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Chrysanthemum Bonsai

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One of the most challenging and rewarding new areas of horticulture is creating and growing a bonsai using chrysanthemums. It is similar to growing a regular bonsai but it can be done within a year with a minimum investment of money, time and material. If you know how to grow and care for plants, have a small greenhouse or a lighted plant stand, you can create chrysanthemum bonsai by following these simple instructions. They are divided into four phases following the sequence of production. Complete details can be obtained in the book, *The Art of the Chrysanthemum* by Nakajima and Young.

Propagation Phase

Plants for chrysanthemum bonsai can be propagated by cuttings, stolons or layers; the simplest method is by shoot-tip cuttings. These can be taken from the "mother plants" of dwarf-flowering, Japanese varieties at any time but it is suggested that they be selected from shoots that are removed from chrysanthemum bonsai plants at the end of the vegetative phase; this is normally in late August or early September. Cuttings, about 2½ to three inches in length, with basal leaves removed, are easily rooted in sand within two or three weeks. The rooted cuttings are then planted into a good growing medium and allowed to flower. This aids in identification of cultivars.

After flowering, cut off the upper ⅓ of the newly rooted cuttings



Chrysanthemum bonsai in bloom.

(about mid-November). In December remove another ⅓ of the shoot and repot into a six inch container. Between mid-January to mid-February, new shoots (stolons) should be visible at the base of the plant. Select one or more of the more vigorous stolons to be used for the production of the chrysanthemum bonsai. Remove all other stolons and the remaining ⅓ of the rooted cutting. This ends the propagation phase and is the beginning of the vegetative phase.

Vegetative Phase

At the start of the vegetative phase, you must determine the style of bonsai to be developed over the next five or six months. Since this determines the cultural program and the training pro-

cedures that will be used. The plants must be exposed to long days (greater than 13 hours of light), given optimum nutrition, and never subjected to a moisture stress. However, during this stage of growth, plants for chrysanthemum bonsai will benefit vegetatively by being grown in partial (approx. 50%) shade.

When the shoot(s) has six or seven well-developed leaves, it should receive the first of many pinches (removing the tip of the shoots). These are made to induce the lateral buds to break and grow into lateral branches. Apical growth of the primary shoot, or shoots, is continued from the top bud. Training is commenced when the primary shoot is approximately eight to 10 inches in length.

Training of the *primary shoot(s)* is most easily done by inserting

one or more stout but pliable copper or aluminum wires into the growing medium and bending each wire to the shape that you wish the shoots to have when the plant is ready for display. The shape should always be graceful and pleasing. Tie the primary shoot(s) to this form with the aid of soft cotton string or with "twistems" (available at most garden centers). Secondary or lateral branches are developed at selected sites along the primary shoot(s) by additional pinching. These laterals are then trained according to your artistic desire by wiring with flexible copper wire and bending to the desired shape. However, secondary branches can be easily bent with the aid of a wire hook. The hooked portion of the wire is placed over the lateral branch that is to be bent and the lower position of the wire inserted into the growing medium. As long as the branch is pliable it can be bent to almost any desired shape.

As the plant grows and begins to take shape, remove unwanted laterals and large leaves. A few secondary shoots should be allowed to grow at the base of the primary shoot to induce thickening of the base. But, these should be removed about mid to late June to permit the bark to mature. Pinching, wiring, de-leafing; plus watering, fertilizing and pest control must be attended diligently throughout the vegeta-

tive phase. About the end of August the plants should be ready for flower induction.

Flower-Induction Phase

Flower induction in chrysanthemum is daylight dependent. For the small-flowered cultivars used in chrysanthemum bonsai, flower induction takes place when the day length is less than 12 hours (varying slightly between cultivars). Therefore, final vegetative pinching, cutting and shaping should be completed before the time that short (long night), inductive daylengths prevail. This is a good time to take cuttings for next year's plants. Cut back all new vegetative shoots to two, possibly three, nodes. That is, leave the two to three basal leaves on the vegetative shoot that developed following the previous pinching. Place the plants in full sun and keep on the dry side for 10 days to two weeks. This will reduce internode length on the next set of shoots. You may need to make an additional pinch of these small shoots. Following this pinching and the dry period, the plants are watered and fertilized, but relatively sparingly. Once the flower buds begin to appear, the plants are ready for refinement.

Refinement and Display Phase

As the flower buds become visible the plants should gradually be

refined. This entails removing all unwanted secondary shoots, all wires and hooks used to shape the bonsai, all dead or chlorotic foliage plus the careful removal of all leaves larger than "fingernail" size. This can be done over a period of two to three weeks. Since it takes this long for the plants to come into bloom following the display of visible flower buds.

Once the flower buds are well-developed, but prior to full bloom, the plants can be transferred to an appropriate display container — normally a bonsai dish, available at some garden centers or gift shops. The size and shape of the dish must be appropriate for the size and shape of the plant. Remember— good balance is appropriate for the best bonsai display. The roots may be pruned moderately so that they can be contained within the dish. Following transplanting to the bonsai dish, the plants must be very carefully watered on a daily basis. The soil about the roots can be covered with a bit of moss and possibly a small rock or stone of appropriate size and shape to enhance the display. The chrysanthemum bonsai is then ready for display. Display the plant by a window to assure good light conditions, and fertilize moderately to maintain quality and a longer period of enjoyment.