GREETING SUMMER IN FIELD AND GARDEN

THE GARDEN IN SUMMER.

The last of the summer bedding finished and the garden put in shape for the season. Nothing should be left to mar the general effect. Lawns and edgings should be kept trimmed, the garden free from weeds and the surface of the beds freshened by regular hoeing.

Plants should be neatly staked and tied as rapidly as they grow. Hide the stakes as much as possible and have them shorter than the full height of the plant. An assortment of bamboo stakes will be found very useful. In small gardens six or seven foot stakes will be sufficient, but in large gardens the largest size, as long as fish poles, very stout at the base, will be found useful. The smaller stakes can be cut to the proper length. The long stakes are good for climbing plants and make neat and attractive trellises. Bought in hundred lots they are not expensive. Bamboo stakes are taken up at the end of the season and are serviceable for several years. Chrysanthemums, rudebeckias, hardy phlox, delphiniums and similar plants, unless in a sheltered position, should be supported by stakes, so tied that they do not show. The amount of wind the plants have to withstand and damage by domestic animals are the determining factors in deciding what plants require staking.

Annuals must be properly thinned and seedlings transplanted. Dead flowers should be promptly removed. The faded flowers are unattractive and they produce seed and shorten the life of the plant. Where the faded flowers are removed the plants continue blooming for a longer period. Violas in particular plainly show the latter characteristic, as do pansies, sweet peas and many others.

Hardy plants becoming crowded should be thinned of weak growth. Each plant should have room to grow naturally, though the plants may meet.

Liquid manure will be beneficial for established roses and other plants, but should not be used on seedlings. Liquid manure should not be stronger than the color of weak tea. Apply directly to the roots of the plants and not over the foliage. Give a sprinkling of water before applying the liquid fertilizer, which should not be given oftener than once a week.

There is nothing better than old leaves to use for a mulching over the roots of plants requiring cool, damp soil.

English walnuts grown in New York State have a better flavor than the Western nuts, it is claimed. One walnut orchard in Rochester covers thirty acres and the yield, which is heavy, is sold at fancy prices. Many new varieties have been discovered in this orchard by the experts of the Agricultural Department.

Neosho, Missouri, the centre of the State strawberry section, ships 1,500 carloads of strawberries every season, with a constantly increasing production. The average is 448 crates to a car. The value of each car is from $1,075 to $1,250.

Now is a good time to visit nurseries with a note book. See the plants in flower and make a memorandum of those to order next spring.

The seedmen's trial grounds are worth watching, for those who are able to visit them.

A single toad has been known to devour over 10,000 insects in three months time. It pays to protect such an industrious insect destroyer.

Lilium candidum should be transplanted in July or August, as this is its natural season of rest.

RHODODENDRONS
Washington State Flower, collected from the forest.
52 collected plants, 5 to 10 inches, $1.00
100 Plants, by prepaid parcel post, 3.75
Transplants, $2.50 per dozen, postpaid.
Plant presents on Fall delivery orders.
JOEL SHOMAKER,
Olympic Nature Nursery,
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Harlowarden Gardens, Greenport, N. Y.

FOR SALE—Strawberry Plants, Missionary and Klondyke Varieties now ready, $2.25 per 1,000. Sweet Potato Plants or Vines, Nancy Hall Porto Rico Yam and Pumpkin Yam Varieties, $1.50 per 1,000; Beardless Cactus, fine for stock feeding, at $1.00 per cutting. Place order now. W. J. HAWKINS, Box 392, Plant City, Fla.

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Gathers Peaches, Apples, Etc.,
from topmost branches. Equal to hand picking. Saves climbing ladder. Nothing to insure the fruit. None is out of reach. Sent postage paid for 50c each. Money back if not O. K. Interesting circulars free.
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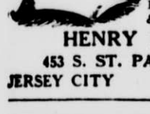
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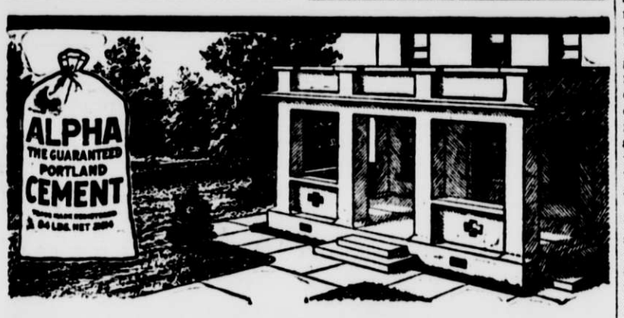

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CALCEOLARIAS.

Calceolaria seed should be sown in July in good loam, mixed with sharp sand, two-thirds loam and one-third sand. Sift the soil before sowing the seeds. Firm the soil in the seed pan, level it and give a thorough watering and let it stand until the following day before sowing the seeds.

Use care and sow thinly in very shallow drills and cover the seeds with finely sifted soil. Set the pan in a warm, moist temperature, covering it with a pane of glass, until the seedlings appear, which will be about a week. Remove the glass and place close to the light, where the seedlings will have plenty of light, but be protected from the direct rays of the sun. Be careful not to let the soil dry out. Ventilate when possible and keep the atmosphere moist.

