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EDITORIAL

ON TOUR

"ON TOUR" read the sign on the front of the comfortable North Island passenger coach in front of the Horticultural Building, Christchurch. Prior to the advent of the Cook Strait vehicular ferries, "Aramoana" and "Aranui", North Island vehicles were not seen here except when they left the body builders before their delivery voyage but now they are becoming an ever-more-frequent sight. Recently the Canterbury Horticultural Society had the pleasure of welcoming, entertaining and escorting members of an Auckland society during their two-day stay in Christchurch towards the end of their South Island tour. The northern society had wisely communicated with the main local society well before the start of their tour with the result that despite the Christmas and New Year break it was possible to make suitable arrangements for their entertainment and enlightenment. Visits to the Botanic Gardens and Lincoln College were followed by a tour of Christchurch which included prize-winning gardens.

This, of course, is by no means the first horticultural tour for many tours are made every year from short week-end tours to ambitious ventures by specialist societies and others that outdo Jules Verne's "Around the World in Eighty Days". We have seen Rhododendron Tours, Rose Tours, Western Australian Wildflower Tours, Nurserymen's Tours, Floral Art Cruises, Gardens of England Tours and many others. Lilies from Australia appear yearly at a Christchurch show and this traffic is not one way, whilst it is almost commonplace for judges from across the Tasman to officiate at New Zealand flower shows.

All this was inconceivable thirty years ago but with the advent of the long-haul jets Christchurch, Wellington and Auckland are nearer to Melbourne, Sydney and Brisbane than Perth is. On the national scene the provision of comfortable passenger coaches and the breaking of the Cook Strait barrier have made charter tours feasible and good value. Airlines play their part too, whilst for the shorter week-end jaunts for

small groups private cars fill the bill admirably. Whatever the economics of transport by road the provision of door-to-door transport does cater for passenger comfort. Not only is comfortable passage between the daily terminals provided but the same vehicle serves for local transport to places of interest.

All this is to the good of horticulture for not only is camaraderie and good fellowship the order of the day, but lasting friendships are made between individuals and horticultural organisations as well as valuable business contacts. We see how others live and there is a beneficial exchange of knowledge, methods and know-how. Of course many horticultural organisations, particularly specialist bodies, hold conventions or conferences in different centres from year to year and the R.N.Z.I.H. may claim to be a leader in this field for its Dominion conferences have been held for many a long year. Though primarily concerned with the serious business of the Institute it has its lighter side and provides opportunities for fellowship of the highest order.

As long as this world continues along relatively peaceful paths there is little doubt that horticultural tours will continue to increase in number and scope at an ever-quickening rate. There are lessons to be learnt in their organisation of course. They can be too ambitious in seeking to do too much in too little time, features of extreme horticultural interest have been overlooked, valuable contacts have not been made and too little time has been allotted to places of major interest. Public Relations Officers and Travel Agencies provide valuable services but why not take a leaf from the book of the North Shore Horticultural Society and write to the various local horticultural societies. There is no directory of New Zealand horticultural organisations but it is safe to venture that all but the smallest hamlet has at least a garden club. Local societies will be pleased to welcome you, escort you and entertain you and show you the horticultural highlights of their district if you give them the chance. What more could you ask?

Horticultural education is a vital interest of our Institute and this is one aspect of education that every District Council and every member may well foster.

JOHN GOVER

"TREES AND SHRUBS FOR YOUR GARDEN"

It is regretted that the address for obtaining the Proceedings of the above One Day Conference of the Canterbury District Council was omitted from page 4 of our last issue. This may be obtained from the Hon. Secretary, Canterbury District Council, R.N.Z.I.H., c/o Parks and Reserves Department, Christchurch City Council, Manchester Street, Christchurch, 1, New Zealand.

MT. SMART STADIUM—AN AMAZING TRANSFORMATION

By R. OTTAWAY, Auckland

Auckland has many interesting volcanic cones, but Mt. Smart with an Olympic-standard stadium in its crater must surely be unique. Although the hill's original height has been reduced to a 36ft rim around the crater, the royalties from the sale of more than 3 million cubic yards of scoria, have provided the finance to build this very fine stadium which is set among 5000 native trees.

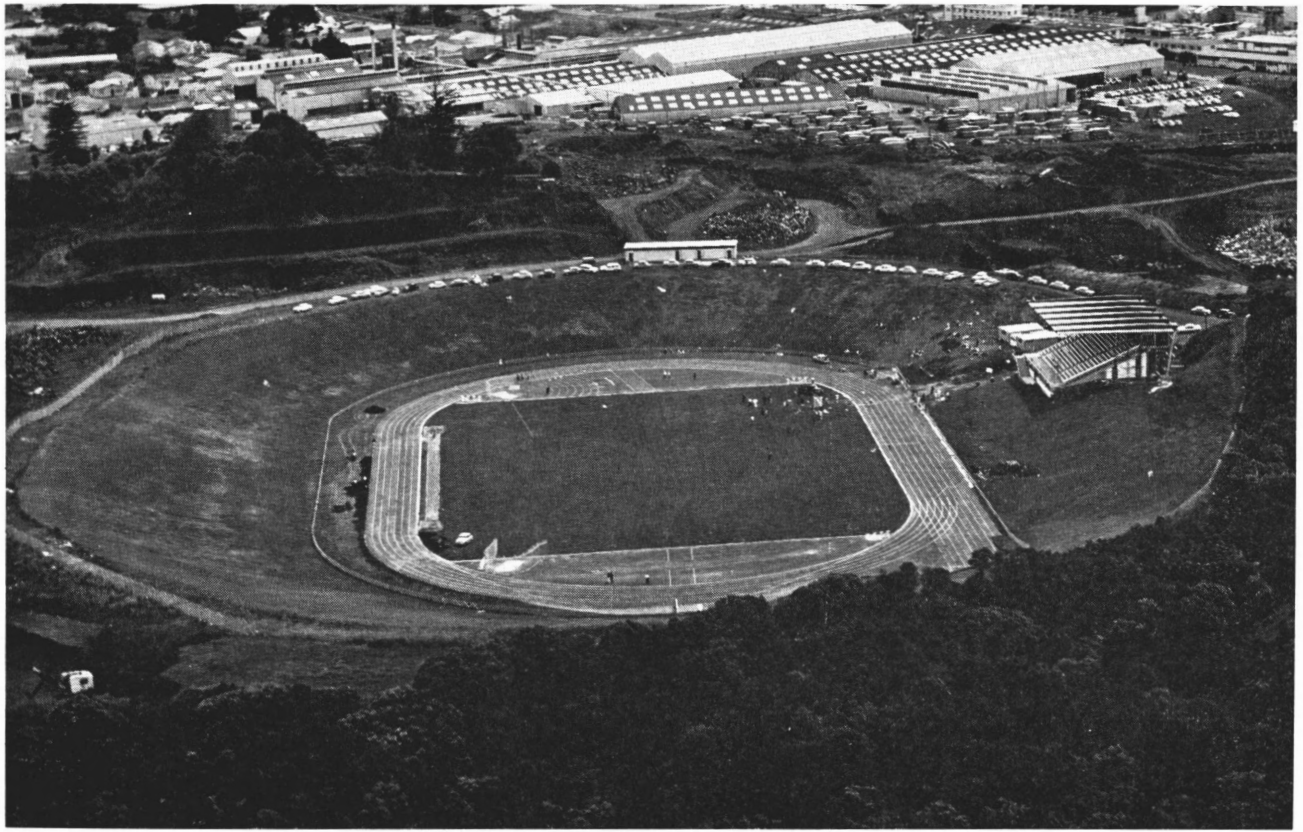
Mt. Smart, being the most southerly cone on the isthmus between the Waitemata and Manukau Harbours, was originally known as Rarotonga ("Down South") and was the site of a Maori pah in pre-European days.

This land was acquired by the Crown in 1849 for the nominal sum of ten pounds sterling and the domain which now comprises approximately 60 acres, is controlled by the Mt. Smart (Rarotonga) Domain Board under the chairmanship of Mr H. W. Beazley. For some years Mr Beazley was District Engineer for the New Zealand Railways and was noted for his interest in the beautification of Railway property. His interest in Mt. Smart stemmed from the fact that for many years the New Zealand Railways had been using scoria and "blue metal" from the area. In the 1940's he was authorized by the Board to present definite proposals for the development of a recreational park.

It so happened that also in the employ of the New Zealand Railways was an expert landscape gardener—Mr R. L. Thornton, A.H.R.I.H. (N.Z.), who was first asked to advise at Mt. Smart, then appointed Supervisor. He has devoted nearly thirty years to the tremendous task of developing this boulder-scarred mountain. The whole area was composed of scoria and basalt rock which responded only to gelignite. However, every inch of soil was conserved and gradually Mr. Thornton was successful in establishing hardy puriris and pohutukawas which in turn gave shelter to less hardy trees. He realized that this would take many years to achieve and that there would be many setbacks and frustrations, but he resolutely continued planting and replanting, working long hours, determined to see the completion of a stadium of which Auckland could be justly proud.

The dual motives for this project were the promotion of all sports and the introduction of many native trees and plants.

In order to simulate forest conditions a pipe line was laid among the trees with a connection every 120ft which enables sprinkler hoses to be used. This was also a safeguard against fire, but not against vandals who are a constant threat to all reserves. Mr Thornton travelled far afield to obtain native trees and ferns, even going to Karewa Island—



Mt. Smart Stadium. Spectator stand on right. Plantation of native trees in foreground. Industrial area in background.

Photograph—R. B. Croker.

seven miles out from Tauranga Harbour in order to obtain specimens of the rare asplenium ferns.

At the entrance to the Domain is a fine stand of Kawaka (*Libocedrus plumosa*).

Mr Thornton is of course, well known to thousands of New Zealanders through his radio talks on Gardening, which extended over thirty years. He is also a Past President of the Compost Society and has been a lecturer at Adult Education and University Extension courses. Although Mr Thornton suffered an attack of Thrombosis several years ago and was warned not to do anything strenuous, he is a man dedicated to this project and continues to work with unabated energy, hoping that another five years will see the final completion of the whole stadium area.

The long association of Mr Beazley and Mr Thornton has produced results which were dismissed as impossible by many people at the first discussions of the scheme.

In 1960 the Amateur Athletic Association decided to make Mt. Smart their permanent headquarters and as excavation reached final stages, the Association's survey was engaged for detail finishing. The Consulting Engineer, assisted by Mr Thornton, supervised placing of sub and top soil, which was then sown and fertilized. In 1966 the cinder track was laid in accordance with Olympic specifications. Due to the untiring efforts of Mr F. D. Sharp, President of the Association and his voluntary workers who spent 18 months at Mt. Smart, every week and week-end, the track was completed.

The Stadium was officially opened on March 11th, 1967. The "all-weather" track cost £10,000 and is said to equal any other such track anywhere in the world. New Zealand's most famous athletes have performed here, and during the summer months it is regularly used on two nights every week as well as on Saturdays and Sundays. During the winter it is the venue for Soccer matches.

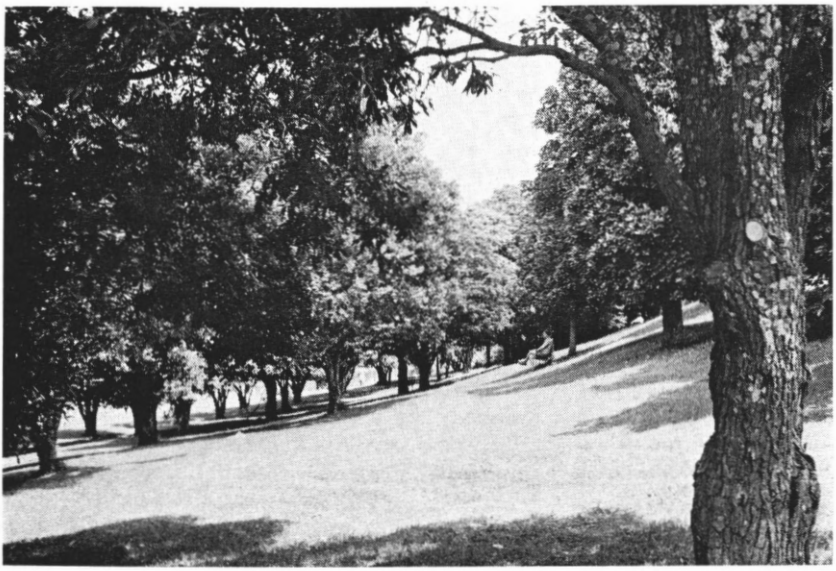
A most impressive spectator stand was erected at a cost of £70,000. An unsual feature is the folding seats which remain drier and make for easier movement on the stand. There is every modern facility for sporting bodies. The changing and shower rooms are formica-lined with stainless steel and aluminium fittings. "See-through" lockers lessen the chances of theft. A spacious lounge with seating for 200 is used by Auckland Athletic Association members and on the walls are displayed photographs of their teams at Olympic and Empire Games over a long period of years.

