all the seeds have dropped to the bottom of the plastic bag, the capsules can be discarded.

Small amounts of the collected seeds can then be spread out on white paper and the remaining undesirable material is removed with forceps (tweezers). This is a time-consuming process, but essential to the successful storage conditions of the seeds. Garbisch and McIninch (1992) reported there are approximately 45,000 seeds per pound dry weight.

3 Seed Storage

The cleaned seeds should be stored dry in a sealed container in a refrigerator at 39ºF (4ºC). Seeds remain viable for up to six years (Garbisch and McIninch 1992).

Before attempting germination place the cold, dry seeds in tap water and return to the refrigerator for at least 48 hours before planting (McIninch and Garbisch 2003). At this time a tetrazolium red (TZ) dye test can be performed to determine seed viability (see Appendix A).

4 Seed Germination

After the seeds are removed from the refrigerator they must be scarified (Liu and Spira 2001). Scarification is the process of scratching the seed coat to make it permeable to water. Place the scarified seeds into a container of water and after several days discard all seeds that float, as these are not viable (McIninch and Garbisch 2003).

The seeds that sink are placed in 4.5” (11.5 cm) diameter 250 mL glass culture dishes (Carolina Biological Supply Company -741004) and filled with tap water. The water level in the bowl should be checked periodically to make sure seeds do not dry out. At least 0.5” (1.3 cm) of water is recommended.

Dudeck and Garbisch (1999) reported that *Hibiscus moscheutos* seeds do not require light for germination. Germination occurs over a range of temperatures from 77-95ºF (25-35ºC).

Many of the seeds will germinate within 30 days. Seedlings should be transplanted at this stage. Hunter-Cario (2007) reported that rates of seed germination vary from year to year, and are generally high (70-95%).
5 Seedling Propagation

When the young seedlings are about 0.5" (1.3 cm) in height they can be removed from the glass culture dishes and transplanted into hydrated peat pellets (Jiffy Products -Jiffy 7) using forceps. Planted seedlings are then placed in 20 x 10" (51 x 25 cm) plastic bedding trays (Landmark Plastic -L1020NCR(N) no holes). These hold 50 peat pellets and should be sub-irrigated with tap water on a daily basis.

Trays with seedlings are best kept indoors in a temperature controlled room at 81-86°F (27-30°C) under fluorescent grow lights (60-100 W, 60-100 µmol irradiance) on a 18:6 hour (light:dark) photoperiod. It is important to keep the young seedlings in a humid environment for one to two weeks after planting. To reduce desiccation use clear plastic propagation domes (Curtis Wagner Plastics -CW221) over the trays. Caution, heat can build up under these domes and kill the seedlings. Temperature should be kept below 95°F (35°C).

The trays with seedlings are then placed in a greenhouse and grown for two to four months until they reach a size of at least 6" (15 cm) tall. These larger plants can then be planted into 4 or 6" (10 or 15 cm) diameter containers with a high-organic soil mixture (2:1 topsoil:peat ratio), and kept sub-irrigated for a minimum of four months to form a well-developed root mass (Appendix B). Plants are fertilized with a full strength (per manufacturer directions) water-soluble 20-20-20 general purpose fertilizer monthly, poured directly onto the soil. When root mass is well-developed these plants are ready to be transplanted to a restoration site or transplanted into larger containers for further growth (Appendix C).

Alternatively, seedlings can be planted directly into standard 72 well inserts (Dillen Products -D1206), which fit into the plastic bedding trays, in a high-organic soil mixture (2:1 topsoil:peat ratio). The advantage is that plants grown in these 1.5" (4 cm) plugs will have a quick turn-around time to become root-bound in the nursery and can be easily transported to the restoration site. However, a disadvantage to the these plugs is the plants and root ball are smaller.

6 Vegetative Propagation

Vegetative propagation protocols are not well-known for this species, and should be further investigated.
**Hibiscus moscheutos** Propagation Guide

### Seedling and Plant Propagation Charts

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Light</th>
<th>Water</th>
<th>Germination/Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>77-95°F (25-35 °C)</td>
<td>No Light Needed</td>
<td>Submerge 0.5” Water</td>
<td>Seed Germination 4 Weeks</td>
</tr>
<tr>
<td>81-86°F (27-30°C) &lt;95°F (35°C)</td>
<td>Temperature Controlled</td>
<td>Fluorescent 18:6 Light:Dark</td>
<td>Seedlings 1-2 Weeks</td>
</tr>
<tr>
<td>&lt;95°F (35°C)</td>
<td>Greenhouse Full Sun</td>
<td>Sub-irrigated Peat Pellets</td>
<td>Seedlings 2-4 Months</td>
</tr>
<tr>
<td>Ambient Temperature</td>
<td></td>
<td>Sub-irrigated Peat Pellets/Containers Fertilize Monthly</td>
<td>Container Plants 4+ Months</td>
</tr>
</tbody>
</table>

### Citations


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### Further Information

USDA PLANTS profile:
http://plants.usda.gov/java/profile?symbol=HIMO

Center for Plant Restoration and Coastal Plant Research:
http://sites.google.com/site/coastalplantrestoration/home

Field guide and images of Coastal Mississippi Wetland plant species:
http://jcho.masgc.org/

NRCS Jamie L. Whitten Plant Materials Center:
Plant Guide for Establishing Coastal Vegetation on the Mississippi Gulf Coast

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