

# Minnesota Nurserymen's newsletter

Prepared by  
UNIVERSITY OF MINNESOTA  
Institute of Agriculture

- Agricultural Extension Service
- Horticulture Department

In Cooperation with

- Minnesota Nurserymen's Association
- Minnesota State Horticultural Society



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## NEW AND WORTHWHILE BEDDING PLANT VARIETIES \*

Bruce Johnstone  
Northrup, King and Company  
Minneapolis

The word "new" relating to plants and varieties is always a rather relative one. It takes gardeners and the general public several years to accept and know the better, improved varieties. It seems to me exceedingly important that professional growers, especially, have available and push the usage of the better new ones both for their own direct concern and for the betterment of gardening in general. There is less wastage of seed, and the seed cost is but a small portion of the over-all expenditure in growing bedding plants.

To know and choose the better new varieties, a grower can watch the All-American Selection winners, observe seedsmen's trial grounds, consult gardening magazines and last, but not least, get reliable and good information from the horticulture department of our own University.

These new improved flower varieties are the result of many years' work and research by specialist flower seed breeders both in the United States and abroad. Some new varieties are the result of chance mutations spotted by expert plantmen, carefully tested, then selfed and isolated and finally grown as a crop. They are more frequently developed by careful crossing of known parents, selecting, purifying and testing the progeny that have certain traits the original parents did not possess. Many of the new, improved varieties are tetraploids, resulting from the colchicine treatment of seed or seedlings. These tetraploids usually have larger flowers, heavier stems, more closely set florets. Tetraploidy is effective on certain groups such as snapdragons, zinnias, alyssums, some petunias and evidently ineffective on many other groups. At present, the production of true F1 and F2 hybrids is producing more and more of the better new varieties particularly in petunias and snapdragons.

The trends in gardening tie in with the new and improved varieties. Currently, there is a very definite trend in usage for dwarf, miniature, compact bedding plants. This makes sense in that our architecture is low, rambling, one story, and the low type edging plants match that type of a home better than the tall, straggly varieties.

\* Taken from Minnesota State Florists' Bulletin  
April 1, 1958.

For Upper Midwest growers it is most important to emphasize varieties that are hardy to our high heat and low humidity in the summer; that are early maturing and fast growing to cope with our short growing season. It also appears that more good gardeners are realizing the importance of well chosen annuals as a necessary addition to the very best of basically perennial gardens.

A few random notes on some of the better varieties of the more common bedding plants.

● Ageratum. Blue Mink is a relatively new tetraploid ageratum that is moderately dwarf with very large trusses and good, deep blue flowers. It is quite uniform in habit and has a very sturdy, vigorous growth.

● Alyssums. Royal Carpet is still the best dwarf purple and Carpet of Snow the best dwarf white. There is a pink dwarf Alyssum coming out and being introduced in the 1959 season.

● Asters. Powderpuff Mixed is probably the best of the relatively new kinds for this area. The color range originally was not too good, but it has been much improved and its earliness, free-flowering quality, plus the attractive, highly doubled heads make it very worthwhile. Queen of the Market and Burpeeana are also fairly good here because they are considerably earlier than most other asters.

● Annual Dahlia. The annual dahlias have become more popular and deservedly so. Unwin's and Rainbow Mixture are easily grown, colorful and make a good display in one season. Fall Festival is similar to Unwin's except it has bronze foliage and a limited color range. Rainbow Mixture is similar to Unwin's but has a percentage of the red foliage types in the blend.

● Cosmos. The one new variety worth watching is one called, Mandarin. It is a deep orange yellow, very highly doubled and has a better plant and more attractive foliage than older types.

● Columbine. The new McKana variety is to be recommended because it has larger flowers, longer spurs and a good color range.

● Gloriosa Daisy. This is a relatively new tetraploid Rudbeckia brought out by Burpee a year ago. It has truly enormous, daisy-like flowers, 6 to 7 inches across, in shades and bicolors of yellow, orange, deep mahogany red and with brown centers. It is hardy, very tolerant to heat, drought and poor soils. It grows around 3 feet tall and does need a bit of

staking up, but makes a sensational display of mass color in the late summer and fall.

● Gomphrenas. Although the old type, Globosa, was always popular in the Midwest, two new dwarf, compact types which are very good for bedding and edging use because of their showy, heat and drought tolerance and retention of their color and bloom for a long period are available. Buddy is a dwarf, reddish-purple and Cissy, a dwarf white Gomphrena. Both are quite early to flower and look very attractive in flats. A mixture of the two is called Dot and Dash.