There is also a very handsome Board Room—grey carpeted with dark blue upholstered furniture.

On the next floor are rooms for T.V., Radio, and Press representatives and photographers, all commanding a comprehensive view of the whole arena. Also, separate rooms for First Aid and equipment. Plans

Part of the Fernery at Mt. Smart Stadium.

Photograph—R. B. Croker.



The well-established plantation on the southern slopes.

Photograph—R. B. Croker.

are being drawn for a large cafeteria-cum-social room some time in the future.

At the present time new football fields are being excavated at 100ft level and eventually there will be 23 acres of parking space between Beazley Avenue and Maurice Road. This area will be sheltered by a belt of native trees which will also give a most attractive appearance to a normally barren space.

Also planned is an Indoor Stadium covering more than two acres, which will enable any sport to be played indoors. This will be so built that there will be no obstructing spans.

The completed Stadium complex, which will hold 100,000 people, could in the future become the greatest sporting centre in the Southern Hemisphere.

This project should be inspected by all visiting horticulturists, sportsmen and all devotees of our native flora. In common with Eden Garden it shows what may be done with what would otherwise become waste or despoiled areas.

The use of our own flora is to be encouraged in the environs of facilities such as this which serve as a mecca for overseas sportsmen and other visitors.

Finally readers will have noted that Mr Thornton was the recipient of the M.B.E. in the New Year Honours list. A resume of his accomplishments may be found in the Journal for March, 1962.

GUNNERA TINCTORIA AND GUNNERA MANICATA

By W. R. SYKES, N.D.H., B.Sc. (Hons.), Botany Division, Department of Scientific and Industrial Research, Lincoln.

There are two large species of *Gunnera* cultivated in New Zealand and *Gunnera tinctoria* (syn. *G. chilensis* or *G. scabra*) is seemingly the commonest. The accompanying photograph from the garden of Mr L. H. Boisen of New Plymouth (Fig. 1) shows a particularly large plant. The total height was 8ft and the dimensions of the large leaf on the right were 5ft 6in long x 7ft wide. The petioles of *G. tinctoria* are covered with short prickles which are often red. In New Zealand at least the main leaf veins are also usually reddish. The large compound inflorescence seen below has a main axis several feet high from which arise lateral or side branches bearing a huge number of tiny flowers. The flowers are hermaphrodite or unisexual to varying degrees and each has a rudimentary perianth consisting of minute sepals and with or without petals. There are one or two stamens, two styles and the inferior ovary has one ovule. Both leaves and inflorescences grow up from a thick rhizome which is covered with fibrous scales.

The other large species is *Gunnera manicata* (syn. *G. brasiliensis*) (Fig. 2). This south Brazilian species can grow even taller than its Chilean relation but it looks very similar and is often mistaken for it. Again the great leaves and compound inflorescence arise from a rhizome, which is usually said to grow much longer than that in *G. tinctoria*. This is often not easy to judge and an easier distinguishing character, when the two species can be readily compared, is the thicker and more massive rhizome of *G. manicata*. The leaves of the latter are broader in proportion and have a flatter surface to the blade than those in the other species. Although the Royal Horticultural Society's Dictionary of Gardening and Bailey's Manual of Cultivated Plants state that the leaves of the Brazilian species are peltate, i.e. the petiole does not join the blade at the margin, I have never seen a plant in New Zealand with this character. A better distinguishing character can be found in the large laciniate or jaggedly cut scales at the base of the leaves and inflorescence. In *G. manicata* there is a prominent development of membranous "webbing" between the main lobes of the scale whereas in *G. tinctoria* this is not well developed and so the lobes are often almost free to the main rachis of the scale.

However, the best characters for distinguishing the two species are the different lengths and thicknesses of the inflorescence branches. As a result of these differences, the inflorescence of *G. manicata* appears to be more open than that in the Chilean species (Figs. 3 and 4). Branches from plants of the two species growing side by side in the Christchurch Botanic Gardens were measured in November when the actual flowering

Fig. 1—*Gunnera tinctoria* in the garden of Mr L. H. Boisen at New Plymouth.
Photograph—L. H. Boisen.

Fig. 2—*Gunnera manicata* in the Christchurch Botanic Gardens.
Photograph—D.S.I.R., Lincoln.

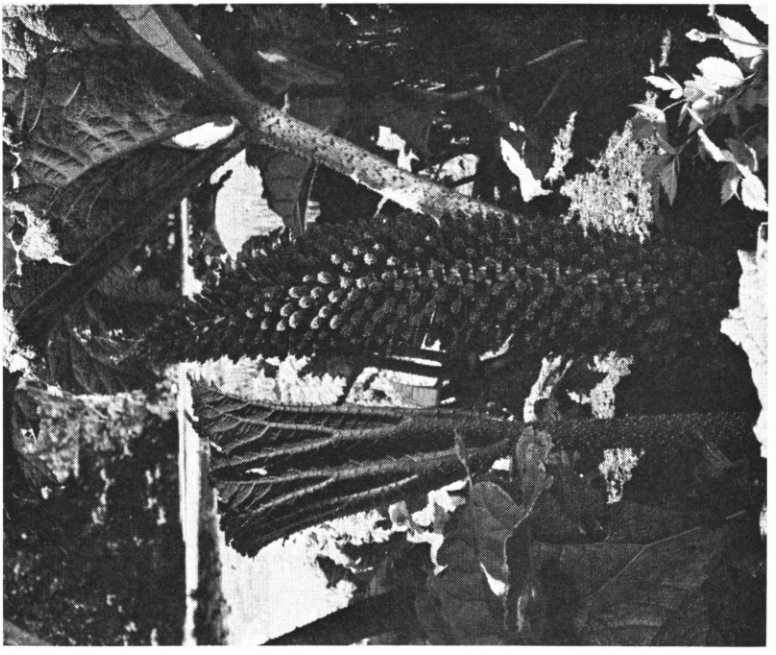


Fig. 4—Inflorescence of *Gunnera tinctoria*.
Photograph—D.S.I.R., Lincoln.

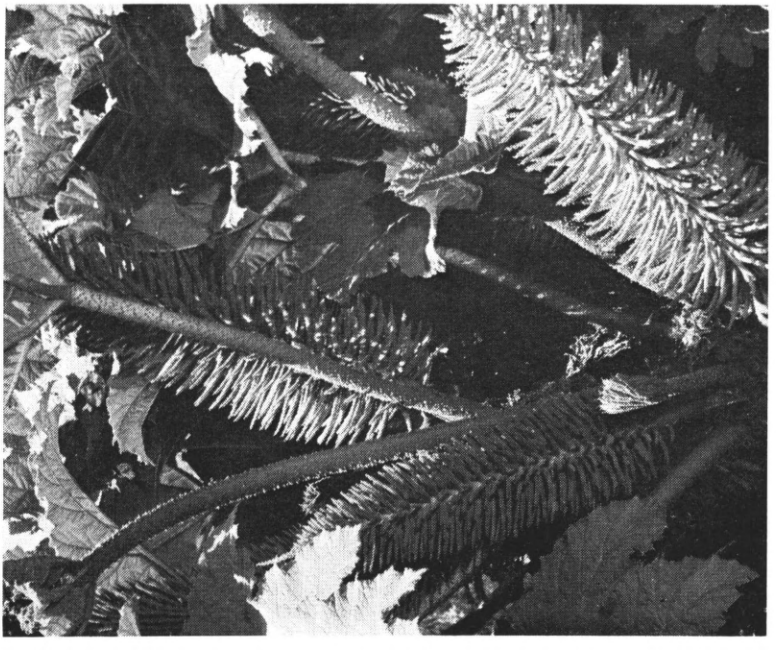


Fig. 3—Inflorescences of *Gunnera manicata*.
Photograph—D.S.I.R., Lincoln.

period was nearly over. At this stage, the old flowers of *G. manicata* were green whereas those of *G. tinctoria* were reddish-brown. The following figures were obtained:

	Gunnera tinctoria	*Gunnera manicata*
Diameter of central part of main inflorescence axis	4.0-4.5cm	3.0-3.3cm
Length of typical inflorescence branches from about half way up the main axis	5-7cm	9.5-11cm
Diameter of central part of the typical middle inflorescence branches	5-7mm	3-4mm

In New Zealand it seems that *G. tinctoria* is often confused with *G. manicata*. As already stated, the Chilean species seems to be commoner than the other. Both are usually grown in moist places near lakes or streams and I have not noticed much variation in either of them. Thus it is possible that only one introduction of each was made into New Zealand. In colder parts such as the eastern and southern areas of the South Island plants of both species are deciduous and lose their leaves with the first sharp frosts. During the winter, the large brown scaly resting buds are the conspicuous feature. In the warmer parts of the North Island the species are incompletely or not deciduous.

These two large species of *Gunnera* contrast greatly with the diminutive prostrate rosette and creeping plants, sometimes with leaves less than 1in long, which also belong to the genus. The majority of the other South American species as well as all the 10 native New Zealand ones are like this. In addition there is one small species of *Gunnera* in Tasmania, one or two in southern Africa and Madagascar, several in the mountains of Hawaii and a larger one in Malaysia and the Philippines. All our native species have a creeping or stoloniferous habit and the most attractive features are the erect fruiting spikes. Probably the best in this respect is *G. prorepens* which has spikes of succulent little red drupes, but others have paler fruits and *G. albocarpa* even has white ones. It is interesting that even *G. tinctoria* and *G. manicata* have individual drupes which are not appreciably larger than those of our native species although the complete fruiting spikes of the latter are so diminuitive in comparison.

I am grateful to Mr L. H. Boisen of Seaview Road, New Plymouth for sending specimens and a photograph of his plant; to Mr Geo. Dean, Director of Parks and Reserves, Auckland City Council, to Mr L. J. Metcalf, Curator of the Christchurch Botanic Gardens, for permission to take specimens, and to Mr J. S. Cocks of the D.S.I.R., Christchurch, for taking the rest of the photographs.

WILD ROSES OF NORTH AMERICA

By NANCY STEEN, A.H.R.I.H. (N.Z.), Auckland.

Many of the hardy wild roses are highly resistant to disease, notably black spot. Unfortunately, these roses flower only once in the season, and their blooms are generally single with thin-textured petals. In spite of this, many wild roses of North America make admirable garden plants for use in shrub borders, or that odd, difficult corner. For, not only are they healthy—a fine attribute—they have attractive foliage which, once the blooming season is over, produces lovely autumn tints. Add to this gay heps, which persist for a long time, and you have attractive, worthwhile and easy plants.

Because of these qualities, rose breeders in Canada and parts of the United States are experimenting more and more with their wild roses crossed with the equally hardy, but perpetual-flowering Rugosa Roses from the northern parts of Asia. The results of these crosses are then being crossed again with China, Tea, and often Floribunda Roses, in the hope that disease-free, hardy and floriferous roses may, in time, appear.

Long before we visited North America, we had become interested in the wild roses of that area. Gifts from other rosarians, one collecctd from an old cemetery, and some imported, either as plants or in the form of seed, now make up our very small, but interesting, collection Perhaps because of the severity of the climate in the areas where these roses grow wild, we find that they all flower rather late in the season. In fact, *Rosa setigera,* the Prairie Rose, never flowers with us before February. Because of its extreme vigour, we trained it along a fence. When other summer-flowering climbers are over, this wild rose produces a mass of blooms, and American visitors who see it are always intrigued to find it doing so well in our humid climate. Over a hundred years ago, a number of hardy climbers were bred from this rose, 'Baltimore Belle' and 'Queen of the Prairies' being two of them. These appeared long before the first hybrids of *R. multiflora* and *R. wichuraiana.* The sprays of vivid cerise flowers on *R. setigera* soon pale to lavender-pink. Glorious stamens, surrounding a pronounced style, add quite a glow to the bloom; and the three-foliate leaves, grey-green in colour, are reminiscent of those of the wild blackberry—the prickly stems being bramble-like also.

Rosa palustris requires plenty of moisture as it inhabits swampy areas. The upright, reddish stems have bristles and straight thorns—the leaflets, seven to nine in number, being long and narrow. From elegant buds appear clusters of pink blooms. Like those of other American species, the petals are thin, and, in a bad season can suffer from storm damage; but a perfect spray is really lovely.

Rosa setigera, or Prairie Rose.

Photograph—Nancy Steen.

An awkward corner in a raised bed is now well covered with healthy, suckering plants of *R. virginiana.* The shiny foliage of this rose turns to vivid colours in the autumn; and, when the leaves finally fall, the thin, reddish-brown stems are still well clothed with persistant, round, red heps. A sharp spade soon gets rid of any surplus suckers. which can appear even through a rock wall.

