

Growing Hollies from Seed: Patience is a Virtue[©]

Robert (Buddy) Lee

PDSI, Loxley, Alabama & Transcend Nursery, 52063 Ridgecrest Drive,

Independence, Louisiana 70443

Email: buddyazaleas@yahoo.com

INTRODUCTION

Hollies (genus *Ilex*) are a large and complex group of plants with an estimated number of species to be over five hundred. Selected forms of species and hybrids has been a mainstream landscape plant for centuries. The large majority of holly selections are relatively easy to reproduce by means of asexual propagation of cutting wood. Asexual propagation maintains the desired plant in a "carbon copy" state (clone) from one cutting generation to the next without much plant variation, except for a rare sport mutation. Growing hollies sexually from seed can produce plants that exhibit variations for future selection. Selected holly seedlings with variations that prove to be exceptional can result in new and exciting cultivars. The information summaries below are from past experiences germinating seed from *Ilex crenata*, *I. cornuta*, *I. cassine*, *I. verticillata*, *I. purpurea*, *I. opaca*, *I. X 'Mary Neil'*, and *I. X meserveae* at Transcend Nursery, Independence, Louisiana (zone 8).

COLLECTING AND PREPARING THE SEEDS

According to Christopher Bailes author of *Hollies for Gardeners*, " The holly berry of tradition is more accurately described as a drupe, effectively a fleshy fruit which surrounds one or more pyrenes, consisting of a seed enclosed by a hard layer (endocarp) which may be stony, woody or leathery, depending on upon the species." The traditional term 'berry' will be used in this text to denote holly fruit/seed. Mature holly seed can be harvested from late fall to early spring

depending on whether the holly berries are persistence on the plant or not. Another factor to take into account is birds and other berry eating animals which may completely devour all the berries from a holly plant in a short period of time. Holly berries are usually a late winter food source for wildlife. Do not let the collected berries become dried out. This can trigger a natural delay response in the seed germinating. If collecting berries over several days before processing and sowing, make sure that they are place in a cool moist area. It is preferred to prepare and sow the seeds within a couple days after initially collecting the berries.

After the berries have been collected, the next step is to remove the fleshy part of the berry from the seeds. This fleshy part of the berry contains chemicals that naturally inhibit seeds from germinating. Removing the seeds from the fleshy part of the berry can be achieved by numerous means, limited only by your imagination. This can be accomplished by squeezing the berries between ones fingers, placing the berries in a small sack and smashing them by standing on them, or using a brick to press the berries on a hard surface. The actual seeds, usually ranging from one to several per berry, are covered with a hard layer and usually can take the tough treatment. If the seeds seem to be getting damaged in the process, use a less aggressive technique. The goal is to separate the seed from the fleshy part of the berry. Mr. Tom Dodd of Semmes, Alabama, a well known nurseryman, uses a modified electric mixer/blender to clean the fleshy pulp from the holly seeds. Soaking the berries in water for several hours or overnight can sometimes help the fleshy pulp become softer and easier to remove. Because the concentrated juice from the holly berries can stain a person hands and clothes and for general safety precautions — it is best to wear protective gloves when processing the seed from the holly berries.

The next step is to separate the seed from all the fleshy debris and other trash. If placed in a large container of water, usually the heavier viable seeds will sink to the bottom of the container and lighter weight nonviable seeds and most of the pulp and trash will rise to the top. Scoop the floating pulp, trash and nonviable seeds from the water. Drain off the water by tilting the container to one side allowing the heavy seeds to remain at the bottom and allowing the remaining suspended pulp and trash to pour out of the container with the water. This process (refilling the container and draining) may need to be repeated several times to remove all the debris. Once the seeds are clean, rinse them several times with clean water to make sure that all natural chemical seed germination inhibitor is removed. Make sure that the clean seeds do not dry out. At Transcend Nursery, holly seeds are planted immediately after they are cleaned.

SOWING AND CARING FOR THE SEEDS

Seeds are sown in clean standard propagation trays using a slightly acidic, well drained, moist ground pine bark to fill the tray to within 1.3 cm (0.5 in.) of the top of the tray. The media needs to be slightly pressed down and smoothed over to level the surface in each tray. With a gentle soaker spray nozzle, water in the media to make sure that it is settled and that there are no dry areas. Next, carefully scatter the seeds upon the prepared surface trying not to place too many seeds in the same area. Use the pointed end of a pencil to physically spread seeds that may be too thick in one area. Next cover the seeds with approximately 0.6 cm (0.25 in.) of the same media that was used to fill the tray. Gently water the ground pine bark noticing if any of the seeds have been exposed. If so, add some more covering media to that area. The trays of planted seeds are placed in a protected area that is not subjected to extreme weather conditions. Hollies take a long time to germinate so it is best to place trays in an area that will not require a lot of attention. At Transcend Nursery the trays are placed in a tree-shaded greenhouse that has a covered top and

open sides. This allows for a more natural germination condition with the open sides. The covered top helps keep heavy rain downpours from blasting the media out of the trays. Holly seeds are highly sought after by many rodents, especially in the winter time. Trays need to be covered with small mesh wire or use some other protective means. Rodents, over time, can and will outsmart most nurserymen. Monitor conditions of trays from time to time for potential problems and make sure that the media does not dry out.

CARING FOR THE SEEDLINGS

Holly seeds usually will germinate within 1-2 years if the seeds go through satisfactory stratification conditions required for the seed to break dormancy. Sometimes it takes longer for the seed to germinate, so patience is needed. Many holly seedlings had to be rescued from the compost pile at Transcend Nursery after the seed trays had been tossed because it was thought that the seeds would never germinate. Once you notice one tiny new seedling appearing, it usually will not be long before there will be many others pushing upward. At this stage, check to see if the top layer of media has not become too compacted making it difficult for the emerging seedling to sprout. If the top layer is extremely compressed, use your fingers to ever so gently loosen the media taking care that you are not damaging the young seedlings underneath. Take extra precautions at this stage not to let the seed trays dry out. It usually takes a month or so for the majority of the seedlings to surface.

There are always going to be a few seeds that are much slower to sprout. It is best to shift the seedlings into individual small containers before the seedlings get too big and their roots get intertwined making it difficult to separate them. Very young seedlings require extra care when potting them into individual containers due to the fact that they are so fragile at this stage. A light

application of liquid fertilizer is applied routinely to the seedlings after they have been potted in the small individual containers. After they have settled in the media, a granular fertilizer can be applied. Repot and maintain the seedlings when needed as they mature.

It is exciting watching holly seedlings mature and observe the variability that each exhibits as they mature.

LITERATURE CITED

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