ROSA CANINA

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Rosa canina has been known and used as an understock for over three hundred years. This is true only in European countries, however, for on the North American continent there would appear to be only two growers using the stock to any extent. Both of these growers are to be found in Canada: Carl Pallek Sons, Vergil, Ontario, and Rosecroft Nurseries in Langley, British Columbia.

It is estimated that 95% of European growers use this stock extensively. However, in Britain and Holland, nurserymen seem to be equally split on the merits of *R. canina* and *R. multiflora* strains and much argument is heard on both sides. In Germany and Belgium, *R. canina* flourishes almost 100%. In British Columbia, the Rosecroft Nursery works on a fifty-fifty basis to meet trade requirements.

Rosa canina may be distinguished mainly by the dog-tooth thorns which are borne in profusion; it is from this characteristic that the species derives its name.

The growth is of medium vigour, whilst the structure is somewhat compact, with a tendency sometimes to spread. The leaves are generally small, 1 to 1½ inches long and ¾ inches wide, whilst the edges are heavily serrated. Colorwise, the variety is a much deeper pink than the native briar rose of the coastal region of British Columbia and this is still deeper than that of *Rosa multiflora.* As in most understocks, the blooms are borne on second year wood, and are 2″-3″ across.

Rosa canina's natural habitat is, of course, the Northern Hemisphere; Holland, with its suitable climatic and soil conditions, is the world's largest supplier to the trade. Selected strains have been available for many years, but at first they could not always be guaranteed to run true to type. Dutch growers, however, forged ahead of other European nurserymen in their research and now are able to supply selected strains of seedlings that do run true. Laggerman of Sappermeer, Holland, is one of the most outstanding producers. Canada probably imports most of its stock from Holland. Germany and Belgium also produce these lines but they do not ship out as much as do the Dutch. There output is mainly for home consumption.

Subject to normal conditions, *Rosa canina* will grow almost anywhere that understocks are generally used. It will withstand more severe climatic conditions than most, with the exception of *R. rugosa. R. canina* is also suitable to more variable soil conditions, showing marked resistance to drought and chlorosis in high alkaline soils. Once corrected, these factors are to the over-all advantage of the species. Since this understock is

generally hardier, it imparts hardiness to the variety, and also increases the life span. When the writer revived Rosecroft Nurseries in the early post-war period, many of the customers were exhibiting from plants bought from my dad in the early 1920's. He was 100% for Canina.

The fact that Canina is only of medium growth vigour, the varieties which are worked to the stock are also inclined to be of medium vigour, therefore the growth is not so soft or succulent and this factor is a most important one where mildew occurs, and particularly where black spot is concerned.

At Rosecroft Nurseries we have grown Multiflora and Canina side by side and have had the opportunity to observe their many characteristics under various conditions. Many times we have noticed a variety on Canina (e.g. Show Girl) that is resistant to mildew, and found the same variety infected on Multiflora. The depth of colour and the substance of petal on Canina show marked improvement over Multiflora. The marked difference is so great in some cases that many distinguished Rosarians will misname the varieties on Canina.

Having stated that Canina is of medium growth vigour, the writer does not wish to mislead you into thinking that it is not possible to grow good vigourous plants. Many of Rosecroft's customers have mixed beds of Canina and Multiflora, and are unable to distinguish the difference between understocks when considering only the size.

As far as expense is concerned, the slightly increased costs of Canina is due chiefly to the fact that seedlings are used. You will agree that growing seedlings will be more costly than the reproduction of Multiflora by cuttings. Due to the very short neck and budding area, the stock has to be very carefully planted; when opening for budding, this requires a little more patience. The short neck of Canina forces the budder to place his bud closer to the roots, making a very compact plant. This is very durable in severe climatic localities and the main root system is always in the most fertile section near the surface.

Rosa canina is as hard to propagate from seed as it is vegetatively. It is not economically feasible, on a commercial basis to reproduce by cuttings when a 50-60% stand is considered good. Rosecroft has tried every known means of vegetative reproduction, using all known hormones and using all feasible dates to take cuttings. The latest experiments, under *mist,* have not been any more encouraging. Furthermore, the stand of top grade plants is of lower percentage when working with Canina cuttings.

When attempting to reproduce from seed, which, of course, is of low viability, often not more than one third will germinate over a period of several years. Nature, making provision to reproduce the species should adverse conditions exist for a season or two, causes the nurseryman to make provision for this characteristic and ample seed must be sown to overcome this factor.