The old Grafton Cemetery in Auckland, now being torn up to provide space for motorways, was a happy hunting ground for old rose collectors. A wide roadway, Symonds Street, runs through the centre of it, dividing the Church of England, military and naval areas from the Roman Catholic, Presbyterian and Jewish plots across the busy roadway. It was in this last area that we came across a most interesting find on an old grave dated 1881. The rose, being unknown to us at that time, we set out at once to have it identified. Acting on some sound advice, we sent colour slides, pressed specimens, and botanical descriptions to Mr Wilson Lynes of the United States—an authority on North American wild roses, as we felt that our find belonged to this group. Mr Lynes said at once that we had found the now rare form of *Rosa carolina plena.* He and his wife had only recently re-discovered, on the site of an early homestead, this lovely rose. It was growing deep in a hedge of lilacs and snowberries, spreading and suckering out into the nearby meadow. And in the cemetery, this

was just what *Rosa carolina plena* was doing, suckering out into the grassy verges. American rosarians were greatly excited about their find, so were quite amazed to find we had a plant of this rare rose in New Zealand. Until recently, we had heard of no other stand of this wild American rose in the country; but an observant gardener living on the West Coast of the South Island, came across a lovely rose, and at once linked it up with the description of *Rosa carolina plena* in my book. So up came photographs and a spray of leaves and flowers of the actual rose. These matched perfectly with those on our plant, so this was really exciting. But we would like to know just how such a now rare rose found its way out to this remote country in the South Pacific; and certainly it really was remote nearly a hundred years ago.

One of the most delightful roses in our collection is 'Rose d'Amour' or 'Count d'Orsay's Buttonhole Rose'—a real charmer, which we imported many years ago. We are informed on good authority that it is a hybrid between *R. virginiana* and the double form of *Rosa carolina*. It was introduced into Europe long ago and quickly became popular, especially so in France, where Count d'Orsay—a distinguished man of letters and a Director of Fine Arts during the Third Empire— delighted to wear this loveliest of all rose buds in his button-hole. The shiny foliage is an inheritance from *R. virginiana*, while the double, rose-pink blooms favour those of *R. carolina plena*, though a little smaller and deeper in tone. The rose now suckers freely at the back of a rock garden and intermingles with *R. foliolosa*, from the same area. Pretty grey-green foliage, pink tinted in the young growth contrasts pleasantly with that of its neighbour. This little rose is a shy bloomer; but this season, a wet one, saw it producing far more of its single pink, but fleeting, flowers than usual.

At the Villa Taronto, a magnificent garden on the shore of Lake Maggiore in Northern Italy, we were to see, for the first time, *R. nitida*, a low-growing rose native to New England, Newfoundland, and eastern Canada. Its shining leaves on upright bristly stems, and gay flowers of a very bright rose created a lovely picture. As the bush was only eighteen inches in height, we realised at once that it would make an excellent plant for a rock pocket, so seed was imported which a kind friend planted for us. Three plants came up; but only one survived the first hot summer. However, the third one is now thriving to our joy.

Unfortunately, we did not succeed in striking cuttings of two other wild American roses generously sent to us by gardeners in the Wanganui district. These were *R. nutkana* and *R. pisocarpa*. Now we hope that, in the future, some of the new crosses being derived from these hardy roses come our way and give gardeners new and easy garden treasures.

BROUSSONETIA PAPYRIFERA

An unusual case of sex reversion

By W. R. SYKES, N.D.H., B.Sc. (Hons.), Botany Division D.S.I.R., Lincoln.

The aute, tapa plant, or paper mulberry, belongs to the family Moraceae (Fig. 1). In 1963 three young plants were obtained by courtesy of the Director, from the Christchurch Parks and Reserves Department's nursery at Linwood and were planted out in an open site at Prebbleton, Canterbury, a few miles away. When they flowered two years later each bore male catkins only (Fig. 2). In this species these are pendulous and are composed of many small flowers, each with a tiny perianth and four stamens. *Broussonetia papyrifera* or aute is a dioecious species with flowers lacking the rudiments of the opposite sex. This is an uncommon condition in dioecious plants. The following winter two of these aute plants, now medium-sized shrubs, were removed and relegated to a remoter part of the garden. One was put in a very dry fairly sunny place and the other in a partially shaded, relatively moist position. Both were pruned at the time and the second one was also damaged shortly afterwards by a falling tree.

During the next season (1965) all three plants flowered again, but the one removed to a partially shaded site only produced the distinctive globular female inflorescences with tightly packed small inconspicuous purplish-green flowers, each with a prominent, slender, feathery stigma (Fig. 3). Cases of sex reversion have been reported in various dioecious species (nearly always of male plants becoming female) but I have not found any records of it occurring in *Broussonetia papyrifera*, although it has been for the closely related *Morus alba*, white mulberry, and the fairly closely related *Cannabis sativa*, Indian hemp or marijuana plant: see the account in Menninger's interesting book "Fantastic Trees" (1967 p. 160). Like the aute, hemp has completely unisexual flowers but unlike aute it is one of the best studied plants in respect of the sex reversal process. It has been found by experiment with hemp that male plants can be stimulated to produce all female flowers by subjecting them to special temperatures or giving an auxin hormone just prior to the onset of the flowering period (Heslop-Harrison 1959). Often such artificially changed plants revert to the normal sex after cessation of the treatment. My aute has so far produced only female flowers for four successive years, the last one being after removal to a third site. It is of interest that Correns (1928) found that such factors as restriction of growth, reduced nutrition, and above all a reduction in light intensity, caused a change in sex expression in the partially dioecious labiate, *Satureia hortensis*, summer savory. These factors are all involved in the treatment given to this aute as noted above. Cases

Fig. 1—*Broussonetia papyrifera.* Foliage on male plant.

Photograph—D.S.I.R., Lincoln.

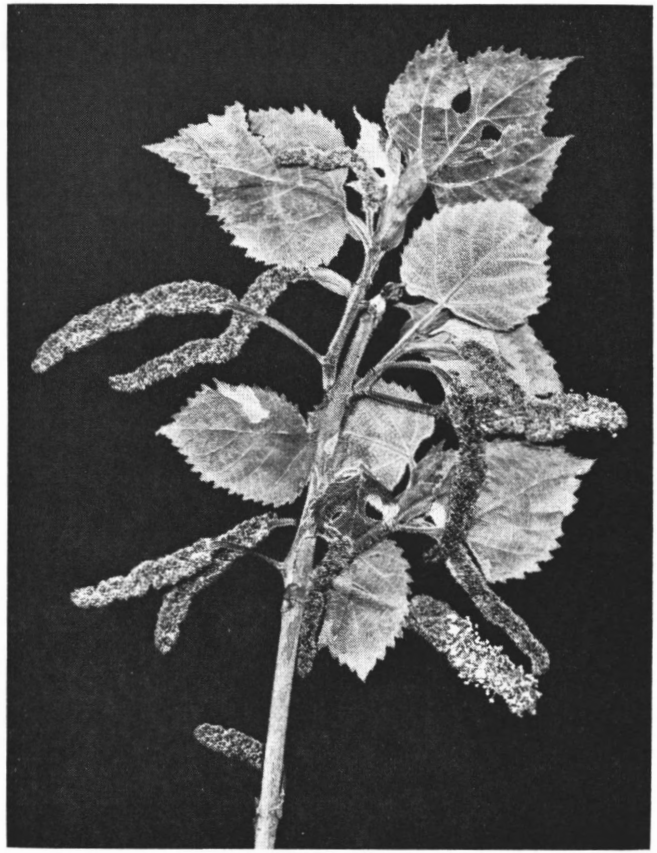


Fig. 2—*Broussonetia papyrifera.* Male catkins.

Photograph—D.S.I.R., Lincoln.

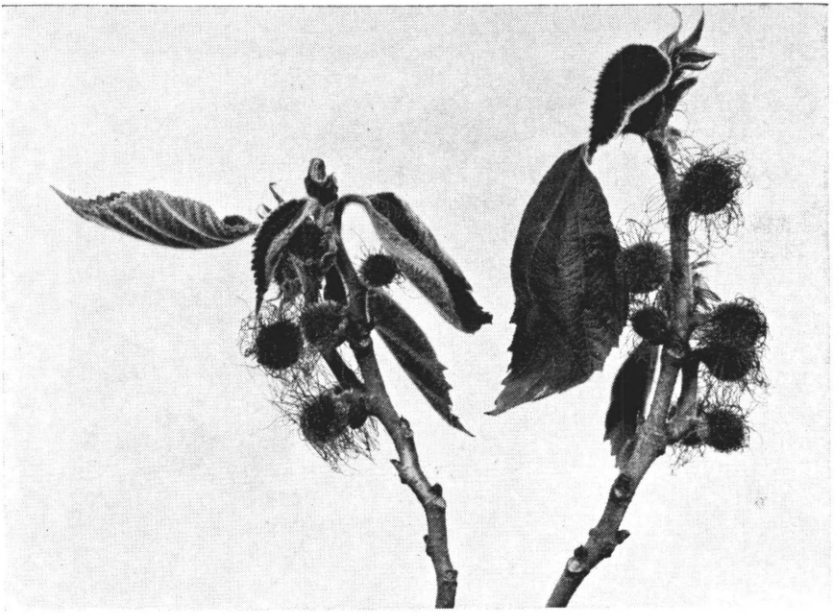


Fig. 3—*Broussonetia papyrifera.* Female inflorescences.
Photograph—D.S.I.R., Lincoln.

of sex reversion have mostly been experimentally produced but the last named author recorded a tree of *Pisonia ambigua* which suddenly produced female flowers after having borne only male flowers for 35 years.

Although my changed plant was only about 20 yards from one of the two male plants it formed no fruits for two years. In 1967 I hung male catkins near the female inflorescences and early in 1968 fruits were formed, presumably after wind-pollination. On April 27th, the first signs of the orange drupelets were noticed amongst the persistent perianth and a week later many of these had fully developed and then protruded several millimetres from the globular syncarp (Fig. 4). A single seed was present in the apical part of each drupelet and later some of these germinated successfully. This fertility in a completely dioecious species is in contrast to Correns' (1928) cases of sterility after sex reversions in what may be termed sub-dioecious species; i.e. plants which are not completely unisexual.

Distribution of the Aute

Broussonetia papyrifera is indigenous to Japan and China and possibly areas to the south, and my plants were raised from seeds imported from Japan. In addition, the species seems to have been

Fig. 4—*Broussonetia papyrifera.* Fruits showing mature drupelets.
Photograph—D.S.I.R., Lincoln.

carried through the tropical Pacific in prehistoric times by migrating peoples. Its well known bark provides the tapa cloth which was once so important for making clothes in the Pacific islands. Thus inspite of the distribution as given in many books, the aute is not a tropical plant and it is noteworthy that it tends to die out in hotter climates unless actively cultivated. It was reported as having markedly decreased in many places from Malaysia eastwards by Merrill (1954) and I recently found that on Niue it has become extinct. Although this suggests that the aute is not completely adapted to the tropics, it has to be pointed out that plants brought to New Zealand from the north by the Maoris did not thrive here. Presumably this was because the stock could not tolerate the cooler climate so well by then. Thus when Captain Cook visited the Bay of Islands the aute was very rare and he was especially taken to see the few plants that were still growing.

Recently I have tried in vain to locate any aute which may belong to this old Maori stock.

The occasional plants now to be seen in botanic gardens and parks in New Zealand have been either directly or indirectly grown from imported stock. It has long been known as a cultivated hardy shrub or small tree in many parts of Europe, including Britain, and the U.S.A. In the latter country it is also said to be occasionally naturalized (Rehder 1947, pp. 190-191). Presumably the original stock which was introduced to this region came from China or Japan or both countries and, in turn, there were probably several introductions from Europe or North America to New Zealand.

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PLANT RAISERS' AWARD

Nominations for the above Award for 1969 are now invited and may be submitted to the Dominion Secretary of the Institute, P.O. Box 450, Wellington, by June 30 (closing date).

The Award is granted to individuals or organisations duly nominated, who have raised in New Zealand a cultivar considered to be sufficiently meritorious.

A cultivar is an assemblage of cultivated plants which are distinguished by any character significant for the purposes of horticulture and which, when reproduced sexually or asexually, retain their distinguishing features. The terms cultivar and variety are exact equivalents.

Any District Council of the Institute, or any Horticultural organisation affiliated, or any incorporated horticultural society, may submit nominations.

Conditions of the Award may be obtained from the Dominion Secretary of the Institute.

PLANT RAISERS' AWARD

PHORMIUM 'SMILING MORN'

raised by WALTER B. BROCKIE, Nelson.

In an attempt to increase the range of coloured leaved forms of New Zealand Flax (Phormium spp), Mr Brockie, in 1940, collected and sowed seed from what he describes as 'an attractive red and bronze variegated flax'. This plant was selected from amongst others growing, at that time, in the Cockayne Memorial Garden, of Christchurch.

About 2,000 seedlings developed from this sowing, but only two of these plants showed a definite colour break from other progeny. One of these plants showed clearly a bright pink banding in the foliage and despite the reduced number of chloroplasts present in the leaf area Mr Brockie successfully raised this seedling into a plant of flowering size. Floral and fruit characters are indicative of this plant being of hybrid origin between the two species of Phormium present in New Zealand, namely *Phormium tenax* and *P. colensoi.*

The degree of pink colouration, though always present, is somewhat variable but, as a general rule, adult plants of 'Smiling Morn' produce young leaves that are wholly pink, or pink banded bronze to purple. As the leaves increase in size the pink colouring becomes less intense, gradually being replaced by purple tones, which in turn fade to green. In old leaves the pink pigmentation is evident only on the leaf margins, the main surface area being then variegated—green and cream.