● Lobelia. Crystal Palace and Emperor William have been good standard varieties for some time. Now there is a good dwarf white, White Lady, in the same habit and, more importantly, a new type from England called, Rosamond, which is a crimson color in the same dwarf habit.

● Lupins. They do not do very well here because they burn up in our hot summer. For cooler areas such as around Lake Superior, Pixie Delight might well be worth growing. Pixie Delight is a very dwarf, early variety with a very beautiful color range.

● Marigolds. There are so many marigolds that we will have to mention only a few. Ruffled Red is one of the best and most unique of the dwarf French types with single ruffled red flowers piped with gold. Rusty Red (or Fandango) is a dwarf French, somewhat taller than the former, highly doubled and with mahogany red color. Tangerine is of the same habit as Rusty Red but with a deep orange color and very satisfactory. Petite Mixed is the All-American winner for this year. Extremely dwarf and early, it is available either in a mixture or in straight orange, yellow, golden or bicolor. Lemon Drop is still best as a dwarf miniature in light yellow, and Spry as a dwarf bicolor with yellow and red. Midget Harmony is a big improvement on the old Harmony, being much dwarf-er, of the same habit as Spry but with orange and red and bicolor. In the African types, Honeycomb is early, quite dwarf and a beautiful orange yellow with a tightly formed head and very free flowering and early. Crackerjack is perhaps the best African type mixture at the present time. It is similar to Sunset Giants but earlier, dwarf-er and bears its flowers more on top of the plants. Colors range from yellow, orange and golden. The Cupids have recently become popular and they are a true African but very dwarf in habit and almost comparable to the French types in size of plant. The dwarf Cupids come in yellow, orange, gold and mixture and make a very attractive bedding marigold.

● Nasturtium. In general, nasturtiums are not too well adapted in Minnesota but of all the varieties, the writer's favorite is Dwarf Cherry Rose. This is a true dwarf semi-double type with a brilliant cherry cerise flower and with the blooms appearing pretty much above the foliage.

● Pansy. In the pansies, try the new F2 hybrid mixture such as Masquerade (the larger flowered type) and Color Carnival, the slightly smaller flowered type similar to Swiss Giant. They do have hybrid vigor, beautiful color range, with good flower size. There is a new Dutch variety called Clear Crystals

with rather small flowers but the faces are clear with no blotching and they are very sharp and quite different from other types.

● Candytuft. This annual, of course, does not last long in Minnesota but it is extremely early and colorful for a short period. The new Dwarf Fairy Mixed is the earliest, dwarfest and perhaps the best color range of the candytuft.

● Celosia. The celosias have grown in importance and popularity greatly in the past few years. There has been a great deal of breeding and improvement work on the whole group. Forest Fire is perhaps the most sensational, new plumed type and has won great acclaim throughout the country wherever people have seen it in trial. Forest Fire is medium dwarf, has deep bronze-red foliage, bright scarlet-orange plumes, is very uniform and makes an excellent bedding plant. Fiery Feather and Golden Feather are a shade dwarf-er than Forest Fire and have light green foliage rather than bronze leaves. In the cockscomb class, Toreador is still excellent for a medium-tall scarlet. There is a new Dwarf Florist Strain of cockscomb, exceedingly compact, with a good color range which is very excellent for bedding purposes.

● Petunia. Most of the improved varieties for commercial growers are F1's and F2's. Maytime is the All-America winner this year, a very good Grandiflora ruffled pink. Red Satin and Comanche are still probably the best F1 scarlets. Red Satin may be a shade dwarf-er than Comanche and is supposed to hold its color better in the sun. Glitters is the best red and white bicolor and still much in demand. Flirt is an excellent very pale pink. Fairyland is very good for a medium light pink. Linda holds well as a salmon pink in the Multiflora and both Pink Satin and Peach Satin are exceedingly good in their respective colors. Fire Dance and Ballerina are also still worth growing and unique in their color and type. In Petunia mixtures there is almost no reason for a commercial grower to grow anything but an F2 Hybrid Mixture. The F2 mixtures still carry considerable hybrid vigor and produce more blooms on sturdier, compact plants over a longer period and have clear, bright colors in a wider range than open-pollinated kinds. The Multiflora mixtures are somewhat smaller flowered but carry more blooms per plant and hold up better under adverse conditions. The Grandifloras have larger individual flowers, less of them, and are more apt to suffer from excessive rain, wind or bad weather. The Multiflora mixture Crown Jewels has been improved considerably and this coming year will be very good. Colorama, Confetti and Bananza are also good F2 Multiflora mixtures. In the Grandiflora mixtures, Petticoat, Garnival and Symphony are all rather similar and very good. They, too, have more blooms, better colors, more uniform plants than open-pollinated mixtures.

