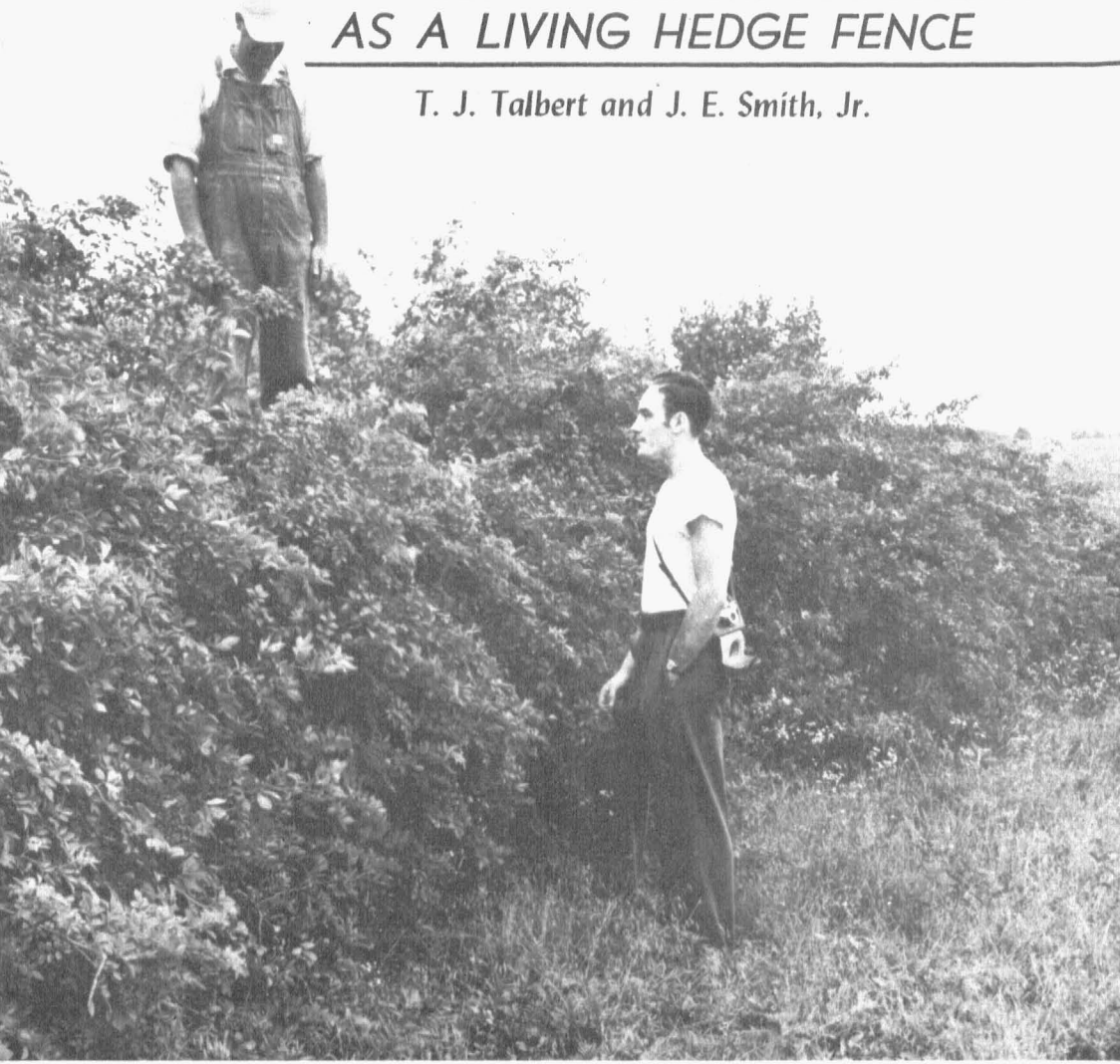
The Multiflora Rose

AS A LIVING HEDGE FENCE

T. J. Talbert and J. E. Smith, Jr.



Bulletin 517 September, 1948

UNIVERSITY of MISSOURI COLLEGE of AGRICULTURE

Agricultural Experiment Station

J. H. LONGWELL, Director

Columbia, Missouri

Multiflora Rose as a Living Hedge Fence

Some Advantages

Your fence may be grown in two years with good soil and culture.
The first investment is small, and the hedge requires no maintenance.
It is an excellent cover for wildlife.
It is useful in erosion control, contour tillage and for stopping pasture gullies.
Helps control weeds. Stops Bermuda grass.
Aids insect control by haboring birds that live on insects.
Has ornamental foliage, flowers and fruit.
It is strong, dense and thorny. It repels livestock.
Well suited for line, contour and irregular fencing.
Makes a long-lived barrier. Plantings 25 years old are still strong and vigorous.
Does not require clipping, pruning, training or support.
Multiflora rose may serve as an effective low windbreak to reduce wind damage.

Disadvantages

Three years may be required to grow a fence.
A space or site 6 to 8 feet wide is required for the hedge.
In establishing a fence, the plants must be protected from injury by livestock during first 2 or 3 years.
Birds carry the seeds, so that now and then seedling plants appear where they are not needed, but there is no evidence that the rose may become a pest.
The multiflora rose species is one of great variability; so take care to obtain the thorny, vigorous, upright type suitable for fencing purposes.

The Cover Picture

The cover picture shows a 5-year-old multiflora rose hedge supporting a 200-pound man standing on the side of a step-ladder placed flat on the center of the hedge. Note the height of the hedge even under the man's weight. (Photographed at the Midway Orchards of the Experiment Station, July 16, 1948.)

MULTIFLORA ROSE AS A LIVING HEDGE FENCE

T. J. TALBERT and JAS. E. SMITH, JR.