Another asset of this fine plant is the fiery orange coloured outer segments of the flower buds—darkening with age. These show up conspicuously against the reddish purple, tall flower stems.

Subsequent efforts to raise this cultivar from seed collected from self-pollinated flowers is seemingly impossible, but the comparative ease of vegetative propagation, by division, enables a gradual build up of stock to be accomplished.

Phormium 'Smiling Morn' is tolerant of a wide range of soil conditions and is eminently suitable for growing as a specimen plant in a container, or in open ground in a rock garden, shrub border, etc. The plant is also prized for its use in floral arrangements and has perhaps the most highly coloured foliage of any herbaceous cultivar native to New Zealand.

CITATIONS FOR THE AWARDS OF ASSOCIATE OF HONOUR

MISS JOAN MARJORIE DINGLEY

(Nominated by Auckland District Council)

After graduating Master of Science at the University of Auckland in 1939, Miss Dingley took up an appointment in the Mycology Section, Plant Disease Division, D.S.I.R., which position she still holds.

Miss Dingley joined the Royal N.Z. Institute of Horticulture in 1959 and has since been a most active member, particularly in the Auckland District Council Executive.

Since 1966 Miss Dingley has represented both the Auckland District Council and Plant Diseases Division at Dominion Council and Conference Meetings of the Institute. For the past five years she has been an Examiner for the Institute's Diploma Examinations and since 1966 a member of the Institute's Examining Board.

Since the sub-committee for the Award of Garden Excellence Committee was established in 1965, Miss Dingley has played a major role in its work of each year collating horticultural details from various centres throughout New Zealand on several dozens of nominated plants, assessing the merits of each, and finally recommending a short list of plants each year for the Award. Then has followed the publication of this list in the Institute's Journal, and this has been the work of Miss Dingley personally, as convener of this sub-committee.

Miss Dingley's main interests are horticulture and plant diseases. She has written a number of papers on the subject of Plant Diseases and in 1969 her Bulletin, "Records of Plant Diseases in New Zealand", will be published. This book will bring together 892 diseases (fungous, bacterial, virus, nematode and physiological) on 1070 host plants.

MR MERVYN EVANS

(Nominated by Wellington District Council)

(It is with great regret that we have to advise that Mr Evans passed away on the 14th February and that this Award had to be made posthumously.)

Mr Mervyn Evans built a house in Sefton Street, Wadestown, in 1928, and laid out a garden. From that time to the present day as he gained experience of gardening in Wellington so he has kept records in one form or another which he has willingly made available to large numbers of gardeners both professional and amateur. He early developed a special interest in roses but he has also grown collections of such subjects as fuchsia, dahlia and hyacinth, keeping them labelled and always available for providing his gardening friends with cuttings and bulbs. Generous with these material gifts, Mervyn Evans has also

demonstrated to a high degree that characteristic which marks our great garden lovers; the willingness to share his knowledge with any who have sought his advice.

Horticultural societies have received much from Mr Evans and he has served a number of these with regular membership over a period of nearly 40 years. He has held high office with distinction, has been diligent in attending meetings and has been helpful in administrative matters.

With the late Mr Charles Grant he helped in the establishing of a garden competition for Disabled Servicemen and travelled Wellington and the Hutt Valley judging their gardens and helping and advising where such help was needed and so readily appreciated.

A short history of Mervyn Evans' work with Horticultural Societies should begin with his local Wadestown which he joined in the early thirties. He has continued over the whole period to exhibit at their shows, winning in the 1940's the Alec Young Rose Bowl and then instituting a trophy of his own. He has served this organisation as Vice President for many years. His support soon extended to the Wellington Horticultural Society and, representing the Rose Society, he was put on their executive council and as recognition of his services was made a Life Member in 1963. He has been for many years a faithful member of the District Council of the R.N.Z.I.H., being elected a Fellow in acknowledgment of his interest and activity.

Mr Evans developed a special interest in the growing and exhibiting of roses, and today his name is known to every member of the National Rose Society, the largest specialist horticultural group in New Zealand. As a foundation member of the Wellington Rose Society he did much to bring this organisation into being and came to know every grower of show roses in the area. When the National Rose Society moved its headquarters to Wellington in 1948 Mervyn Evans began his work on its councils and has given concentrated and devoted service to this organisation up to the present time. Perhaps his greatest contribution in writing and editing has been made through the National Rose Society's Annual. Mervyn Evans served first as New Zealand editor when this publication was still a shared responsibility with the Rose Societies of Australia. For the last 6 years after it became the publication of the N.R.S. of New Zealand alone, he has built the Annual up to a standard where it now has a world wide reputation. Mr Evans has edited and contributed to a Rose Newsletter and is known to all readers of the New Zealand Gardener for his frequent articles and reports on the subject of roses.

This brief history of a career devoted to the interests of horticultural groups in the Wellington area is in itself worthy of recognition by the awarding of the highest honour but it is true to say that Mr Evans

greatest service has been rendered through his painstaking and long hours of work in establishing for the National Rose Society its Review of Newer Roses. During 1954 the executive of the N.R.S. agreed to promote a system which with the assistance of many leading growers might provide a sound indication of the best of the newer rose introductions when grown under N.Z. conditions. Dozens of newly raised cultivars are introduced into N.Z. from many different countries and it becomes a problem indeed for a home gardener to decide which he should order for planting. The basis of the review that has been instituted is the selection of growers in the different districts throughout N.Z. who are prepared to fill out a detailed form giving the data of performance of the newer roses in their gardens. Each year up to 80 growers return reports on 142 varieties. All these reports are then collated by Mr Evans and average ratings are worked out for each variety. After 5 years of consecutive reports each variety receives a final rating which gives a very accurate picture of its performance in New Zealand. Mr Evans has given to this task long hours of painstaking work and original thought, and maintains a correspondence with growers that they always find helpful and to which they willingly respond. Receiving report forms and replies to letters with their comments has meant that a large amount of knowledge about growing roses in N.Z. has been built up. Comparison in performance can also be studied in roses produced by different breeders who are working in different countries around the world and who are sending their cultivars to New Zealand. All this is additional information available now to rose growers everywhere and is shared through Mr Evans' world-wide correspondence with internationally famous rose people.

All work undertaken by Mr Mervyn Evans is executied with the greatest care for detail, and extensive records carefully maintained will remain to tell the story of the great volume of work he has done for horticulture. In executive positions, on committees and in all his correspondence, all who have had any dealings with Mr Evans speak of him as one of horticulture's true gentlemen.

LODER CUP COMPETITION

Nominations for this coveted award for 1969 will close with the Secretary of Loder Cup Committee, P.O. Box 450, Wellington, on June 30. Conditions of the award may be obtained from the Secretary.

The award is made to encourage the protection and cultivation of New Zealand's native flora.

Nominating bodies are urged to submit nominations to the Committee who would welcome enquiries from all interested persons.

THE FLOWER ARRANGER'S GARDEN

By MARGARET WATLING, Halswell

The art of flower arrangement invariably stimulates an interest in growing material for this work, with particular emphasis on the form, colour, texture and lasting qualities of the flowers or foliage concerned. When home decorations are the aim, colour harmonies will be selected to complement the interior decoration schemes, whereas show work calls for a wider range of colours.

The flower arranger's garden therefore will probably consist of two types of plantings—an area set aside purely for 'picking' where the plants concerned flourish better and are more easily maintained in a block or in rows, e.g. gladioli, dahlias, chrysanthemums, while other plants with floral work value may merge successfully with the rest of the garden, as in the herbaceous border. One advantage of 'group' plantings is that this enables judicious picking to make less noticeable gaps in the general display than when the flowers are in rows.

The space available and situation will dictate how much the 'hard core' of decorative subjects such as daffodils, roses, gladioli, dahlias and chrysanthemums may be expanded to allow other kinds to be indulged in. When space is limited the potential usefulness of each plant must be assessed, remembering that with a number of flowers, a degree of 'rotation' is necessary each year, so that they are not grown in the same place continuously. The ultimate ambition is to have 'something to pick' all the year round, depending upon climatic conditions. Shrubs and trees have a three-fold purpose in providing shelter and/or shade, as well as 'garden display' and often material for flower or foliage arrangements.

The "pageant of the seasons" begins with the helleborus clan introducing Spring, followed by myriads of bulbs. A reasonably early appearance is also made by the intriguing green-toned Snakes Head Iris—*Hermodactylus tuberosus*.

A warm, frost-free corner prevents damage to the colourful spikes of *Lachenalia tricolor* 'Pearsoni', and anemones and ranunculus appear earlier in warmer areas. Over recent years a wide range of freesia colours has been evolved, but the cream *F. refracta* 'Burtoni' still retains its place. Traditionally associated with flower arranging convallaria (Lily-of-the-Valley) has a pink form as well as the white one.

The daffodil patch yields a variety of forms—the smaller types may be part of a rock-garden display, with larger forms perhaps making a basal 'drift' beside deciduous trees and shrubs. Among daffodils with a "different air" are the recently developed collar type, of which 'Baccarat' is a useful representative. The double 'Golden Ducat' supplies a bold form—a forked twig makes an efficient means of support for its heavy blooms in the garden. 'Pink cups' are an asset floral-wise—'Anna'

The white H.T. rose 'Virgo' displays true decorative form.

and 'Eileen', for instance. Other unusual colour notes are the lemon-toned 'Liberty Bells' and 'Spellbinder'. *N. bulbocodium* contribute daintiness.

Many pastel-tinted hyacinths and fragrant stocks blend with seasonal colours, while Dutch Iris favourites are 'White Excelsior' and 'van Everdingen'. Nerines include the scarlet *N. fothergillii* 'Major'. Among the spring-flowering gladioli are found the pink *G. nanus* 'Nymph' and tomato-red *G. insignis*, and the well-known *G. tristis*.

Unusual blue-green colouring is provided by *Ixia viridiflora*, while *Ixia* 'Elvira' is a much sought-after egg-shell blue. Both these have the added value of drying well for winter use. Watsonias from white to pink, salmon, orange and lilac tonings generally flourish once established. Another flower of decorative value is the ornithogalum, with *O. thyrsoides* being popular.

Tulips have a graceful habit of growth which is automatically transferred to arrangements of them. Some varieties such as 'White Sail' open cream and fade to white. The 'Blue Parrot' is most attractive, while 'Faraday', another 'parrot', has delicate salmon-pink colouring.

A few roses, at least, are a necessity. 'First Love', 'Virgo' or 'Pascali'; 'Super Star' or 'Fragrant Cloud'; 'Josephine Bruce', 'Sterling Silver', 'Spek's Yellow', 'Rosenelfe'; as well as the dainty blooms of 'Cecile Brunner' and *R. chinesis viridiflora* (the green rose). Climbing roses save ground space, but usually this means shorter stems for picking.

To have gladioli over as long a season as possible, the corms are planted at about three-weekly intervals from October to December. Here the subtle colours, in particular, catch the floral artists' attention, and generally the 'miniature', 'face-up' and 'butterfly' gladioli are more useful, although a number of large-flowered varieties have colour value. A wide field of 'greens' has developed, of which 'Green Ice' and 'Green Woodpecker' are the best known. 'Chocolate Chip', 'Fairy', 'Henna', 'Lavender and Gold', 'Little Egypt', 'Ocean Spray' and 'White Lace' are worthy examples, while for larger bowls 'China Blue', 'Icicle', 'Lilac' and 'Chartreuse', and 'Sambo' are spectacular.

The small and miniature-flowered, and pompon dahlias are the most popular for arrangements, and disbudding ensures the long stems which add to the appearance of the design. Floral work flowers need not be grown to the exacting standards of exhibition flowers, but undoubtedly well-grown flowers add to the stature of any arrangement. Certain to be found in the dahlia planting are colours similar to those of 'Moonlight', 'Newby', 'Gerrie Hoek', 'Rosemary Webb' (nymphea); 'Orient Morn', 'Always', 'Salmon Rays', 'Rose Fletcher', 'Horn of Plenty', 'Captain ver Hoeg'; and pompons such as 'Kym Willow', 'Cream Gem' and 'Hawaii'.

Chrysanthemums do need a good deal of care over several months, but reward the flower-arranger with incredible lasting qualities. Familiar on the early-flowering scene are the 'Pride' group, 'Peach Blossom' and 'Ethel Edmonds'. Later comes the well-named fantasies, including the fresh greenness of 'Nightingale'. The dwarf early pompons, too, must not be overlooked as they need little space.