We have pelletized some of the F1 and F2 hybrid petunias, especially for amateur growers, to make handling and planting the seed easier, eliminate some thinning and waste of seed. Quite a few commercial growers have tried the pelleted seed, and I believe will be more widely used as more growers try it.

● Phlox. Twinkle Star was All-American winner

## NEMATODES IN MINNESOTA NURSERIES \*

about a year ago but there was an acute shortage of good seed. Now there is plenty of seed and this dwarf, starred phlox will have considerable and well deserved demand. Globe phlox is also dwarf but with rounded petals and with a limited color range. Phlox Nana Compacta (Dwarf) Mixed is still extremely colorful and makes a beautiful edging plant if grown from a good stock.

● Pinks. The annual Dianthus such as Brilliant and Gaiety make very nice medium-height bedding plants in this area. Brilliant has the rounded petals and prominent eyes whereas Gaiety is smaller but with lacinate flowers and more solid faces.

● Sweet William. The new Wee Willie is having considerable demand. It is an annual flowering, exceedingly dwarf type growing about 4 inches and throwing first blooms at about 2 inches in the flats. Colors are shades and bicolors of crimson, pink, scarlet and white.

● Snapdragons. Panorama is a new excellent F2 mixture bred from Giant Colossal blood and should be very good for this area. Magic Carpet is a dwarf mixed snapdragon about 6 inches tall, adapted for edging and rock gardens.

● Salvias. St. John's Fire is probably still the most important dwarf scarlet variety. Blue Bedder is considerably taller but becoming more popular, especially because it is so good for cutting, is easy to grow and so different from the common red types. Pink Sundae is a new salvia with veined, magenta-pink upper foliage, with a fairly compact, uniform growth and quite interesting.

● Stocks. The new 7 weeks Trysomic Mixed is very heavily doubled and in a good color range. This is by far the most desirable stock for this short season area and one that can be grown here from plants with good success.

● Verbena. Verbenas are heat tolerant and do very well in this area. The Dwarf Rainbow Mixture and the Ideal Florist Strain are dwarfer and more compact than the older types and with better color blends.

● Vinca. Vinca is good as an edging plant and very tolerant to our rather adverse summer conditions in the Midwest. The new variety, Coquette is dwarfer than older strains and comes in a clear pink.

● Zinnia. Ortho Polka has been improved over the original introduction and with a much better color range. Ortho Polka is a large flowered, striped petal type in combinations of orange, red, pink and white. Peppermint Stick was the predecessor of Ortho Polka and is similar except with smaller flowers more in the Pumila size class. The Giant Fantasy variety, which is an improved cactus flowered mixture, is better now than ever because of the addition of new, sharp colors to the earlier limited color range. Considerable work is now being done on the dwarf zinnias, such as the Cupids and Tom Thumb. Within another year or so you will have available some very excellent, really dwarf zinnias.

During the past two years, 35 soil samples have been collected in Minnesota from poorly growing nursery crops. The findings are summarized in Table 1.

Helicotylenchus and Rotylenchus (Spiral nematodes). These genera, particularly Helicotylenchus, were very commonly found in soil and root samples collected from nurseries. In feeding habit, these animals are classified as ectoparasitic, although they often become partially imbedded in root tissues. Spirals were frequently associated with a maple decline often occurring in large numbers around diseased trees. They are believed to be one of the most important groups of nematodes in Minnesota.

Hoplolaimus (lance nematodes). Little is known about the damage caused by these large endoparasites. They were found in large numbers in roots of a poplar not making normal growth.

Meloidogyne (root knot nematodes). The disease known as root knot was observed only once in the nursery samples examined. However, it is believed to be more common than this figure indicated. Death of plants infected with root knot nematodes is common.

Paratylenchus (pin nematodes). Although frequently encountered, very little is known about pathogenicity of pin nematodes. In one sample, from a diseased pine, they occurred in large numbers.

Pratylenchus (root-lesion nematodes). Root-lesion nematodes are endoparasites and cause great damage whenever they are found. In this survey they were found in large numbers in roots of diseased alpine currant and lilac and may have been responsible for the damage.

Trichodorus (stubby-root nematodes). One ectoparasitic species of this group causes serious losses to a variety of crops in southern United States. Nothing is known about damage caused by stubby-root nematodes found in Minnesota.

Tylenchorhynchus (stylet nematodes). These animals are ectoparasites and occur very commonly throughout this area. Damage to nursery crops by these nematodes has not been investigated. In one sample from a peony planting exhibiting poor growth, large numbers of stylet nematodes were recovered.

