

As plants, we can tell you that making seeds to ensure that future generations thrive is our greatest concern. But because we plants can't move on our own, we've had to come up with all sorts of clever ways to spread around. For example, we give off delicious aromas to attract insects to help us with pollination. We even adjust the length of our stamens—the place where pollen is produced—and pistils—the place where pollen is received—to make the whole process smoother.

As *Arisaema serratum*—that's a Japanese type of Jack-in-the-pulpit plant—we have a few sneaky tricks up our sleeves. Have a look!

### **A Jack-in-the-Pulpit to Die For**

Jack-in-the-pulpits are members of the Araceae family of plants and are dioecious, meaning that there are separate male and female plants. As a result, insects are necessary for pollination. Small flies, drawn by an attractive odor, crawl down into the male plant's spathe (a structure that surrounds and protects the flowers). After picking up pollen, the flies escape through a small hole at the base of the spathe. However, the female plant's spathe offers no escape hole, so after fertilizing the female flowers, the flies find themselves trapped and doomed to die inside the pulpit.

### **A Change from Female to Male for the Japanese Bigleaf Magnolia**

In spring, the Japanese bigleaf magnolia (*honoki*) produces large, fragrant blossoms. The pistils are located in the center of the flower, surrounded by several whorls of stamens. On the first day of bloom the pistils are receptive, but the stamens remain closed. From day two onward the stamens open, but the pistils are no longer receptive. In this way the magnolia prevents self-pollination by staggering the timing of the stamens and pistils.

### **Two Flower Types for the Deer-cabbage**

The Japanese deer-cabbage (*Nephrophyllum crista-galli japonicum*, or *ivaicho* in Japanese) is a popular alpine flowering plant. The plant puts out two different types of flowers: one with long pistils and a short stamen, and another with a long pistil and short stamens. When hoverflies visit the first type of flower, they pick up pollen from the long pistils, but do not contact the short pistil. When they visit the second type, they transfer this pollen to the long pistil. This system assures that the flowers are cross-pollinated, which helps ensure genetic diversity and long term survival of the species.