The herbaceous border can be a "happy hunting ground" too, giving both garden display and decorative material. The green tassels of annual *Amaranthus caudatus* 'Viridis' have elegance, and the various papavers yield both flower and seed-pod value. The old stalwart *Acanthus mollis* is a height subject, as are the feathery plumes of *Bocconia cordata* (now *Macleaya cordata*). Agapanthus are versatile, having leaves, flowers and seed-heads to offer. Creamy spikes of *Cimicifuga simplex* (Bugbane) are delicate, while *Dicentra spectabilis* (Bleeding Heart) and *Polygonatum multiflorum* (Solomon's Seal) have "old time" appeal. Kniphofias now come in many shades, and flower at varying times, while a clump of

Lilium longiflorum or *L. speciosum album* gives pleasure. Lupins and reseda (mignonette) provide spikes, with the scarlet *Lychnis chalcedonica* giving a round, cluster shape. Another green subject is *Nicotiana* 'Lime Green'.

As well as the basic green variety, eucomis also have new hybrids in cream, pink, to soft violet tints. The slim spires of eremurus have dignity, and other aristocrats of the garden are the paeonies. These include 'Duchesse de Nemours' (white), and the pinks of 'Eugene Verdier', 'Sarah Bernhardt', 'Mon. Jules Elie' and 'Lida'. Apart from the numerous subtle colours of delphiniums, which now include even red, orange and yellow, there are the greenish-tinged, blue-mauve, smaller florets of the type called 'Alice Artindale', which are particularly dainty for decorative work. Summertime colour may be increased by callas near the front edge of the border.

Either accommodated within the ranks of the herbaceous border, or grown in a separate area are various plants mainly grown for drying. The most common is probably the achillea or yarrow. The yellow variety *A. filipendulina* 'Gold Plate' retains its colour best when dried, and better results are had by dividing the clumps in Autumn rather than in the spring. The disadvantage of having this type of plant in a border is that the flowers are harvested for drying just at the time when they are contributing most colour—the achillea is usually ready for drying by early January.

Bracts of *Stachys lanata* (Lamb's Ear) may be dried, and also dyed, effectively, while the pink *Limonium suworowi* has a different spiky form to the cluster type of statice. Echinips and Eryngium (Sea-Holly) have prickly texture, while the papery bells of *Physalis franchetii* (Chinese Lantern) are also familiar on the dried arrangement scene. *Allium sphaerocephalum* provides red-violet balls on long thin stems. *Cynara scolymus* (Globe Artichoke) is a plant of many parts as its uses are many. The bold form of its large grey leaves and the purple-topped flower-heads are magnificent at the back of a border, while these leaves are also most decorative and long-lasting for floral work, as are the flowers. The flower-heads can be dried too, as well as being succulent food, while fresh. Delicate flowers for smaller designs are gathered from the pastel-shaded rhodanthe.

A moist corner of the garden will no doubt contain at least one of the phormiums—flax leaves are synonymous with flower arranging. Hostas, too, are indispensable, including the green and white *H. albo-marginata*. *Podophyluum emodi* offers spectacular scarlet fruits. The graceful bamboos find a corner too, including the dwarf types.

Astilbes also appreciate moisture, and attractive art shades are now available. The flowers are useful either fresh or dried. Space permitting, a large clump of arum lilies will be a feature of this area, while unusual

foliage and stem effects may be achieved from the *Cyperus sp.* (Umbrella Grass).

The list of useful annuals with potential decorative value is headed by the zinnia 'Envy', with its rich green colour. More widely found are *Molucella laevis* (Bells of Ireland)—the bracts also dry well—and the green and white *Euphorbia marginata.* Rich maroon, prickly seed-pods are the prize gained from the Ricinus (Castor Oil Plant). Another foliage subject is the variegated kale, in either mauve or green and white tonings. *Salvia* 'Pink Sundae' has dusky pink bracts.

A sunny, well-drained position will be occupied by another basic flower of decorative work, the carnation. Prominent in the perpetual flowering group are the 'Sim' strain, including 'Tangerine', 'Dusty Sim', 'White Sim' and 'Cardinal'.

Where space can be spared, certain plants can be allowed to flourish unchecked or to seed themselves each year. Their decorative value makes up for any rampant habits. The variegated periwinkle makes do with a dry bank, while celandine leaves are a reliable lasting material, with good stem. *Lunaria annua* (Honesty) makes up for its spreading habits with the transparent, silvery 'pennies' used in dried arrangements. Cerinthe seeds itself with abandon. Dramatic drifts of this purplish plant are found at their best in October-December. The flowers last well if the stems are placed in quite hot water and left until the water is cold. Cerinthe may also be dried. The various Hederas (ivies) accommodate themselves on trellis, pongas or tree stumps, and are ever useful.

The many forms and colours of succulents flourish in dry conditions and are yet another source of long-lasting floral material, which has the added advantage usually of being able to re-establish itself in the garden again after playing a temporary decorative role.

The flower arranger does not overlook possible sources of supply in the vegetable garden. Small tomatoes, beans, sweet corn cobs and tops, strawberry leaves and onion or leek seed-heads are among versatile items. Ornamental gourds offer various weird and conventional forms and colours to increase the variety of material available.

The garden of a holiday home can be utilised to supplement the supply of material on occasions, particularly if it is in a relatively frost-free area. However this does pose problems of maintenance if some distance is involved, and works out best where drought-resistant subjects are grown.

With space nearly always playing a restricting part, yet so many plants to choose from, the flower arranger has indeed a difficult task in selecting only subjects which the garden can comfortably accommodate without losing its own sense of design.

Photograph—H. V. George.

FLOWER OF THE WEEK

By H. V. GEORGE, New Plymouth.

By arrangement with the Librarian of the New Plymouth Public Library an interesting plant, usually flower and foliage, is displayed each week just inside the main entrance to the lending section of the library. This was initiated several years ago by the North Taranaki District Council of the Institute and every Monday morning Mrs Ida Hynes would arrange a floral specimen together with a small card describing it and a book from the library referring to this particular plant. Later a specially inscribed table and a container for the specimen were provided by the District Council for the display.

When Mrs Hynes left for Auckland the "Flower of the Week" was continued by other members of the Institute and with the help and co-operation of these members and of members of the staff of the Parks and Reserves Department the "Flower of the Week" continues to provide a point of interest for all those visiting the library.

On display when the photograph was taken was *Banksia grandis* together with the Handbook of Trees and Shrubs by Richmond E. Harrison. According to Mr Harrison the banksia, an Australian member of

the Proteaceae do well in New Zealand if planted in a lime-free soil that is well-drained. *Banksia grandis* is "A tree of noble proportions, and an aristocrat in every way. The handsome 12 inch leaves, cut to the mid-rib into triangular segments, are bright yellowish-green above and silvery below. The veins are impressed above and prominent below. The large yellowish-green cones, about a foot long, are more conspicuously placed than those on other species, and appear during early spring. This is the giant of the family in every way, a well-established tree reaching a height of 40 feet".

REGISTER OF JUDGES

Notice to Members

I wish to draw your attention to the service now being offered by this Institute in keeping a Register of Judges. When approved for entry in this Register the judge is given a small certificate in a plastic case—suitable for carrying in purse or pocket—and signed by the Dominion President and Dominion Secretary of the Institute. The Register is kept in the office of the Dominion Secretary and lists judges in Floral Art, Roses, Camellias and other specialist Societies.

Nominating bodies take full responsibility that the conditions under which the judge is granted a Certificate are as stated in the application form, which may be obtained from the Dominion Secretary or District Council Secretaries.

J. F. LIVING, *Dominion President.*

DOMINION CONFERENCES 1970 AND 1971

It was decided that the 1970 Conference would be held at Napier and that in 1971 the venue would be Auckland.

HORTICULTURAL TOWN AND AROUND

PLANTS AND GARDENS ON BANKS PENINSULA

By L. J. METCALF, N.D.H., Christchurch.

One of the most distinctive features of Canterbury is Banks Peninsula. It projects from the Canterbury coastline into the South Pacific Ocean and its presence has helped to create Pegasus Bay to the north and the Canterbury Bight to the south. Being surrounded by the Canterbury Plains on the landward side it stands out from afar and is a distinct landmark for travellers approaching Christchurch.

Banks Peninsula was formed by two major volcanoes (Lyttelton and Akaroa) and one or two smaller ones, and it was probably built between 10,000,000 and 13,000,000 years ago. Erosion by streams, on the outer slopes of the volcanic cones, cut deep and sometimes large valleys into those slopes. A rise in sea level in post glacial times drowned the two main volcanoes to form Lyttelton and Akaroa Harbours, and the valleys to form the numerous bays. The underlying rock is largely basalt, and the soils vary from residual soils formed from the parent rock to wind transported loess. This yellow loess is many feet deep in some parts and has been the subject of much conjecture. It is generally supposed to be derived from the great glaciers, which once filled the main river valleys of the Southern Alps, and carried to Banks Peninsula by the strong nor'west winds, which sweep across the plains. Certainly the sight of great clouds of dust being blown out of the main river valleys by today's nor'westers makes it quite credible.

Banks Peninsula is quite extensive in area and covers almost 500 square miles. The highest point is Mt Herbert Peak (3014 feet), which overlooks Lyttelton Harbour. The central hills together with most of the summits surrounding Akaroa Harbour all rise to more than 2,000 feet. On the larger spurs the slopes are gentle at first, but in most instances they gradually steepen as they rise to the summits while the inside slopes of the caldera rims are much steeper than those outside. In parts, the country is quite rugged, and all over, rock outcroppings are common. In some parts large obtrusions of rock or volcanic dykes have been formed.

As well as being a landform which is quite unique in Canterbury, Banks Peninsula is also distinct climatically, botanically and horticulturally.

Generally, and with the exception of the northern coastline, it has a much milder climate than the rest of Canterbury. Around the coastal areas of the Peninsula the climate is mild and sub-humid. In the valleys and the inner reaches of the harbours it is sub-humid to humid and the higher parts are cool and humid.

The climate of the northern slopes of the Port Hills which look out over the City of Christchurch is affected by a temperature inversion layer during winter. As a result there is a distinct zone extending from about 300 to 500 feet which experiences very little frost. This has a strong influence on the horticultural flora.

Rainfall varies, but few records are available. On the Port Hills it is about 30 inches, at Akaroa about 60 inches and it is possible that the high central area may receive considerably more. The northern slopes, especially those of the Port Hills, the southern side of Lyttelton Harbour and the headlands of the eastern bays all experience severe and prolonged periods of drought which at times become very acute. On the other hand the southern bays receive more and a better distributed rainfall. During the winter snow generally lies on the highest tops for a few days at a time and the general lowering of the air temperature caused by that sometimes has a damaging effect on the more tender plants.

Botanically, Banks Peninsula is regarded as a distinct sub-district of the Eastern Botanical District. Whereas in recent times the Canterbury Plains were comparatively treeless most of the Peninsula was heavily wooded, being covered with a predominantly Podocarp-broadleaf forest. The main trees being *Podocarpus totara* (*P. hallii* at higher altitudes) and *P. spicatus*. A small area of *Nothofagus* forest exists, but it appears to have been always limited in extent.

The indigenous flora of Banks Peninsula consists of about 472 species and it includes several interesting features. It is the southernmost limit of several species and it is also the northernmost limit of one or two others. The main species which find their southernmost limit on Banks Peninsula are:—*Adiantum fulvum, Corynocarpus laevigatus, Rhopalostylis sapida, Dodonaea viscosa, Tetrapathaea tetandra, Griselina lucida, Alectryon excelsum. Pteris tremula, Anarthropteris dictyopteris, Macropiper excelsum,* and *Solanum aviculare.*

As well as being the southernmost limit in New Zealand of the nikau palm (*Rhopalostylis sapida*) it is also the southernmost limit of palms in the Southern Hemisphere. A small colony of palms at Dan Rogers Creek near the north end of Akaroa Harbour claims this distinction, and just a year or two ago it was set aside as a reserve for the protection of native flora.

While the Peninsula has acted as a haven for the more tender northern plants which could not tolerate the frosty Canterbury plains, it has not formed a barrier against the northward progression of some southern plants nor has it attracted others. The result is, as already mentioned, that only one or two southern species attain their northernmost limit on the Peninsula; the most notable being *Olearia fragrantissima.*

There are also a few plants endemic to the Peninsula and while their numbers are not great, they are nonetheless interesting. The most notable examples are *Senecio saxifragoides, Hebe lavaudiana* and *Celmisia mackaui. Senecio saxifragoides* is confined to the Port Hills area where it is found on shady rock faces at the higher levels. *Hebe lavaudiana* is found growing in rock crevices and on ledges all over the Peninsula from about 800 feet upwards. It has been recorded as being found in riverbeds on the plains by three observers, but as such habitats are out of character with the plant and it has never been found again, these recordings are almost certainly in error. The other and sometimes most eagerly sought after plant is *Celmisia mackaui.* This species is found growing on wet cliffs, shady rock outcrops and even in grassland, from almost sea level to 2600 feet. Due to the activities of plant collectors it is now rare in the vicinity of Akaroa, but fortunately there are still one or two localities (mostly inaccessible) where it is abundant. I have seen it growing in grassland and forming clumps three feet across with leaves up to two feet long.

