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VINES FOR SHADE AND ORNAMENTAL PLANTING

Next to trees, vines are our most useful and ornamental plants. They grow far more rapidly and come into use for shade sooner than trees or shrubs. For foliage effects they are equal or superior to our best shrubs, and some of them are valued highly because of their profusion of flowers. Vines generally require training for their best growth. When planted to cover summer houses, arbors, porches, walls, and windows, they often lower the high summer temperatures as much as 10 or 12 degrees. The dry summer air is softened with moisture from their foliage, and the light reflected from bare sandy or gravelly surfaces is subdued with the green of their leaf canopy.

*Some uses for vines.*—One scarcely realizes how much more comfortable a house can be made when the more exposed walls and porches are grown over with vines. The writer's home faces west and when built was exposed to the hot west and northwest afternoon sun. Several kinds of vines are growing now over the west porch and the west and north sides of the house. The front and north rooms which formerly were almost unusable in summer are now as cool as other rooms in the house. The cost, including irrigation, of caring for these vines is not in excess of \$12 a year, while the benefits derived can not be estimated, as the home is not only more comfortable but also more attractive. The writer recalls having seen a tent house in the upper Gila Valley which served as a home for a farmer and his family during their "first year." It was made comfortable with an extra "fly" canvas over the roof, and masses of morning glories, balsam vines, and wild cucumbers grew about the sides. In our climate, noted for both dryness and sunlight, vines may be planted extensively about dwellings with little danger of inducing damp and unhealthy conditions.

In addition to the various uses just mentioned, vines are excellent in an ornamental way for screening from view poultry runs and unsightly sheds; for producing mass effects in planting, and for securing natural and graceful effects where other kinds of planting have failed. A few vines growing carelessly about one's home, partly concealing

rocks, walls, and fences, hiding ugly sights, climbing up trees and over shrubs, make a picture where otherwise there would be but a group of plants.

*Soil and pruning.*—The soil for vines should be at least 2 or 3 feet deep, and where there is a caliche substratum or hardpan near the surface, this should be dug out or broken up by blasting to insure drainage. One part in seven or eight of well-rotted and finely divided manure should be added to the ordinary soil. If the soil is heavy and clay-like, some brush or wood chips should be incorporated to prevent its becoming too compact. If planted in this way, vines will require only occasional watering and their growth will be vigorous. The ground about vines should be spaded up once or twice a year and mixed with old leaves or some rotted manure. With simple culture like this, vines are certain to make a healthy and vigorous growth and to give dense shade.

Most vines should be pruned annually, preferably during their dormant season. The dead stems and the excess of young growth should be cut off, and the remaining shoots, if too long, shortened. Strong growing vines in particular, for example the Virginia Creeper, should be pruned heavily, as this induces vigorous growth and fine foliage. Unless pruned regularly, the growth of most vines becomes dense and brushy and they are likely to be blown down with heavy winds or fall down under their own weight. The runners and creeping stems that grow from near the bases of some vines should be cut back closely, otherwise they will root and encroach upon walks, lawns, flower beds, and rose bushes. Vines that cling to walls, such as the English ivy or Japanese ivy, require almost no pruning.

The vines briefly described below represent a partial list of those that are hardy and well adapted for growing in our State. Some of these are evergreen, while others drop their leaves in the autumn; some require considerable care for successful growth; others, when once established will grow almost without irrigation.

Virginia Creeper (*Parthenocissus quinquefolia* var. *macrophylla*) is one of our hardiest climbers and grows well on any side of a house. It thrives in almost any soil and when well established requires little care. It is tolerant to all our conditions and will grow practically anywhere in the State. It is often called "five-leaf ivy." Its leaves color deep red in autumn and drop off. It may be trained along the edges of roofs, from which the smaller stems become suspended as leafy festoons. This particular form has very large leaves and is the one ordinarily purchased. A nearly related species, *Parthenocissus dumetorum* var. *laciniata*, grows in our mountain canyons. It is more drought resistant but not so good a climber and its leaves are smaller and usually lighter green in color.

Arizona grape (*Vitis arizonica*) is a very vigorous growing plant, extremely resistant to heat and drought, and does well on any side of a house. The foliage is quite dense and will not sunscald. Unless pruned the plants become brushy and the stems are inclined to grow coarse and woody. Because of its hardiness It makes excel-

lent for shade for poultry yards. The berries are small and are good for jelly. It will grow well in any part of our State, and, like the Virginia Creeper, propagates readily from cuttings.

Japanese ivy (*Ampelopsis tricuspidata*) is a handsome vine that clings tightly to walls which it soon covers. The leaves are large, abundant, dark green and glossy, and in autumn turn scarlet and drop off. The plant thrives in any part of the State, but at altitudes below 3,500 or 4,000 it succeeds best only on the north walls of buildings. For covering large wall spaces with a layer of green, the Japanese ivy has no equal among our climbers. It requires better culture than the Virginia Creeper and unless given a good irrigation once in ten days during the hot summer period, its foliage will wilt and scald. It needs no supports to grow to and is not injured by the severest winds.

