

Iris Hybridizing

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Abstract

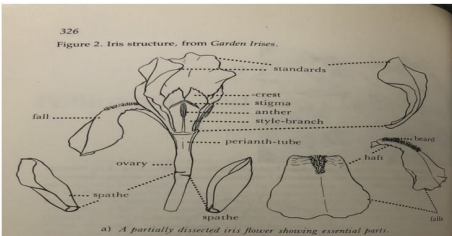
The pool of hybrids in the Miniature Dwarf Bearded (MDB) group is considerably smaller compared to the more popular Tall Bearded (TB.) There are multiple methods to breed for smaller sized varieties which include the use of historic irises and pure Standard Dwarf Bearded. Through learning about iris breeding, creating educational materials about different classifications and introductory knowledge was made alongside the hybridizing process.

Introduction

Iris hybridizing is generally done by passionate hybridizers and information tends to be shared between them. This means that information about irises such as the different classifications and specifics of the hybridizing methods are not well known to the public.

By recreating the process of the hybridizing process, it should also be able to extend to educational material that can be more accessible. In this case to focus on Miniature Dwarf Bearded (MDB) class is ideal. As the pool of hybridized Miniature Dwarf Bearded is smaller compared to the more popular classes such as Tall Bearded. The process to create an MDB is unique as it comes from a Standard Dwarf Bearded (SDB) crossed with species *I. pumila* in three different combinations listed below.

- Pure *pumila* crosses
- Pure SDB crosses
- SDB and *pumila* crosses



Objectives

The objectives of this project were to:

1. Make crosses between flowering dwarf-bearded irises or between intermediate bearded irises.
2. Create educational signage about irises and iris breeding for the Carol Ann Moyer Iris garden.

Results

In the end only two classes of iris bloomed out of the two groups of plant material available. That being Rare Edition which is an Intermediate Bearded (IB) and two different SDB's, Crybaby and Blitz. As multiple of Rare Edition bloomed, we decided to cross them as they were the only ones to bloom at the same time, giving us time to cross pollinate. It was also useful for the experience and for the purpose of creating educational material. One cross was made, Rare Edition X Rare Edition. Each stigma was pollinated to ensure that we had the best chance of obtaining fertilized seeds. As of right now, it's still undetermined if the pollen had fertilized the seeds and/or was compatible.

- Educational material produced were designs for signs out in the iris garden on campus, specifically information about the different classifications. There is also plans to design and create pamphlets with more in-depth information about the garden and irises as a species.

| Iris Name and Classification | Date of Bloom | Crosses |
|------------------------------|---------------|------------------------------------|
| Crybaby (SDB) | March 21st | Not used, bloomed for one day. |
| Blitz (SDB) | April 19th | Not used, bloomed for one day. |
| Rare Edition (IB) | March 30th | Crossed with another Rare Edition. |



Materials and Methods

Materials

- Irises
- Tweezers
- Containers for pollen collecting
- Cotton swabs
- Potting materials (Soil and Plastic Pots)

Once the iris has fully opened, that's when pollination can begin. The pollen is found on the anther of the iris, which is hidden underneath the crest. Use a finger or a pencil to push the crest back to properly see the anther. Take the cotton swab and rub it against the anther to collect the pollen. Then take that cotton swab and rub it against the stigma, which is on the top of the crest. Alternatively, you can also use the tweezers to remove the anther to pollinate the stigma. If successful, the pollen will go down the perianth tube and then to the ovary to eventually fertilize the seeds.



Discussion

There were significant problems with the anticipated blooming times of the irises. The Standard Dwarf Bearded being kept in the greenhouse, that had better climate as it was warm, were meant to bloom around March-April. However only two bloomed and at completely different times. Making the pure SDB cross method not viable.

In the future, perhaps using bought pollen from other hybridizers, historic varieties, to help creating more crosses without waiting for the other irises to bloom. Or the possibility of storing pollen from early blooming irises to apply to later blooming irises.

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