At the John Innes Institute in England, experiments were carried out with storing Canina seed. The following observations were made concerning proven storage methods:

1. Moist storage was preferable over dry.
2. Extreme change in temperature during storage
   — 2 months at 60-70° F. followed by
   — 2 months at 32-35° F. refrigerated controlled temperature.
3. Media used -- coarse vermiculite or perlite in clay pots, thus permitting good aeration and moisture retention.

The time for gathering hips is very important, for they must not be picked whilst they are green and have fresh sepals. In B.C., the best time is the first week of October approximately, when the hips are red, the sepals have fallen, and the flesh has not yet begun to soften. Occasionally a few hips will stay on the plant for over a year, and they will after-ripen naturally and, when sown without treatment, will germinate with as high a percentage as normally achieved in the aforementioned procedures. The seed should be cleaned immediately after they are harvested, and not left stored in the hips. If no refrigeration is available, a simple method is to plunge pots in wood ashes out-of-doors during the winter, making sure that they are protected from rodents.

Over the past several years, Rosecroft has been experimenting with various strains of Canina. Schmidt's Ideal has been found to be the best all-around strain. Certain favourable characteristics were noticed in other strains; however, it was felt that the best stand, when considering the over-all picture, was obtained with Schmidt's Ideal. Good vegetative reproduction was found in some cases in the various strains of Canina, but the qualities were not of a high enough percentage to warrant consideration.

The writer's personal views as to the future of Canina in Canada is not too encouraging. Over the years, Rosecroft has built a fairly elite market for Canina understock plants. However, the percentage increase in demand has not kept pace with the over-all demand. Also, keeping in mind we have no Plant Patent Law in Canada with the result that today's rose prices have not kept pace with reproduction costs. I would venture to say this would not be so in the U.S.A. for our biggest sales increases are to points in this area, in spite of all the red tape of import regulations.

I would like to take this opportunity to remind you, as propagators, that you should keep your interest in Plant Patents alive. Keep a close eye on its control of varieties outside of the U.S.A. borders. Too frequently, the latest introductions appear on the Canadian market at less than one-third the suggested retail price. U.S.A., second year introductions, have appeared on the Canadian market so reasonably priced that roses are treated as annuals in our Prairie Provinces.

MODERATOR HAUSCH: Our next speaker this evening on rose rootstocks will be Dr. Robert Ticknor. His topic will be, Nursery Performance of Selected Garden Rose Rootstocks.

DR. ROBERT TICKNOR: Thank you. After this strong case for *Rosa canina,* I am not so sure that in coming up here with *Rosa multiflora* that we have the right product. However, I think the difficulty in propagation of *R. canina* has been one of the main reasons that *Rosa multiflora* has been the leading rootstock in the U.S. From some of the reports I have heard from England they are using more *Rosa mulitflora* there also. Again, this is because of propagation problems and the fact that it produces slightly larger plants faster from the nursery view-point.

NURSERY PERFORMANCE OF SELECTED GARDEN ROSE ROOTSTOCKS

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Studies of rootstocks for hybrid tea roses were started at Oregon State University in 1948 and are still being carried out. The present report deals with a trial started in December, 1960, and completed in November, 1962.

In Oregon, California, and the Southwest rose growing areas, cuttings are used for rootstocks, while in the Northeast, seedlings of *Rosa multiflora* are used. In the past, mixtures of different *R. multiflora* types were used as rootstocks for hybrid tea roses in Oregon. At present, most rose growers in Oregon, as well as in Texas, are using clonal lines of *R. multiflora,* while in Arizona and southern California the variety, Dr. Huey is used. Growers in all of these areas have made rootstock selections. In addition to grower-selected lines, Dr. G. J. Buck at Iowa State University, Ames, has a breeding program to develop better rose rootstocks.

Cuttings of two California, one Iowa, nine Oregon, and four Texas rootstocks were used in this trial, which was started in December, 1960. Nine-inch cuttings, which had been disbudded so that only the top two buds remained on each cutting, were inserted so only the top inch of the cutting was exposed. Rooting took place in hilled-up rows in the field during the winter and early months of spring.

Telone, at 28 gallons per acre, was used in September, 1960, to free the field of nematodes prior to hilling up the rows. Simazin, at one pound per acre, was applied to these rows in November, 1960, to prevent the development of winter annual weeds. Additional applications of Simazin, at two pounds per acre, were made in May, 1961, October, 1961, and April, 1962.

Five hundred cuttings of each understock variety were ran-