The multiflora rose now seems to offer a solution for the high cost of farm fencing. Its use does away with the fence maintenance problem. Though this plant is considered new to most sections of the country, it is the hardy understock upon which many of the garden roses are grafted or budded. Originally the plant came from Asia. The name "multiflora" means many-flowered, referring to the many white flower clusters resembling the flowers of blackberries.

Description of Plant and Its Care

This thorny shrub is easy to establish, yet not difficult to eradicate when no longer needed. The hedge does not spread by roots or suckers. Birds may carry the seeds and in some instances a few seedling plants have appeared near rose fences. Observations of the oldest hedge fences, however, give no indication that the rose may become a pest. Crops may be planted right up to the hedge as it does not compete seriously for soil moisture. In fact, rows of crops adjacent to the hedge may show greater vigor and yields, due perhaps to lessening of evaporation. Studies have shown that the rose fences do not harbor as many field mice, chinch bugs and other insects injurious to crops as weed and grass grown fence rows and ravines. This is possibly due to the excellent cover given the insects' natural enemies, such as quail, other birds, skunks, foxes and the like.

The multiflora rose hedge grows about 8 feet high with a total spread of 7 or 8 feet in three or four years. In later years it does not grow much higher or wider. New canes grow up and the old ones die. The mass of thorny canes, therefore, becomes more dense and harder to penetrate each year without extension in spread or height. The multiflora hedge does not require clipping, pruning, training or support. Its life is long, too, for specimen plantings in Missouri more than 25 years old are still effective barriers.

ACKNOWLEDGMENT.—The authors wish to express their gratitude to colleagues and co-workers who have made valuable suggestions in connection with the manuscript. Particular appreciation is due the following for assistance and for illustrative photographs: Harold V. Terrell, Missouri Conservation Commission; Hugh Steavenson, Director Agricultural Bureau, St. Louis Chamber of Commerce; and A. D. Hibbard, University of Missouri.