The destruction of the bush on Banks Peninsula started in earnest about 1850 when large scale saw milling commenced, and it continued for the next forty years. At some time or another during that period there were more than twenty mills in operation. A series of disastrous bush fires in 1863 and others probably later, further helped with the destruction of the bush and today there are very few patches of bush of any consequence left on the Peninsula.

The history of horticulture on the Peninsula (apart from any Maori cultivation) probably commenced with the arrival of the French settlers at Akaroa in 1840. They soon set to work cultivating the land and planted vegetables, fruit and other trees. Since then, homestead gardens have been planted in all parts of the Peninsula and an amazing wealth of plants is grown. Horticulturally the main areas are the Port Hills, Akaroa township, and the Diamond Harbour-Charteris Bay district, but these will be dealt with in later issues of the Journal.

R.N.Z.I.H. ASSOCIATE OF HONOUR (A.H.R.I.H.[N.Z.])

This is New Zealand's premier horticultural award and the title may only be conferred on persons who have rendered distinguished service to horticulture. Nominations may be by Dominion Council or District Council Executives but the Dominion Council may not recommend more than six of the nominations per year for election by Dominion Council. Associates of Honour shall not number more than fifty and at 30th September, 1968, there were forty four.

ROYAL NEW ZEALAND INSTITUTE OF HORTICULTURE (INC.)

ANNUAL REPORT OF THE DOMINION COUNCIL

For the Year Ended 30th September, 1968 (Abridged)

Ladies and Gentlemen,

The Dominion Council has much pleasure in presenting the 46th Annual Report for the year ended 30th September, 1968.

The many matters dealt with during the year by the Dominion Council are herein reviewed for the benefit of members and delegates.

In Memoriam:

It is with most sincere regret that the Dominion Council records the passing of some esteemed members during the year. Their passing is keenly felt and our sympathies are extended to their relatives.

Membership:

The total membership stands at 1669, including 44 Associates of Honour. A strong membership is vital to the well-being of the Institute and District Councils are urged to do all they can to enrol new members.

Fellowships:

During the year the Dominion Council conferred Fellowships upon 3 members.

Finance:

Profit from the sales of the publication "Flowers for Shows" has continued to accrue. The financial strength of the Institute, however, rests upon a strong membership, which must be increased, and present members are urged to help by enrolling new members.

Financial assistance received from the Internal Affairs Department for the Journal is sincerely acknowledged with thanks.

The increased capitation received from the Department of Agriculture for examination purposes and the contribution of $100 from the N.Z. Institute of Park Administration is warmly acknowledged.

Nomenclature:

During the past year, members of the Institute's Nomenclature Committee have been involved in the identification and naming of many cultivated plants in New Zealand. Co-ordination with the Horticultural Trades Association is obtained through its representative, Mr P. C. Gardner.

A most useful article on the correct method of writing plant names in published articles was prepared by a member of the Committee and published in "New Zealand Plants and Gardens" VII, 8: p.362-364 (Sept. 1968). This article should assist all authors when preparing articles for various types of horticultural publications.

The Committee has also been aware of its responsibilities as International Registration Authority for the genera *Leptospermum* and *Hebe*. Collections of the latter in particular are being steadily increased at Christchurch, Wellington and New Plymouth, so that the correct name and the description of cultivars (cultivated varieties) can eventually be prepared for universal acceptance.

Also in the international field, the Institute has been asked to assist in publicising the work of Registration Authorities of other plants, and also to comment on proposed amendments to the International Code of Nomenclature for Cultivated Plants.

In fact, there has been steady progress in the field of correctly naming and

identifying horticultural plants, so that New Zealand Horticulture continues to hold a high place regarding the naming of plants grown here.

"New Zealand Plants and Gardens":

Mr J. F. Gover of Christchurch has been confirmed in office as Editor in succession to the late Mr G. A. R. Phillips. Appreciation of Mr Gover's assistance and service throughout the year is warmly expressed. The Committee has been expanded to include some members from Christchurch who work in close liaison with the Editor. Full consideration was given to the matters raised at the 1968 Conference affecting the Journal. It has not been found possible to introduce colour printing because of the greatly increased printing costs involved. The title of the Journal, after the completion of Volume VIII has been changed from "New Zealand Plants and Gardens" to "The Journal of the Royal New Zealand Institute of Horticulture", commencing in December 1968 issue. Numbering of the Journal will revert to Volume One (new series) in Arabic numerals. The printing of an Index has been discontinued. Index to volumes VI and VII is being prepared by Mr R. H. Mole and will be held in the event of it being required later. The publishing of Book Reviews is being reconsidered. The literary standard of the Journal has been maintained and the quality of authoritative articles sustained. New Zealand authors are being encouraged. As a medium for revenue from advertising the Journal is not successful—principally because it is a quarterly, has limited circulation and is not on sale to the public. The Internal Affairs Department grant towards its publication is much appreciated.

Historic and Notable Trees:

Progress is being maintained in the compilation of information on Historic and Notable Trees in New Zealand. Mr S. W. Burstall of the New Zealand Forest Service, Rotorua, continues to assist in this, inspecting trees, measuring and verifying the information on hand. Some sections are complete.

The assistance received from Mr Burstall, District Councils, the Research Institute of the N.Z. Forest Service, and others in this very protracted work is sincerely appreciated. Other officers of the N Z. Forest Service have given valuable help.

"Flowers for Shows"—Horticultural Handbook:

Sales of this publication have continued during the year. More remain on hand for sale; District Councils and other groups are urged to publicise the book. It is meeting a real need.

Arbor Day:

This annual observance was again fully supported throughout the Dominion by the Institute taking an active and leading part.

Loder Cup Award:

This annual award is offered to "Lovers of Nature in New Zealand to encourage the protection and cultivation of the incomparable flora of the Dominion." Mr R. Syme, A.H.R.I.H. (N.Z.), serves on the Loder Cup Committee as the nominee of the Institute. The 1968 award was made to Mr V. C. Davies, O.B.E., of New Plymouth and our congratulations are extended to him.

Examining Board:

The Examining Board is appointed by the Dominion Council annually and bears the full responsibility for the conduct and administration of the Institute's examinations. The Institute has full statutory authority to issue diplomas and certificates in horticulture, fruit culture, apiculture, vegetable culture, school gardening, and the Horticultural Salesman's Certificate.

The former Seedsman's Certificate has now been rescinded and the new

Horticultural Salesman's Certificate introduced by regulation. It is considered that this new examination will better meet the present day need in the horticultural retail trade

Under the chairmanship of Professor H. D. Gordon of Victoria University of Wellington, the Examining Board has given meticulous attention to the examinations conducted by the Institute. The Board's separate report is appended. The Dominion Council expresses its warmest thanks to the Examining Board for their devotion to this important phase of the Institute's work.

A comprehensive review of the syllabi for the National Diplomas is expected to be completed in the next year.

Award of Garden Excellence:

This annual award is operating well. The sub-committee has done excellent work during the year, culminating in 14 plants being granted the award for 1968 as published in the Journal December 1968 issue.

Plant Raisers' Award:

The award has been made to Mr W. B. Brockie of Nelson for the Phormium, 'Smiling Morn', for 1968.

Associates of Honour:

The following nominations have been endorsed by the Dominion Council for submission to the 1969 Conference recommending their election as Associates of Honour of the Royal New Zealand Institute of Horticulture (A.H.R.I.H. (N.Z.)). They are: Miss Joan M. Dingley of Auckland, Mr Mervyn Evans of Wellington.

District Councils:

It is through District Councils that the Institute is known, by and large, in district areas. There is so much done at the national level which is not readily known or understood by the general membership and citizens, but District Councils have an opportunity of providing the liaison between Dominion Council and these folk. It is true that District Councils are stronger in some localities than in others, but all can and do play a part, for which the Dominion Council expresses its appreciation and solicits strong loyalty and support throughout the ensuing year. It is pleasing to know that new members are being enrolled in District Councils to replace resignations, etc., but no appreciable increase in overall membership is occurring. It has been stressed that the strength of the Institute rests upon strong membership. The work of the Institute merits much stronger membership-strength and it is sincerely hoped that present members will rally their forces throughout the ensuing few years and embark upon a determined effort to increase the membership substantially. *Membership is now offered to those students registered for the Institute's examinations, at half rates while they are under the age of 21 years.* Family subscription rates for husbands and wives at a reduction are also offered.

The 'One Day' Conferences, as held in Christchurch each year, are proving most successful. Other District Councils could well emulate them. Trials in certain bedding plants have been held in New Plymouth with success.

National Parks Boards:

The Dominion Council continues to make nominations for election to these Boards. District Councils are invited to put forward suitable nominees.

Judges' Register and Certificates:

The Register is functioning. During the year applications for registration were approved and appropriate certificates issued. The Register lists judges in the following: Floral Art—Decorative Work, Cacti and Succulent, Cut Flowers,

Shrubs, Chrysanthemums, Roses, Daffodils, Vegetables, Liliums, Dahlias, Gladioli.

The Iris Society and the National Rose Society have supplied full lists of their accredited judges.

List of Speakers:

A list of persons qualified to speak at members' evenings is being maintained for the benefit of District Councils.

Careers Booklet:

This booklet continues to be a most helpful publication in channelling young people into horticultural careers.

Horticultural Producers' Forum:

This voluntarily constituted forum within the framework of the Institute, comprising many of the horticultural producer-bodies, has met during the year to discuss issues of common interest including horticultural education. We believe its value will become more and more apparent as time passes.

Horticultural Hosts:

What is considered to be a practicable yet moderate scheme has been publicised in the Institute's Journal and District Councils are invited to join in. Some have already named hosts for their areas. At first the scheme is being used to help members of the Institute as they travel to other centres.

Visit of Mr and Mrs F. P. Knight, England:

In association with the N.Z. Institute of Park Administration, and the Pukeiti Rhododendron Trust, the Institute extended an invitation to Mr F. P. Knight, Director of the R.H.S. Garden at Wisley, England, to visit New Zealand on a lecture tour, including the Banks Lecture at our 1968 Conference.

The visit proved to be something of a highlight amongst horticultural groups throughout the Dominion. Since their return to England Mr and Mrs Knight have written most appreciatively of the hospitality extended to them.

Plant-Selectors' Rights:

Legislation dealing with plant patents was expected during the year. It did not eventuate, but may be brought forward in 1969. The Dominion Council will be concerned to express its views on the proposed Bill when it appears.

National Arboretum:

Previous suggestions and moves in Canterbury for the establishment of a national arboretum there have now lapsed.

Litter Legislation:

Suitable legislation has now been passed to deal with and control on a national basis the problems of litter in public places. An Anti-litter Council has been set up. The Institute is represented on this Council.

Royal Commission on Salary and Wage Fixing Procedures in the State Services:

A written submission was presented to this Royal Commission seeking greater recognition of the Institute's National Diplomas in the Public Service. In its report the Commission stated that our submission was outside the scope of the order of reference.

Plant Quarantine Regulations:

A draft revision of these regulations was received from the Director of Horticulture for study. Some suggestions regarding the payment of fees and the need for clarification on how matters of policy were to be handled, were submitted to the Director. It has since been stated that the regulations are again being carefully reviewed by the department in the light of criticisms received.

National Development Conference:

A submission for the greater use of landscaping and plant life, especially New Zealand native plants, in the beautification of tourist resorts and hotels was presented to the Tourism Committee, in association with the N.Z. Horticultural Trades Association, the N.Z. Institute of Park Administration and the Royal Forest and Bird Protection Society of N.Z. Under the Agriculture Committee, a Horticultural Working Party has been constituted. Some members of our Dominion Council sit on this Party. Our submission to the Royal Commission, for greater recognition of the National Diplomas, has been passed to this Working Party.

Eastwoodhill Property at Gisborne:

The Dominion Council has again been invited to consider the permanent preservation of this unique arboretum, which was established by the late Douglas Cook at Gisborne. The present owners have submitted proposals whereby the property might be passed into a trust. Discussions are proceeding. It is widely recognised by eminent horticulturalists and botanists that this tree park is of great national value and international interest. It should therefore be seriously preserved and fully developed into a national arboretum.

Preservation of Trees:

A deputation from the Dominion Council waited on the Minister of Lands and Forests to seek his sympathy and advice on the desirability of existing legislation (Fencing Act 1955 and Amendments) being amended to achieve greater protection for the preservation of trees of historic, notable and amenity value. The Minister showed considerable interest and sympathy and invited the deputation to meet the Nature Conservation Council to discuss the issues there. This Council has expressed its support and is examining the matter more fully. An increased public awareness of the value of trees is very desirable.