Xiphinema (dagger nematodes). These large ectoparasites cause more damage to crops in the United States than any other single nematode species. Feeding by dagger nematodes kills feeder roots resulting in a slow decline and eventual death. In Minnesota nurseries, dagger nematodes have been associated with decline and dieback of ash, maple, and plum.

\* Completion of Paper 973, Miscellaneous Journal Series, Minnesota Agricultural Experiment Station by Donald P. Taylor. First section appeared in Minnesota Nurserymen's Newsletter, Vol 6 (No. 5 and 6) May - June 1958.

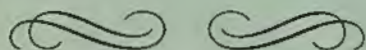
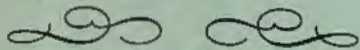


Table 1. - Plant parasitic nematodes associated with nursery crops in Minnesota.

Nursery Crop Samples	Total Number of Samples	Helicofylenchus	Hoplolaimus	Meloidogyne	Paratylenchus	Pratylenchus	Rotylenchus	Trichodorus	Tylenchorhynchus	Xiphinema
Alpine currant	3	2	1	-	3	1	-	-	1	1
Ash	2	2	2	-	2	1	-	-	2	2
Cedar	1	1	-	-	1	1	1	-	1	1
Clematis	1	-	-	1	-	-	1	-	-	1
Lilac	3	-	-	-	1	1	-	-	1	2
Maple	8	4	1	-	1	3	-	4	2	7
Mock Orange	2	-	-	-	1	-	-	-	-	1
Peony	2	1	1	-	1	1	-	-	1	1
Pine	4	-	-	-	3	1	-	-	3	2
Plum	3	-	1	-	2	1	-	-	2	3
Poplar	1	1	1	-	1	-	-	-	1	-
Rose	1	1	-	-	1	1	-	-	-	1
Spirea	1	-	-	-	-	-	-	-	1	1
Spruce	3	1	1	-	2	1	-	-	-	-
	35	13	8	1	19	12	2	4	15	23



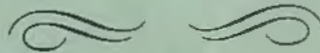
NURSERY DEALER INSPECTION

Walter P. Trampe, Supervisor  
Section of Nursery Inspection

Nursery dealer merchandising is rapidly changing and in order to remain effective, nursery inspection procedures must adapt themselves in such a manner that they can properly deal with this transition. In 1954 we had 348 certified dealers; that figure was increased to 540 in 1957. Many of the new dealers are super market and variety store operators who are not acquainted with the requirements of live plant material and how to keep it in good growing condition during the selling season. The use of canned nursery stock has had the general effect of lengthening the selling season, thus entailing increased nursery inspection time. During the 1957 growing season, heavy rains in some rose-growing areas aggravated fungus disease problems; this stock was offered for sale by our dealers during the past selling season. The packaged rose business has increased greatly and is an added problem in inspection work.

In an effort to deal with the problems regarding the nursery dealer and others which concern additional facets of pest control on nursery stock, the department has proposed a new law for action at the next session of the legislature. This law is not a cure-all for the many problems to be solved, but it is a starting point toward bringing our forces into line. Under the new law, we can promulgate rules and regulations with which we can establish various standards. For instance, we might wish to establish fungus disease tolerance levels on rose bushes. Most rose bushes are infected, therefore, it is necessary to allow the presence of disease lesions on the plants. However, under the new law, we could determine the extent of these lesions on or in the bushes before condemnation would occur. Likewise, we might require certain facilities for the proper handling of nursery stock. If and when rules and regulations are established under this new law to provide standards and specifications similar to the examples given, it is assumed that additional help will be made available to properly enforce a more complicated and extensive nursery inspection procedure.

There is no increase in certification fees suggested under this new legislation. Dealer fees were generally increased approximately 300% during the 1957 session. It is doubtful if nurserymen or dealers should bear any additional expense at this time. The service is partially for public benefit and perhaps any additional expense might rightfully come from regular tax channels.

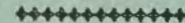


**Editors Comments**  
**R. J. Stadtherr**

PLANT PROPAGATION STUDIES

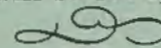
Your editor will be the guest editor for the fall edition of the Plant Propagators Society Newsletter.

If you are propagating difficult or unusual plant materials let us hear from you. Short articles of 50 words or more will be welcomed. All Minnesota members of the Plant Propagator's Society will be contacted soon for contributions. Articles on weed control, greenhouse cooling, mist propagation, understock studies and etc. are wanted.



SHADE TREE AND TURF CONFERENCE?

Are you interested in a shade tree and turf short course for two days next January? If so, let your editor know immediately. If sufficient interest is shown a program will be set up.



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