Use in Conserving Soil and Wildlife

This Asiatic rose has been employed as a windbreak with good results in preventing soil blowing, snow drifting and wind damage. It also is used alongside or across gullies, irregular soil surfaces, and for contour fencing and along water outlets. Washing and erosion of ditch and pond banks may be prevented through its use. The fibrous root system of the plant makes it valuable for erosion control and especially so when used as a contour fence. Close spacing of the plants in setting usually increases their effectiveness for such purpose.

As a cover for quail and other wildlife it is of great value. This is especially true in prairie regions, bottom lands, and where there are little or no permanent winter harbors. It may also serve as an enclosure for wildlife areas. The rose is colorful in flower, foliage and fruit and its shape renders it valuable for use in beautifying the farmstead. The bountiful seed crops of a reddish orange color supply dependable food for many different kinds of birds during the winter.

Species Variable and Time Required to Produce Fence

The multiflora rose is notorous for variability of form and vigor. Upright, spreading and trailing kinds may be found. Some have thorns, others are thornless. For hedge fence purposes, it is important to select the upright, thorny, vigorous type which grows a mass of dense canes from the ground to a height and spread of about eight feet.

The time required for the rose to make a satisfactory barrier will vary with the soil fertility, planting, care, and site. On the University of Missouri experimental grounds at Columbia, under conditions of fairly good soil and culture, a barrier effective against horses and cattle was developed after two years of good growth. Some farm plantings near Jackson, Missouri have also formed effective barriers at the beginning of the third year. On tight, poor or droughty soils a longer period may be required to produce satisfactory barriers against livestock, especially hogs, sheep, and goats. Under good growing conditions, however, year-old seedlings spaced 6 inches apart, should produce effective fences against all types of livestock in three to four years.

The Shrub Requires Care in Starting

Unlike the Osage orange, the multiflora rose is a shrub and not a tree; hence it will occupy much less ground. It has the signal advantage of requiring no trimming to keep it in bounds. Its early growth, particularly on the poorer soils, will greatly surpass that of

Osage orange. The plants should be fertilized and given good cultivation or mulching for the first two to three years to provide a uniformly vigorous and dense barrier.

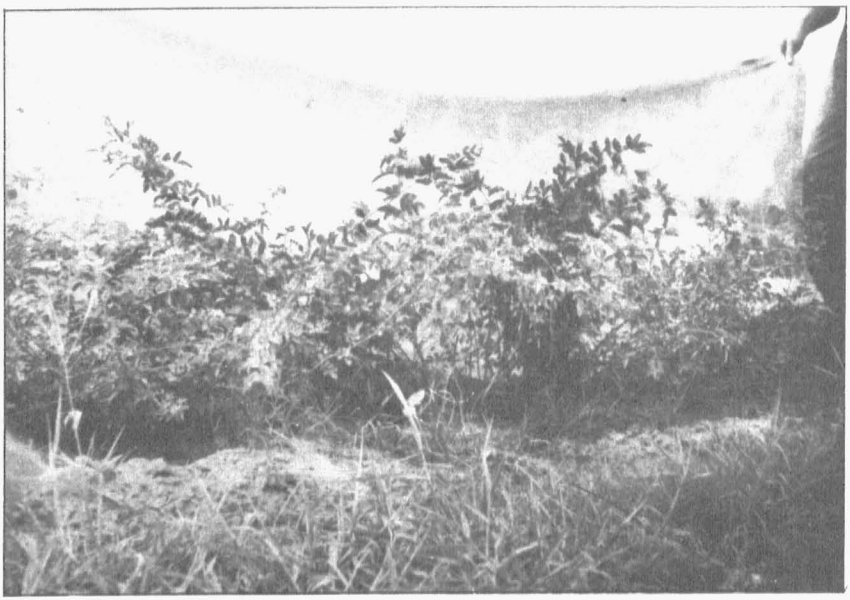


Fig. 2.—Multiflora rose plants after four months of growth, 1948. Planted 8 inches apart on April 15 and photographed on August 15. With another year of good growth the barrier should be effective against horses and cattle.