A. M. L. Rumble Estate (Stratford):

The late Mrs Rumble died in 1951 and bequeathed her house property and contents (including a library of horticultural books) and residue of her estate to the Institute in trust—the property as a headquarters—for the Institute's work in and around Stratford (Taranaki). The estate continued to be administered by the trustee, the late Mr Percy Thomson, solicitor, and by his personal trustees since his decease. There has never been a District Council of the Institute based in Stratford; it falls within the boundary of the North Taranaki District Council based in New Plymouth. An administrative committee was appointed in 1951 by the North Taranaki District Council to assist and advise the trustee. Under all the circumstances prevailing the purposes of the trust have not been fulfilled and the property has therefore been tenanted. Income has accumulated down the years and cash funds invested by the present trustees. The consent of the Dominion Council was given to an application to the Court for a variation of the terms of the trust to permit the sale of the property. A scheme for the alternate use of the trust funds is now being carefully considered, with full legal advice. The cash funds in hand at present amount to $5110. The following resolution was passed by the Dominion Council:

> "That this Dominion Council of the Royal New Zealand Institute of Horticulture Incorporated duly assembled gives formal approval to the preparation by Messrs Moss and Company of New Plymouth of an appropriate scheme to enable the sale of the trust's residential property at Stratford and the use of the funds thereby obtained (together with the trust's other assets) to produce an income which would be made available from time to time for educational purposes in horticulture".

Remits Before the 1968 Dominion Conference:

Details of these remits and the discussion thereon have already been published in the report of the 1968 Conference in the June 1968 issue of the N.Z. Plants and Gardens. The matters arising have been dealt with as follows:—

(1) re National Diploma in Horticulture.
—referred to the Examining Board and incorporated into the submission made to the Royal Commission on Salary and Wage Fixing Procedures in the State Services.

(2) re modernising the Journal cover and layout. (See Page 83.)

(3) re beautification of Railway precincts.
—representations were made by letter to the General Manager of N.Z. Railways. In larger cities there are working arrangements between the Railways and local bodies, but these are not possible in the smaller centres. There were legal difficulties in allowing Beautifying and Horticultural Societies (many of them unincorporated) onto Railways land, even although to carry out civic projects. There were differing attitudes towards horticulture amongst Railways staff and it was difficult to maintain continuity of attention to any action for garden beautification at small railway stations. The employment of full-time horticulturists was not feasible.

(4) re expansion of horticultural research.
—passed on to the Horticultural Producers' Forum for submission to the National Development Conference.

(5) re history of plant introduction into New Zealand.
—referred to the Auckland District Council to set up a piloting committee.

(6) re membership for registered students at reduced rates.
—now operating.

Thanks:

The Dominion Council extends its sincere thanks to all who have contributed to the successful running of the Institute throughout the past year. Particular thanks are expressed to:

(a) The Government, Ministers of the Crown, and departmental officers for their courteous attention to the needs of the Institute whenever they have been brought to their notice.

(b) Local bodies for their continued interest and financial support, and the directors and superintendents of reserves.

(c) Examiners, supervisors and all others who have co-operated to facilitate the conduct of the examinations during the year. Special reference is made again to the fine assistance received from the directors of reserves and officers of the Horticulture Division of the Department of Agriculture, city councils and Massey University, in the holding of the oral and practical examinations at Christchurch and Palmerston North.

(d) District Council presidents and executives who have continued to maintain an active front in their respective localities.

(e) The New Zealand Forest Service and Mr S. W. Burstall for assistance in matters relating to historic and notable trees in New Zealand.

(f) Mr F. P. Knight for his presentation of the Banks Lecture at the 1968 Dominion Conference.

Conclusion:

As Dominion President I wish to express my personal sincere thanks to all members of the Dominion Council and of District Councils and all others who have worked solidly throughout the year in the interests of the Institute and of horticulture.

It might be merely coincidental but truly significant that the year of our

National Development Conference (1969) is also the bicentenary of the historic visit to these islands of Captain Cook on his voyages of discovery. Surely, as we cast our minds back over these past two centuries, we are astonished at the development that has taken place in our nation. Today, nationally we stand at the close of this bicentenary period to take account and plan for the future in vastly different international conditions from those obtaining when Captain Cook first stepped onto our soil. May the same spirit of adventure, endurance and determination characterise our people now as it did those explorers.

It is encouraging to observe that the Government, in planning national development, has not failed to provide for a review also of the cultural needs of our nation. Surely horticulture has a major part to play in both the commercial and cultural development of our country. We are seeing an increasing contribution to overseas markets coming from the commercial gardens of our land and we compliment the industry in this. Did Sir Joseph Banks foresee this when he laded Cook's ship with specimens of the rich horticultural subjects which this new found land gave to him out of her bounty? The formation of the Horticultural Producers' Forum, under the auspices of this Institute, is a sound step. The Plant Raisers' Award can encourage the introduction of new plants for local and overseas markets. An unlimited opportunity lies at the door of this Institute to take leading roles in the development of cultural horticulture in New Zealand. Let us not fall behind in taking up these opportunities. The Eastwoodhill Trust Arboretum comes before us as one such opportunity—an example of devotion and sacrifice for the horticultural enrichment of our country by one man—an inspiration to us who follow him.

Let us enter the new year with enthusiasm for greater progress within the wide horizon of horticulture in a land so richly endowed with natural resources and beauty.

J. F. LIVING,
Dominion President.

REPORT OF THE EXAMINING BOARD, R.N.Z.I.H.

On behalf of the Examining Board I have pleasure in submitting the following report for 1968.

Meetings:

The Board met on four occasions during the year with an average attendance of 14 members.

Syllabus of Examinations:

The examinations syllabus of the Institute includes the following Diplomas and Certificates:

(a) National Diploma in Horticulture—N.D.H. (N.Z.)
(b) National Diploma in Fruit Culture—N.D.F.C. (N.Z.)
(c) National Diploma in Apiculture—N.D.Ap. (N.Z.)
(d) Certificate in Vegetable Culture—C.V.C. (N.Z.)
(e) Certificate in School Gardening—C.S.G. (N.Z.)
(f) Horticultural Salesman's Certificate—H.S.C. (N.Z.)

Applications for Registration for Examinations:

During the year applications were accepted from new candidates for the following examinations:

	1968	1967
National Diploma in Horticulture	40	36
National Diploma in Fruit Culture	8	3
National Diploma in Apiculture	2	1
Certificate in Vegetable Culture	1	4

1968 Examinations:

Results: These are appended separately.

Statistics: The following tables will be of interest; 1967 corresponding figures are shown in parenthesis.

N.D.H. Examination	Junior		Intermediate		Diploma	
Number of Entries	61	(96)	50	(33)	21	(33)
Number of Passes	44	(77)	31	(18)	17	(27)
Percentage of Passes	72	(80)	62	(54)	81	(82)
Average marks—passes only	60	(60)	61	(60)	62	(63)
N.D.F.C. Examination						
Number of Entries	7	(6)	2	(3)	1	(9)
Number of Passes	4	(6)	2	(3)	1	(9)
Percentage of Passes	57	(100)	100	(100)	100	(100)
Average marks—passes only	69	(63)	66	(61)	63	(57)
N.D.Ap. Examination						
Number of Entries	—	(3)	1	(—)	—	(—)
Number of Passes	—	(2)	1	(—)	—	(—)
Percentage of Passes	—	(66)	100	(—)	—	(—)
Average marks—passes only	—	(72)	72	(—)	—	(—)
Extra Certificate—N.D.H.	1	(1)				

	Cert. in School Gard.		Cert. in Veg. Cult.	
Number of Entries	—	(3)	10	(4)
Number of Passes	—	(2)	5	(4)
Percentage of Passes	—	(66)	50	(100)
Average marks—passes only	—	(69)	66	(61)

Conduct of Examinations

Altogether 75 candidates sat 154 papers in 30 subjects at 19 different centres.

Every endeavour is made to enable all candidates to sit in the town where they are working. In all, 13 examiners were appointed by the Examining Board for written examinations. Their co-operation and prompt marking of papers permitted an early release of the examination results.

Oral and Practical Examinations:

The Oral and Practical Examinations for all Intermediate and Diploma candidates were held in Christchurch where the facilities again proved to be very satisfactory and afforded efficient conduct of the examinations for all concerned. The Examining Board and the Institute are very much indebted to Mr H. G. Gilpin (Director) and the staff of the Christchurch Botanic Gardens and others for their valued assistance and the facilities offered.

The examinations for all Junior candidates were conducted in Palmerston North. The ready co-operation and assistance of Mr J. Bolton (Director of Parks) and staff, Mr J. E. Hume and other officers of his department, Mr J. P. Salinger and assistants from Massey University, ensured the complete success of these examinations.

Help was also received from officers of the Department of Agriculture in Christchurch and Palmerston North in preparation for the examinations, and from members of the Fruit Growers' Federation. Members of the Manawatu and Canterbury Districts Councils arranged billets with local members for candidates who had to stay overnight. Refreshments for candidates and examiners were provided by a voluntary group in Christchurch also by the Palmerston North City Council, for which sincere thanks are expressed.

Statistics for Oral and Practical Examinations (these are included in the statistics above):

	N.D.H.			N.D.F.C.		
	I	II	III	I	II	III
Number of Entries	16	8	9	1	—	—
Number of Passes	13	6	4	1	—	—

The following completed sections or the whole examination:

National Diploma in Horticulture:

Junior Stage:

ALLEN, K. J., Christchurch
ANDERSON, D. S., Whangarei
ELSBY, G. A., Auckland
McLAREN, A. J., Palmerston North
MURPHY, B. K., Waipukurau
POLLOCK, B. S., New Plymouth
TURNER, W. E., Tauranga

Intermediate Stage:

COWAN, Judith M., New Plymouth
LOKUM, L., Trentham
NIND, G. P., Auckland

Diploma—Final:

AITKEN, N. A., Christchurch
BUTCHER, E. F., Whangerei
DRAIN, N. W., Christchurch
THOMAS, M. B., Christchurch
YOUNG, B. R., Auckland

Government Grant for Examinations:

The Examining Board acknowledges with appreciation the increased capitation granted by the Minister of Agriculture for assistance to the Institute in the conduct of the examinations.

The donation of $100 from the N.Z. Institute of Park Administration is acknowledged with thanks.

Assistance to Students:

It is pleasing to know that some District Councils are continuing to make special efforts to assist examination candidates with coaching and regular educational lectures especially designed for them.

Horticultural Salesman's Certificate:

The approval notice authorising the issue of Horticultural Salesman's Certificate has now been gazetted, with the Minister of Agriculture's approval. It is hoped that the examinations might commence in 1969. Work has commenced on the preparation of suitable study courses. The valued help of the Horticultural Trades Association in this is appreciated.

Review of Syllabuses:

The review of the syllabuses for the diploma in horticulture and fruit culture and for the certificate in vegetable culture has not yet been completed. This is expected to be finalised early in 1969 but no change can become operative until fully approved by the Minister of Agriculture and formally gazetted. Due publicity will be given at the appropriate time and the interest of all registered students will be fully protected.

Form of Diary for Horticulture Students:

Consideration is being given to a form of diary that will suit equally the requirements of the Examining Board and the Trade Certification Board.

Lincoln College Diploma in Horticulture:

With the introduction of the new diploma course at Lincoln College, the Examining Board has resolved that holders of this diploma be granted exemption from our diploma subjects as follows:

National Diploma in Horticulture (N.D.H.):

All Junior and Intermediate subjects, except Oral and Practical Stage II and Special Subject Option 8 (IV) "Trees and Shrubs".

National Diploma in Fruit Culture (N.D.F.C.):

All Junior and Intermediate subjects, except Oral and Practical Stage II.

Acknowledgments:

The Examining Board acknowledges with sincere thanks the help and assistance received from all who have been associated with the conduct of the examinations this year.

(a) The panel of examiners.

(b) The Christchurch and Palmerston North City Councils Parks and Reserves Department, officers of the Department of Agriculture and Massey University.

(c) Honorary supervisors at centres for written examinations.

(d) The Canterbury and Manawatu District Councils for assistance and hospitality with Oral and Practical Examinations.

(e) The Director of Horticulture and officers of the Horticulture Division.

(f) The N.Z. Fruitgowers' Federation for their co-operation and representation on the Examining Board.

(g) The sub-committees appointed to deal with special business arising throughout the year.

H. D. GORDON,
Chairman.

1968 EXAMINATIONS

The results of the 1968 examinations conducted by the Royal New Zealand Institute of Horticulture in Horticulture, Fruit Culture, Apiculture and Vegetable Culture, both written and practical, have been released. Junior Stage Oral and Practical examinations were conducted in Palmerston North and Intermediate and Diploma Stages in Christchurch.

The Skellerup Prize for the best junior candidate was awarded to G. A. Elsby of Auckland.

The Junior Memorial Prize for the candidate gaining the highest marks in the Oral and Practical Stage I examination was awarded to B. S. Pollock of New Plymouth. The David Tannock Memorial Prize for the highest marks in the Oral and Practical examination Stage III and the Dugald MacKenzie Memorial Prize for best thesis (for N.D.H.) to M. B. Thomas of Christchurch.

The coveted Cockayne Memorial Medal for the candidate completing the Diploma of Horticulture and gaining the highest marks in the final stage of the examination was awarded to B. R. Young of Auckland.

