

# Landscape Architecture and

research projects deal with public lands developm  
garden design and maintenance, turf culture, nurs

*The following report was prepared by members of the staff of the Division of Landscape Architecture at Berkeley, under the chairmanship of Professor H. L. Vaughan.*

**The Division of Landscape Architecture** at Berkeley aims at improving the physical environment in which people live.

The teaching is done by the problem method, making the activity of the division a continuous research project.

Investigations concern the development of lands in public ownership and usage. Continuous studies are being made, and data compiled, on such things as city parks and playgrounds, state parks, national parks, school grounds, roadside developments, and other land areas which are set aside for public usage. Students and faculty examine all the requirements of people in relation to the outdoors, and research continues on the following phases of the problem:

Outdoor community recreation needs.

Arrangement of areas for efficient use.

Over-all appearance of the community and specific areas.

Adaptability of various sites to various usages.

Climate control.

Ease of maintenance.

Grading, drainage, plant selection and culture.

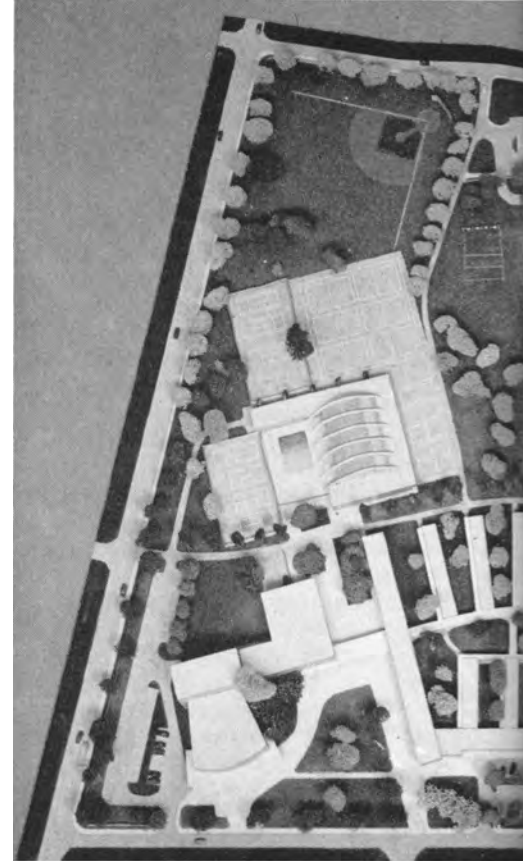
Lawns.

Paving materials.

Other minor problems which arise with every outdoor development.

Work is also done to improve the individual residence, in multiple housing, city lot, suburban acre, or on the farm. These studies have become increasingly important; as communities grow and become crowded, open land disappears, and the individual plot must be developed to a high degree for efficient use and pleasing appearance. The greatly increased cost of building and furnishing indoor areas makes it desirable to turn the garden terrace or patio into a convenient place for outdoor living, allowing the expansion of many typically indoor activities.

Much attention has been focused on school ground planning. The rapid growth of population has forced the building of great numbers of schools of all types, to replace outmoded and overcrowded school plants. These schools will stand and function for many years; they are the most important center of community activity. Studies of the outdoor needs, the relationships between indoor elements and outdoors, efficient and economical management and upkeep, are essential bases for good planning in this important field.



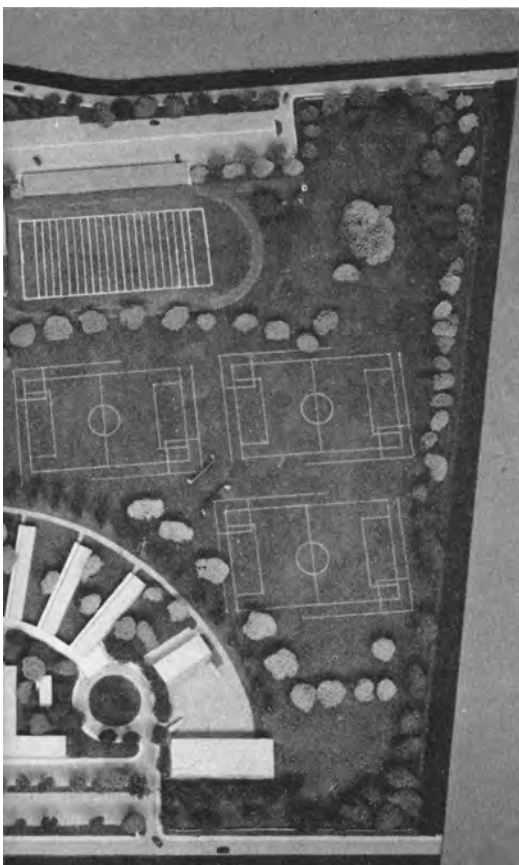
**Above: Site plan for high school, a prog  
Below: Year round production and timi**



# Landscape Gardening

ent, housing, school ground planning;  
ery management and floriculture

*The following report was prepared by members of the staff of the Division of Landscape Gardening and Ornamental Horticulture at Davis, under the chairmanship of Dr. R. B. Deering.*



**The Division of Landscape Gardening** and Ornamental Horticulture research program at Davis covers garden design and maintenance, turf culture, nursery management, and floriculture.

Experiments in garden design and maintenance include comparative studies between certain native ecological groups of plants and the commonly used plant introductions. Studies show that the native plants which require little or no summer watering are one of the most valuable groups for design purposes, especially in areas where water is a limiting factor or where the home owner wishes to spend his summer months away.

Another area of investigation deals with the maintenance needs of various plant groups commonly used by the home owner. Garden flowers are the most expensive to maintain. Annual flowering plants generally require considerably more time and labor to grow and maintain than do the herbaceous perennials, and perennials require a great deal more than do most woody materials, except tea and climbing roses. Lawn areas of grass follow closely behind flower care.