Protect Plants While Young

Livestock may browse upon the tips of the tender rose branches and trample them down while they are from 1 to 2 years old. Generally it is best to protect the hedge planting until it is 2 to 3 years old. Older hedges are not damaged much by grazing livestock or by their attempts to push through the hedge. The plants are also resistant to fungous diseases and foliage-eating insects. To date, therefore, spraying for pest control has not been needed.

Prevents Spread of Bermuda Grass

Experimental and demonstration plantings in Southeast Missouri show that the dense shade produced by the hedge tends to prevent the growth of grasses and weeds that spread by stolons or runners. Bermuda grass is a good example. Stopping or checking Bermuda and similar plants is important because they spread rapidly from pastures, terrace outlets, uncultivated areas, roadsides, etc. to cultivated fields.

Experimental Planting—University of Missouri

An experimental planting of multiflora rose hedge 300 feet long was made at the Midway Horticultural Farm near Columbia in 1943. The site was prepared on a strip of land about 10 feet wide by back-furrowing, disking and bed-furrowing. One-year-old well-rooted plants produced from seed were set on fairly fertile soil in a furrow on the center ridge of the cultivated strip. Plants were spaced about a foot apart.

The plants were cultivated three times at intervals of about two weeks. There was no mulching nor fertilizing. Cultivation was continued during the second year as it was in the first. The average height of the plants after two full years' of growth, was about 6 feet. The hedge was dense and strong.

In the late summer of the second year, the cultivated strips on both sides of the hedge were mulched with old hay to a depth of 4 to 5 inches. The mulch prevented surface erosion and conserved soil moisture. Additional culture or care has not been required.

At the beginning of the third year of growth, a fence that had protected the plants was removed and the hedge row of the multiflora

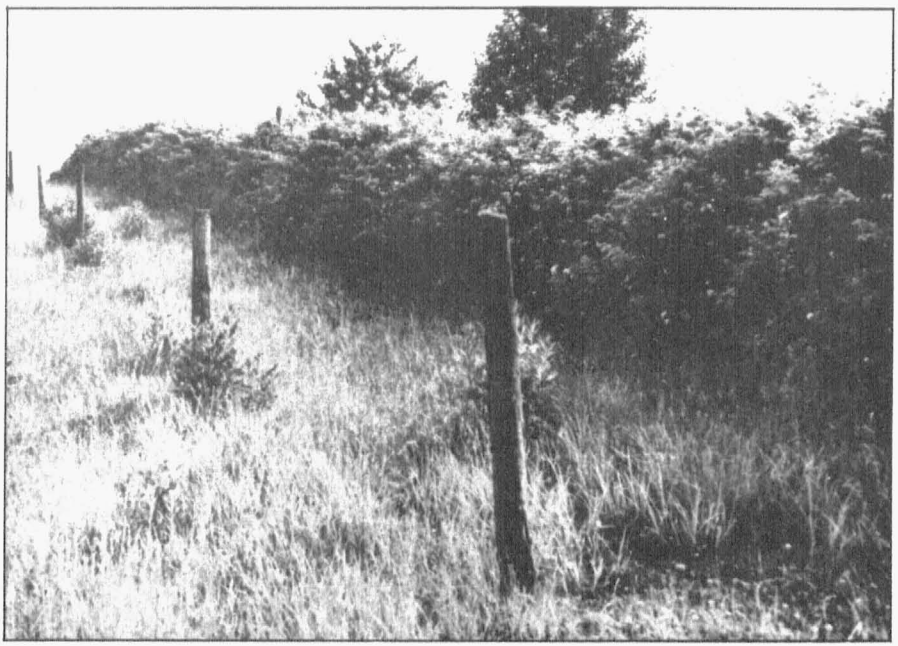


Fig. 3.—The University of Missouri Experiment Station's Midway Orchard is fenced on one side by this multiflora rose hedge, shown here after 5 years of growth. Woven wire and barbed wire were removed from the original fence after the hedge had made two years' growth.

rose was made a part of the pasture fence or enclosure for the livestock. It has now served effectively as a fence against cattle and horses of various ages for three years. Although the plants were originally set one foot apart the growth is now so dense that it should easily "turn" hogs, sheep and goats.

