

## Experimental Work with Shrubs and Flowers\*

F. E. Buck, Experimental Farm, Ottawa

At the very beginning of the experimental farms system in Canada, the work of testing, recommending and in some cases distributing hardy and desirable ornamental trees, shrubs, and flowers was undertaken on a fairly extensive scale. The work was under the direct supervision of the late director, Dr. Saunders, and the present Dominion Horticulturist, Mr. W. T. Macoun, who was at that time curator of the Botanic Garden or Arboretum. In a young country like Canada, work of this character undertaken by the Federal Government on such a scale had an outstanding value. In the first place it allowed reliable information to be issued in the form of semi-popular bulletins, such as those of "Hardy Trees and Shrubs" and "Herbaceous Perennials Tested at Ottawa," very large editions of both these bulletins being now nearly exhausted; and in the second place the judicious distribution of such plants to the branch farms, public and other institutions, where they attracted the attention of the public, has meant that for some years past, and at the present more than ever before, the possibility of beautifying the individual home and making it a beauty spot has appealed to a large number of people who otherwise to-day might have homes as unattractive as those of many districts of the old world or the desolate homes of new settlers in our own land.

Countless shrubs have been tested and discarded. Others have proved of great value and the good results rewarding the efforts put into this line of work make it stand out surely as of large importance in encouraging the strivings after those things which develop the moral and ethical phases of our life.

This work is still going forward. Just now, to mention but one of its phases, we have under observation a number of new shrubs and varieties of well-known shrubs which were introduced a few years ago from China and other countries by E. H. Wilson, of the United States Department of Agriculture, as well as other shrubs both donated and purchased. We are also putting shrubs to the test with regard to their suitability for certain purposes around the home. This is a phase of work rather new with us.

### HEDGE PLANTS

The test of plants for hedge purposes is being expanded and kept up-to-date. Nowhere in the world, as far as I am aware, is there such a complete and thorough test of plants suitable for hedge purposes as that which may be seen under way at Ottawa. About 100 different varieties of trees and shrubs are

used. Many of the hedges are over twenty years old, while others are only one or two. Most are in fine condition, and many are very handsome and attractive. Visitors from all parts of the world compliment the farm on this collection, and inquiries are very numer-



A Country Driveway, Humber Valley Park, Toronto

ous about plants for this purpose. A bulletin on the experiments will be published before long.

The following trees make almost perfect hedges:

All of the hardy birches, namely, *lutea*, *populifolia*, *nigra*, and *lenta*.

The larches, both the American and European.

And several other trees; while some trees that might be expected to do better when grown for hedge purposes are not successful; of these the elm, the Manitoba maple, and the Russian mulberry are examples.

It is always a source of disappointment to attempt growing any plant with the dual purpose in mind of a floral effect and a good hedge, because in pruning a plant to keep it to a hedge form the flower buds have to be sacrificed, consequently several of the most handsome shrubs make poor hedge plants. However, if a hedge with a distinctive character is required, any one of the following might be used:

Purple-leaved Barberry, Golden Ninebark, Red-leaved Rose, Cut-leaved Alder, Red-twigged Dogwood, American Beech, and the following evergreens: Douglas' Golden Arbor-Vitae, Silver-tipped Arbor-Vitae, Irish Juniper, and Swiss Stone Pine.

Ordinarily we score a plant as perfect for hedge purposes when it measures up to the following requirements: It must grow vigorously, but not too rapidly, otherwise it will require too much pruning. It must have an attractive appearance throughout most of the year and must regain that appearance quickly after pruning. It must permit being pruned to a symmetrical form and a form which will not hold the snow on the top in the winter. It must fill out well at the base when planted in single rows at eighteen inches apart in the row. It must not winter-kill in places, and must not suffer from attacks of insects or fungous diseases. These are the main points of a good hedge. At Ottawa we have many which meet these requirements.

### WORK WITH PERENNIAL FLOWERS

A few words only on perennial flowers. Mr. Macoun's bulletin on "Herbaceous Perennials," published in 1898, shows at a glance the immense number of these important plants. This group has been eulogized of late as being responsible for most of the recent good work in Home Beautification.

Our most recent work with perennials has been to test them for their effect under certain conditions. All of the best of these flowers previously tested for other information, are now grown in a border twelve feet wide and four hundred and fifty feet long, prepared especially for the purpose in 1911. In this border the five or six great season groups of perennials are well represented. Such being the bulbs as: tulips, narcissi, and so forth, for the first effect in spring, then the irises, then the peonies, after which come the great bulk of bloom which is followed by the phloxes for late summer effect, and the asters for autumn effects.

It should be mentioned here perhaps that there are certain times during the summer when the amount of bloom in a perennial border is very small. One of these periods is that which occurs just after the bulk of the early summer plants have bloomed. Since this is a time of the year when a large number of people are expecting the flowers to look at their best, we are just now working to find suitable flowers to fill in these gaps in the floral year.

Dahlias require good rich soil, good uniform moisture conditions, and plenty of sunlight, to do well. If the soil has not been sufficiently enriched, or the bed may be more shaded than it should be, or the ground become too dry, the bloom will be disappointing. The Dahlia requires moderately cool soil conditions to do best, and both the application of water and humus to the soil brings these conditions about.—Prof. W. S. Blair, Kentville, N.S.

\*Extract from an address delivered before the Ontario Horticultural Association.