Japanese honeysuckle (*Lonicera japonica*) is a very hardy evergreen vine and an effective screen at all seasons. Its flowers, produced in the spring and fall, are fragrant and white, fading to yellow. It thrives throughout the State with the most ordinary care. No pruning is necessary, though it needs support for climbing. It is much used for growing over fences and rock walls. At altitudes above 5,500 feet the Japanese honeysuckle may grow wild and spread as an evergreen carpet plant in moist mountain canyons. The Hall honeysuckle is a form of this plant with reddish leaves and pinkish flowers.

English ivy (*Hedera helix*) is our well-known evergreen ivy, perhaps the finest of this class of climbers. The leaves are thick, angular, and deep green and as beautiful in winter as in summer. It clings to walls and requires no support when once well started. It is often trained to cover trunks and limbs of trees. At altitudes below 4,000 feet or thereabouts it succeeds best only on north walls of buildings. It thrives in dense shade and grows well when planted along with Japanese ivy. The English ivy roots readily from cuttings but as a small plant is of slow growth. It requires better culture than most other vines. It is becoming popular for Christmas decorations.

Trumpet honeysuckle (*Lonicera sempervirens*), though rather slow growing, is a handsome evergreen vine with beautiful clean, glossy foliage and clusters of slender, trumpet-shaped, red or yellow flowers. It is one of the finest climbers at Flagstaff, Prescott, and Douglas, though it does not do so well below altitudes of 3,000 feet. This plant does not give as dense shade as some other vines, and it should be planted primarily for the bright flowers.

Silk vine (*Periploca graeca*) is a hardy climber from the Mediterranean country. It is extremely drought resistant and has a wealth of dense, dark green glossy foliage. The leaves are killed with 10 or 15 degrees of frost, but the stems are uninjured by a temperature of zero degrees P. The plants are inclined to spread somewhat from the roots, but this is not serious. This plant is recommended for arid, barren soils at altitudes below 4,000 feet.

It is propagated readily from layering or cuttings and is a very robust grower.

Chinese wistaria (*Wistaria chinensis*) grows well almost everywhere in our State, but appears to succeed best above altitudes of 3,000 feet. It is a rapid grower and will climb high in trees. Its foliage is a beautiful green but is not so dense as that of some others of our climbers. The flowers are very showy and purple or white; they are borne in large, pendant, grape-like clusters. The plant should have moderately rich, loamy soil and requires good drainage and aeration. For shade effects the vines should be cut back to induce heavy growth. Occasionally wistaria plants have been unsuccessful, but generally the plant responds to good culture.

Chinese trumpet creeper (*Tecoma chinensis*) is one of several trumpet creepers that grow successfully in the Southwest. The stems are likely to become coarse in age, but the foliage is bright green, glossy and graceful. The leaves do not give as dense shade as many other climbers and drop in autumn. The flowers are trumpet-shaped and large and showy, being 2 inches in diameter and about 4 inches in length. They range in color from deep orange to scarlet and are produced during most of the summer. This is a showy climber and is excellent for growing over stumps and for climbing trees. The native trumpet creeper (*Tecoma radicans*) is quite similar but has smaller flowers.

Blue passion flower (*Passiflora caerulea*) is an evergreen climber with clean, smooth, five-parted leaves. It is a vigorous grower and is inclined to spread some from the roots. It clings by tendrils and is excellent for growing over fences and rock walls and also for general shade purposes when planted with other climbers. The flowers are very odd, 3 or 4 inches in diameter, with many whitish petals and a purple corona. A popular variety of this is Constance Elliott, which has pure white flowers. The passion flower is recommended for localities where the winter temperatures are above zero degrees F.

Japanese virgin's bower (*Clematis paniculata*) is one of several species of clematis grown in Arizona. The leaves are divided, smooth and glossy and the flowers are pure white and produced in showy, terminal clusters. This plant is quite hardy throughout the State. Western virgin's bower (*Clematis ligusticifolia*) is native in Arizona above altitudes of 4,500 feet. It is very hardy, a rapid grower with quite dense foliage, inconspicuous flowers and showy, white feathery seed masses.

Native hop vine (*Humulus lupulus* var. *neo-mexicana*), though herbaceous, is one of the finest climbing vines for rather high altitudes. It grows very rapidly and is much planted at Flagstaff, where it is highly prized for its fine aroma and splendid clusters of large, light yellow hops. It is quite possible that this native hop could be grown commercially at Flagstaff. At lower altitudes the hop suffers from heat and aridity.

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