How to Secure Multiflora Rose Plants

Purchasing Nursery Stock.—Sturdy one-year seedlings are usually considered best although two-year-old stock should prove satisfactory. The nursery stock may be produced at comparatively low cost. Plants more than two years old are too costly and seem to suffer from the transplanting shock. A few commercial nurserymen are now handling the rose plants, but the supply so far has not been equal to the demand.

The Missouri Conservation Commission, Jefferson City, Missouri, has studied the rose's adaptability to soil conditions in the different sections of the state. The Commission also plans to assist farmers and sportsmen by supplying planting stock at low cost. The plants should be ordered through the county agricultural extension agents of the various counties.

Propagation by Seeds.—Seed planting is the most common method of propagation. Gather the seeds when fully ripe in late October or early November. They may be planted at once in nursery rows in well prepared soil. Rows are usually spaced about 3½ to 4 feet apart and the seeds are planted about 2½ to 3 inches apart in the row and covered with loose soil to a depth of 1 to 1½ inches. Stakes may mark the rows and permit cultivation early in the spring before seed sprouting occurs.

Where there is danger of the seed being destroyed by rodents, it may be stratified over winter and planted early in the spring in nursery rows as suggested above. Spring plantings should be made as soon as soil and weather conditions permit.

Seed Stratification.—This consists of placing sand to a depth of about 1½ inches in a shallow box provided with good water drainage. On this a layer of seeds may be placed followed by another layer of sand and seeds. The operation may be continued in this manner until the box is filled or work is finished. Since the seeds of multiflora rose are small, a layer of cheesecloth may be placed on the first layer of sand and the seeds placed upon the cheesecloth with another layer of cheesecloth placed on top of the seeds, then followed with a layer of sand. Placing the seed between the cheesecloth will prevent mixing them with the sand and may facilitate their handling and planting. The box may then be set flat on the ground in a well drained place

on the north side of a building. For winter protection it is well to mulch with straw or old hay to a depth of about 3 inches and cover with screen wire anchored in the soil to prevent damage by rodents. The seeds are then planted early in the spring in nursery rows, the same as in late fall planting.

Propagation By Hard-wood Cuttings.—Portions of the dormant stems of the previous season's growth are cut 7 to 8 inches long during January or February. These are placed in moist sawdust or sand and stored at a temperature of about 45° F for several weeks to callus. Early in the spring, or as soon as weather and soil permit, these callused cuttings may be planted in a nursery row. Or they may be planted in the fence row if they can be kept cultivated and irrigated the first year to insure a good stand of plants. Dipping the moistened, callused tip of the cutting into the powder of any of the commercial plant root hormones will aid root development.

The cuttings are set 6 or 7 inches apart in nursery rows spaced 3½ to 4 feet apart. The soil is tramped about the cuttings, leaving only 2 inches of the cutting above the soil.

Wood of the past season may also be taken and cuttings made in the early spring or just before the starting of growth. When this is done the cuttings may be treated with a root hormone and pushed into previously prepared soil even if it is too wet to stir. When cuttings are pushed into moist ground, no firming of the soil is needed.

Cultivation should follow throughout the spring and summer at intervals of about 10 days or two weeks or after rains in order to keep down grass and weeds. Moreover, cuttings should be watered thoroughly at 7 to 10 day intervals during dry periods. Cultivation should be given after irrigation as in the case of rains. By irrigating promptly when needed, much better stands of cuttings are secured.

Soft-wood Cuttings.—Soft-wood or green cuttings may also be made in June and early July. Treatment with a commercial root hormone as suggested for hard-wood cuttings should prove very helpful in securing rapid growth. All the care and attention regarding preparation of cuttings, planting, cultivating and irrigating apply equally well to the growing of green or soft-wood cuttings.