Work is in progress using architectural materials as substitutes for high-maintenance plant materials and in combination

with plant materials to determine their value in restricting plantings to desired boundaries of a design. Substituting walls and fences for hedges eliminates pruning and clipping work. Edging and clipping planting beds can be greatly reduced by using broad-paved edgings of concrete, brick or other materials between plantings and lawn areas, wide enough for one wheel of a lawn mower.

Experiments determine the long range economic savings to the home owner after developing a garden from a professionally designed plan as compared with the average home garden of otherwise equal conditions. Results are beginning to prove that the costs of the services of a competent landscape architect and the expenses involved in the designing and construction, in many cases may—over a period of years—be a saving to the home owner, both in material costs, labor and in time spent in caring for the garden.

Turf problems are being investigated in co-operation with the Division of Irrigation. Under study are the water requirements of grass species, depth of rooting, and the adaptability of the common and new species of grasses to the climate of the interior valleys.

*Continued on page 15*

**Sprinkler systems for watering plants in cans show considerable promise.**

ect in Landscape Architecture, Berkeley.  
ng of chrysanthemums, studied at Davis.



## ARTICHOKE

Continued from page 4

conditions, two applications are necessary—about August 30 to September 2, and about September 20. A third application may be possible or necessary depending on the time the plants are cut and the presence of buds.

As no adequate spray equipment is available in most areas, dusts should be used. In these experiments the best control was obtained with a 2% parathion dust, or a combination dust of 2% parathion and 5% DDT. Dusts should be applied at the rate of 30 pounds per acre for the summer brood, and 40 to 50 pounds per acre for the fall brood. Lindane should be applied to artichokes in restricted quantities until the full effects upon artichoke quality are determined. Both parathion and lindane may cause burning to artichoke stems or foliage if applied heavily and unevenly.

Control with parathion lasts from three to four months. To date no adequate means of controlling the spring brood has been found, due to greater residue hazards, and the difficulty of entering fields during the rainy season.

If the dusts are applied properly control is possible, but two points are important:



Power duster showing proper arrangement of nozzles for control of the plume moth.

1. It is necessary to time the applications. This was done in the experiments by caging individual artichoke plants and following the brood development in detail. It is often difficult to determine broods in the field.

2. It is necessary to cover all parts of the plants, and force the dusts into the centers of the plants. This has been possible only through the use of several nozzles per row—six are preferable—so placed that all parts of the plants are covered.

The results of the 1950 residue experiments indicated that the use of parathion or lindane dusts does not constitute a dan-

gerous health hazard if precautions are taken. New regulations based upon these results provide that in San Mateo County parathion can be applied up to 15 days of harvest. Lindane and DDT should not be applied within 30 days of harvest.

Growers must take adequate precautions outlined by the manufacturers of these chemicals in applying them, and workers should not enter fields and expose themselves to residues, particularly parathion, for a week following application.

State rules and regulations govern the use of parathion and certain other chemicals, and for this reason growers should acquaint themselves with these laws by contacting the agricultural commissioners in their respective counties.

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### Control of Fall Brood Larvae of the Artichoke Plume Moth in Replicated Plots, Half Moon Bay, 1950.

Treatment	Average per cent wormy artichokes at several time intervals				
	Oct. 16	Oct. 23	Nov. 3	Nov. 15	Dec. 1*
No treatment . . . . .	28.3	31.7	28.2	26.9	36.8
Parathion 2%, DDT 5% dust . . .	6.8	9.6	9.2	11.1	20.4
Parathion 2% dust . . . . .	4.2	8.6	6.8	10.5	24.1
Lindane 1% dust . . . . .	7.3	16.9	11.4	14.1	32.8

\* Plants "drowned out" at this time, no further counts possible. Dusts applied at rate of 38 to 49 pounds per acre on August 31 and September 21, 1950.

## LANDSCAPE

Continued from page 9

The use of soluble organic and inorganic fertilizers is being studied with a number of common lawn grasses and mixtures. Watering and mowing practices, especially height of cut, are under investigation both from the standpoint of drought tolerance and depth of rooting, and from the standpoint of weed encroachment. Ideal management practices are sought for the maintenance of the best turf for lawns and recreation areas.

Studies in nursery management include the propagation of ornamentals in cold frames with emphasis on the use of root promoting substances, controlled humidity, propagating media, and supplemental bottom heat during the winter.

The fertilizing and the growing of nur-

series materials are being investigated. The standardized soil mix developed in the University of California, Los Angeles, is being tested for the growing of ornamentals as a possibility of eliminating a variety of mixtures for different plants. The merits of liquid feeding of organic or inorganic fertilizers are being studied for a large variety of nursery materials.

Labor saving for the nurseryman and the propagator is receiving considerable attention. Semiautomatic controls of humidity in propagating beds are being studied as a means of eliminating frequent syringing of cuttings during periods of low humidity. The use of Skinner systems, sprinkler systems, constant water levels, and injection methods for canned plant materials in lath houses is being studied as means of eliminating the expensive and inefficient hand watering commonly used in nurseries.

Commercial floriculture research stresses production and handling problems of commercial flower crops. Under investigation is the effect of spacing in the bench upon quality, production, and bottom breaks of roses. The length of time required at all seasons between rose crops is being determined; and the inbreeding of white roses is being investigated in an effort to build up superior inbred lines which can be used for parents in rose breeding.

The advisability of year round production of chrysanthemums in California is under study along with controlled spray formation and the timing of bloom. Other projects being studied or considered are problems involved in long term storage and shipping of cut flowers, the use of a standard soil mix, mulches for roses, labor saving methods of watering and humidity control in the greenhouse.