The subjects in which passes have been gained by candidates are indicated by code numbers as follows:—

Bookkeeping (2), Horticultural Botany (3), Plant Protection Stage 1 (4), Oral and Practical Examination Stage 1 (5), Principles of Botanical Classification (6), Horticulture Stage 1 (7), Special Subject (8), Oral and Practical Stage 2 (9), Horticultural Stage 2 (10), Plant Protection Stage 2 (11), Oral and Practical Examination Stage 3 (12), Thesis (13), Horticultural Economics (14), Fruit Culture Stage 1 (15), Fruit Culture Stage 2 (16), Business Aspects of Vegetable

Culture (17), Soils and Soil Management (18), the Plant and Plant Breeding (19), Principles and Practice of Plant Protection (20), Vegetable Production (21), Entomology Stage 1 (22).

AUCKLAND

DeBeer, G., 3, 4.
Elsby, G. A., 3, 4, 5.
Jensen, G. V., 3, 4, 5.
Mentor, B. A., 3.
Nind, G. P., 9, 10.
Sutherland, J. A., 4, 5.
Thompson, R. V., 6, 7, 9.
Wilson, R. D., 19, 20.
Young, B. R., 12.

CHRISTCHURCH

Aitken, N. A., 13.
Allen, K. J., 4, 5.
Archer, J. E., 7.
Brakey, G. M., 10.
Breach, R. M., 2, 7, 9.
Davenport, L. R., 5.
Drain, N. W. 13.
Garnett, K. R., 2.
Graham, P. R., 5.
Hart, R. W., 7.
Martin, J. E., 9.
Moffitt, R. G., 7, 8.
Scott, R. M. C., 10, 11.
Stemmer, L. R., 6.
Thomas, M. B., 10, 12, 13.
Woodley, J., 10, 11.

HAWERA

Richards, P. J., 6.
Sheerin, M. J., 6.

HAMILTON

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DISTRICT COUNCIL NOTES

SOUTH TARANAKI

SEPTEMBER—A "Garden Prowl" on Saturday, 21st September provided much of interest for some 40 members of the Royal N.Z. Institute of Horticulture who gathered in Hawera. Meeting at the South Taranaki Nurseries, the party was conducted by Mr Noel Barry through propagating houses where myriads of tiny plants had their beginnings, sheds where potting mixtures were prepared or soil was sterilised, and shade houses where camellias bloomed. Thanks for a most instructive talk were expressed by Mr R. Syme, the institute president.

After lunching in King Edward Park, the party moved to Mr Taylor's nursery, Waihi Road, to admire camellias and narcissi in bloom and beautifully cared for dwarf fruit trees. Next, Naumai Park claimed attention with its native section and a stroll through the new magnolia dell; then on to Mr Syme's garden abloom with camellias and other spring flowering shrubs, narcissi, chinodoxias, gentians and erythroniums.

This outing was followed by a circuit meeting held at Manaia on 25th, when an attendance of about 60 was welcomed by the president. Hints on the growing of some of the more hardy orchids were given by Mr H. T. Beveridge of Hawera, Superintendent of Parks and Reserves, the varieties chosen being *Dendrobium nobile, Coelogyne crestata,* epidendrum, cymbidium hybrids and *Iaelia cattleya.*

Floral arrangements had been used to decorate the hall, and a large bench of specimens gave a wealth of spring colour. Described by their various growers were chaenomeles, camellias, hebes, waratahs—including a new hybrid—magnolias, pieris, rhododendrons, flowering cherries, malus and many others.

The second speaker for the evening was Mr E. W. McCallum of Hawera, who showed colour transparencies of his recent visit to Africa—the Royal Show at Johannesburg, an ostrich farm, sheep on the karoo, views of and from Table Mountain; scenes in Orange Free State, Basutoland, Rhodesia and Malawe. Fascinating scenes were shown of Tunis with its open markets, camels, donkeys and fat-tailed sheep (and always the problem of water), the excavated ruins of ancient Carthage, the Colosseum and the island of Grebe. Slides were also shown of Canada, the Rockies, Jasper National Park, Lake Louise, Calgary and the renowned Butchart's Gardens of world-fame.

Regret was expressed that time did not permit many more slides to be shown, but a later meeting was promised. Thanks were offered by Mr T. A. Snowdon who had arranged the programme, and Mr Syme expressed appreciation to Mesdames Hosie and Yarrow and their helpers who had decorated the hall, staffed a sales table and served supper.

OCTOBER—October 3rd was a red-letter day for horticulture in Taranaki when the Loder Cup was presented to Mr V. C. Davies, O.B.E., of New Plymouth. About a dozen South Taranaki members travelled to New Plymouth to attend the function arranged in honour of Mr Davies and to offer him their congratulations on this recognition of his life-long work.

Another highlight for South Taranaki occurred on 19th October when, at a civic reception held in King Edward Park, Hawera; a willow pattern garden built there under the direction of Mr H. T. Beveridge, F.R.I.H., was formally opened by the Chinese Ambassador, His Excellency Dr. Shan. Making a special visit to the district from Wellington with his wife and family, Dr. Shan expressed his pleasure in the beautiful gardens he had already seen in New Zealand, and described to his listeners something of the principles used in planning gardens in China and Formosa.

October also brought our 20th Annual Meeting—next year the South Taranaki District Council will come of age!

In presenting his annual report the president, Mr R. Syme, A.H.R.I.H., gave details of an interesting and fruitful year's work and recorded a membership of 156. During the business section of the meeting, special gratitude was expressed to our oldest member, Mr H. J. Berry, F.R.I.H., for his very generous donation of $100.

"Plants—Past, Present and Future. Where in the world do they come from and where in the world are they going to?" This was the novel theme adopted by Mr J. P. Salinger, Senior Lecturer in Horticulture at Massey University, guest speaker for the evening.

Beginning with the early settlers who had brought with them old roses, lilacs and camellias, plants in great variety had since been gathered from the five continents and four corners of the earth, had been manipulated by man to produce new forms and fresh plants, and now provided a solid basis from which New Zealand might build a valuable export trade. Bluebells and oaks from Britain; herbs from the Mediterranean; succulents from the Canary Islands; bulbs, ericas and proteas from South Africa; waratahs, grevilleas and thryptomenes from Australia; orchids from Melanesia; specimen rhododendrons from Malaysia; camellias and azaleas from China and Japan; ceanothus, iris and conifers from California; violets from Persia; iris from Holland; cacti from the high plateau of Mexico—all had been happily established and developed in New Zealand.

"We have the soil, the climate, and the ability to raise stud stock by world standards," claimed Mr Salinger. "New Zealand stands on the threshold of a large expansion in horticulture and horticultural products; and we should develop for ourselves rather than grow plants for other countries and let them reap the harvest". Already a start had been made and small exports were being sent to Britain, America and West Germany. Azaleas had been sent to Japan, camellias to America and the trial gardens at Wisley. Chinese gooseberries, introduced from China in 1900, had been hybridised in America. But it was in New Zealand that they were processed for the sale of fruit, and they were now being sent to Kenya, East Africa, the south of France and even to Cornwall. Strawberries were also finding their way to overseas markets in increasing quantities. Seeds and plants might very well follow.

The speaker, who was introduced by Mr Syme, illustrated his points with colour transparencies. A vote of thanks to Mr Salinger for a very interesting and instructive address was proposed by Mr B. D. Edwards of Eltham, and carried by acclamation.

DECEMBER—Another "garden prowl", this one arranged by Mr J. H. Barnard, took some twenty-five members visiting the gardens of Mr R. D. Wilton, Hawera; Mr W. A. Tayler and Mr S. G. Scown, Patea; and Mr J. L. Milne, Kakaramea; where a very interesting day was spent. Later, it was found that two of these gardens had been entered in the annual garden competition of the Hawera Horticultural Society and had been judged that day, the first prize for small gardens having been won by Mr and Mrs Wilton and first prize for large gardens been won by Mr and Mrs Milne.

Next May, several South Taranaki members hope to join a rhododendron tour to be led by Mr R. D. Chamberlain, A.H.R.I.H., of Hawera. It is planned that they will see something of rhododendrons in Kashmir, visit the Pollanza Gardens in Rome, attend the Chelsea Flower Show and visit Wisley and Kew. Also to be visited is the Paris International Flower Show and gardens on the Continent.

NORTH TARANAKI

Since the last notes appeared we have had only one evening meeting when the South Taranaki District Council visited us and provided a most interesting and instructive programme.

However, we have had three outings which have proved full of interest. The highlight of the first one in November was a conducted tour through Duncan and Davies Ltd. where we were shown the intricacies of plant propagation on a very large scale. The application of plant hygiene and the extreme cleanliness and tidiness of all the buildings were notable features. This was followed by a visit to the most attractive garden of Mr and Mrs Lloyd Grundy where rock gardens, pools and terraces with a backdrop of large trees on a hillside formed a most exciting combination. A visit to Mr and Mrs Ray Syme's where the long entrance drive is flanked by Canadian maples was followed by a picnic lunch in the quiet woodland of Burgess Park. In the afternoon Mr and Mrs Stanley took us around the winding paths, attractive bridges spanning a meandering stream planted with suitable shrubs, onto the front lawn where a magnificent copper beech dominated the scene. It was here too that the roses caught our attention. From here on to a garden only fairly recently established by Mr and Mrs E. P. Massey. I think Mr Massey summed up the trials and tribulations of establishing a new garden very aptly when he remarked that many of his shrubs had spent more time on the shovel than they had in the ground. How true this is, and haven't we all had the same experience. The "Oohs" and "Aah's" as members drifted around the garden were eloquent tributes to the success of the movements.

In January, 1969, our annual excursion to the mountain, Mt. Egmont of course, took us to the east side and the Stratford plateau. The Kamahi walk produced some excellent examples of the Kidney Fern (*Trichomanes reniforme*) and the ground orchid commonly called Elf's Hood (*Pterostylis banksii*). A few of the more energetic ones climbed to the Manganui ski field and were rewarded with a magnificent view and along the track a Spaniard (*Aciphylla*) in full flower. Back in Stratford a gully with a stream running through it and which had not long since been a waste area and rubbish dump had been attractively planted by three neighbouring gardeners. It was much admired by all our members.

Our February trip was up the coast to Urenui, Uruti and Pehu where two interesting gardens and some magnificent bush scenery were inspected. Our hosts for the day were Mr and Mrs R. W. Larsen of Urenui.

WAIKATO

The Iris is a flower that is rapidly gaining popularity, and was the subject of a talk given at the October meeting by Mr and Mrs Collins of Tauranga. Mrs Collins showed slides of some of the rhizomatous group, including new varieties she had herself raised. Advances made in colour range, size and quality of flower and overall vigour are striking when these new varieties are compared with those of even a few years ago.

The Annual General Meeting was held in November, and an important resolution was put to members. This was that in addition to the general subscription a local one of $1.00 be paid. For some time now the Waikato District Council has found that increasing costs of almost everything has made it harder to maintain the level of service to its members. That this position seems unlikely to alter was appreciated by the meeting which voted in favour of this resolution. With these additional funds and the capitation monies from the normal subscription, the District Council hopes to be able to expand its activities and to further horticulture in this area.

Also at this meeting the annual Social Evening was held which included the screening of two films. One, 'Wild Wings' was a description of the work of the Severn Wild-fowl Trust at Slimbridge in England, with the commentary spoken by the distinguished ornithologist and painter, Peter Scott, the founder and Director of the Trust. The other, 'In Search of an English Garden' showed some sixteen gardens, each representative of its own type and ranging from the cottage garden to the large estate. This film is of very great value, both from its subject matter and the very high standard of photography and is ideal for showing to horticultural meetings. It is in sound and colour, size 16mm, runs twenty minutes, and was loaned by courtesy of the British High Commission in Wellington.

In November the Waikato Rose Society staged their Annual Show in Hamilton and repeated their outstanding success of the previous year. The new Winter Show Buildings are admirable for such shows and the Society made good use of them. Their success does much to refute the claim so often heard that the public will no longer patronise flower shows; there seems, in fact, little doubt that if the show has something to offer them it will be patronised. The Rose Society included many other interests besides roses in the Show, and several nurserymen gave it their support by staging large exhibits. This support by nurserymen is most encouraging and all must benefit from their participation.

At the Presentation of Awards in the Hamilton City Council's Garden Competition, just before Christmas, the Mayor, Mr M. J. Minogue, congratulated the winners and commented particularly on the class for industrial gardens. He referred to the industrial area of Te Rapa, to the north of the city and the main road to Auckland. A few of the industrial undertakings there have constructed outstandingly attractive gardens, but on so many little or no attempt has been made to beautify them. This is one of the main traffic routes through Hamilton and must create a bad impression to the traveller. It is certainly not helped by the mass of ugly power and telephone poles and absence of kerbing, but even this could be alleviated by a little interest on the part of many of the industries situated there. When one thinks what could be done to improve the area, then the hope becomes more fervent that attention will be paid to the Mayor's comments.

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