After one season of growth, all the plants produced from cuttings may be lifted in late fall or early winter and transplanted to the permanent fence row. The plants are sometimes, however, allowed to grow another season in the nursery row before transplanting. Such two-year-old plants should also prove satisfactory if handled properly. After setting, all plants should be cut back to about six inches or less.

Transplanting for Hedge Fence

Rosa multiflora is easy to transplant and gives remarkable survival *when transplanted in a dormant condition.* Growth begins unusually early in the spring and the plant suffers heavy shock when planted after the buds break. On the more porous soils best results have been secured from late fall planting with mulching. Early spring planting is better on the tighter soils, unless a heavy application of mulch is used when late fall planted. Mulching after late fall or early winter planting is advisable to prevent the plants from being pushed up out of the soil as a result of alternate winter freezing and thawing.

Fig. 4.—Multiflora rose fence planted on the contour and used as an enclosure for lambs. (Courtesy Hugh Steavenson, U. S. Soil Conservation Service Elsberry, Mo.)

Rooted multiflora rose plants may be set successfully anytime from November until the following April, weather and soil conditions permitting. Normally, plants set after March in South Missouri and later than April in North Missouri may have a comparatively low survival. By cutting the plants back to near the ground, however, the season of planting may be extended from 3 to 4 weeks. Late spring planting generally requires heavy mulching or timely cultivations and supplementary irrigation for good results.

Bundles of nursery stock upon arrival should be opened at once and the packing material, including the roots, wet down without

delay. If soil and weather conditions permit planting should go forward at once. Otherwise heel-in properly and water thoroughly. Maintain the soil in a moist condition until planting. In the setting operation keep the roots in containers partly filled with water or cover them with damp packing materials. At no time should the bare roots be exposed to the drying action of the wind and sun even for a few minutes.

An efficient method in commercial planting consists of opening a furrow with a single-bottom plow in the center of the back furrow of the prepared planting strip. The plants are properly spaced in the furrow. The soil is then turned back into the furrow, and where a tractor is used, the soil may be packed or tamped by allowing the rear tractor wheel to run alongside the row. The soil may also be firmed or packed about the plants by tramping. The soil must be firmed around the roots for good results.

Planting and Spacing

In the first experimental investigations the plants were spaced 3 or 4 feet apart for a single-row barrier. More recently plants have been planted one foot apart to turn horses and cattle, and 6 inches apart as a barrier against hogs, sheep and goats. This closer spacing seems much more certain of making a tight barrier at the earliest possible date. Furthermore, the multiflora rose cannot be expected to make a dense, vigorous growth where crowded by trees; hence barrier plantings around woodlots or trees should be at least 20 feet away from large trees.

Care and Maintenance

Mulching and Cultivating.—The multiflora rose responds well to liberal mulching (straw, spoiled hay, old stack butts, etc.). Cultivation the first year or two is likewise beneficial, but cultivation is not necessary where liberal mulching suppresses grass and weed competition, and mulching has generally proven more stimulating than cultivation, especially where there is danger of soil erosion on sloping land. Tillage and mowing in fields adjacent to the hedge are helpful in reducing weed and grass competition.

Fertilizing.—The use of fertilizers seems much less important than good site preparation, timeliness and thoroughness in planting, proper mulching, adequate irrigation and good cultivation.

A fall application of 2-4 inches of manure spread over the planting site should generally prove satisfactory. Also, the manure may be supplemented to advantage through the use of a complete fertilizer

like 4-12-4. This product or a similar combination fertilizer may be spread with the manure at the rate of about 160 to 200 pounds for each one-fourth mile of hedge.

Thorough disking should follow the fertilizer application. Then plow the planting site as deeply as soil conditions permit leaving a slight ridge in the center of the cultivated belt to facilitate soil drainage.