As soon as the little plants are large enough to handle set them two inches apart in shallow boxes or flats. The soil should be of the same character as that in which the seeds were sown. Give light, air and water as before. When the plants begin to crowd, pot in three or four inch pots, incorporating a little well decayed manure with the potting compost. Set the pots in a shallow box with sphagnum moss on the bottom and between the pots and over the soil, so as to promote a moist atmosphere around the plants by evaporation.

Keep the plants growing during the winter, never allowing the soil to dry out, giving a night temperature not below 45 degrees. A temperature of 65 degrees is sufficient during the day.

Late in February or in March shift the plants into six inch pots, using a compost similar to that used before, but it need not be sifted. Give air and shade during bright days and twice a week liquid fertilizer while watering. The plants will soon be in bloom and should be given ventilation, but avoid severe draughts of air.

Any one can grow beautiful hybrid calceolarias and the display of flowers for a period of several weeks will more than compensate for the time and labor bestowed upon them.

GEORGE W. PARK.

THE PREACHER FLORIST.

C. S. Harrison of York, Neb., was born in Otsego county, New York, November 24, 1832, making him 84 years old in November.

Mr. Harrison is another illustration of the fact that gardening is a healthful occupation. He is still active among his flowers and is in demand for addressing conventions and horticultural gatherings. Our last letter from him was written from Minneapolis, where he addressed the Minnesota State Horticultural Society.

Mr. Harrison was one of the early Western pioneers. He commenced preaching on the frontiers of Minnesota in 1857, covering a territory of more than a hundred miles square, preaching the first sermon in many towns that have since grown to be great cities. There were no roads and no bridges at that time, and the itinerant preacher was frequently nearly drowned in summer and nearly frozen in winter. Not a doctor was to be had anywhere in the territory, and it therefore frequently fell to the preacher to act as doctor, nurse and sometimes as surgeon.

In one instance a terrible accident in a saw mill happened to one of the settlers. It was thought that he could not live. The preacher followed the wounded man to his home, kept down the inflammation in the wound until a surgeon could be sent for and brought more than fifty miles through the rough forest trails. On the arrival of the surgeon Harrison was compelled to assist in the operation. The life of the pioneer was saved and his gratitude was impressed upon a son, born afterward, and who is now a member of Congress.

In June Mr. Harrison had to make the trip to Washington to marry the daughter of the Congressman, as the bride to be insisted on being married by the man who saved her grandfather's life. "Little did I realize while ministering to the maimed sufferer," says Mr. Harrison, "that fifty-five years after, to a day, I would be called upon to marry the granddaughter, one of the most beautiful brides I ever saw."

For forty-five years Harrison worked hard in the active ministry, building and paying for sixteen churches and receiving hundreds to the faith. Building churches in that day was entirely different from the effort now required.

At 70 the outlook for the old preacher was gloomy. His nerves had given out and outdoor life was required. Who wanted an old minister? He could not clerk in a store or head commercial enterprises.

Incidentally he had studied horticulture, founded the Franklin Academy, with a nursery attached, where several students were kept at work. He had taught his two sons horticulture and they now operate a large and prosperous nursery.

He determined to go into ornamental horticulture with a capital of only $200.

Beginning on two city lots, it was found that in his head and hands he had the basis of a business. The work grew constantly and in ten years a half interest was sold for $5,000. Most of the land was devoted to peonies. The nursery was later taken by the State of Nebraska as an experiment station.

Much was done at the original nursery in producing new phloxes, peonies and irises. Since he was 70 years old Mr. Harrison has published four or more books on horticulture, each of which has run into several editions.

Mr. Harrison spent considerable time in the Rocky Mountains collecting over 200,000 small evergreens for the United States Government, making a special study of the hardy bull or ponderosa pine and has raised millions of seedlings of various kinds.

The following lines from his pen are characteristic:

"Flowers are glorious companions—sensitive to care. When I go among them they welcome me as a god and worship me with incense, and each one goes on dress parade vying with each other to see which can put on the most gorgeous robes—like a great army of maidens preparing for their nuptials."

By cooperation the strawberry growers of Missouri devote all their time to growing and a selling organization takes care of that branch of the industry, having raised the price for the grower from 4 to 7 cents a quart to 10 to 12 cents.

KILLING BIRDS IS EXPENSIVE.

Col. G. O. Shields was brought up with a gun in his hands and was an ardent sportsman for forty years, doing his full share of damage to civilization by killing game birds for food. A wonderful change must come over a man of such habits to induce him to entirely give up his favorite sport which has almost become a profession. Col. Shields has not killed a bird since he learned their economic value and he says: "Quails, prairie chickens, meadow larks and other birds have been swept away by millions by the gunners in the South and now the cotton growers lose $100,000,000 annually by the ravages of the boll weevil. The cinch bug costs grain growers over $100,000,000 a year and the Hessian fly $200,000,000. The last two insects are microscopic. It takes 24,000 of the cinch bug to weigh an ounce and 50,000 of the Hessian flies. A quail killed in a wheat field in Ohio was found by a Government expert to have 1,200 cinch bugs in its craw and a quail in Kansas showed 2,000 Hessian flies eaten during the day. A quail in Pennsylvania had 127 potato bugs in its stomach. It costs Northern farmers $17,000,000 a year for paris green. Not an ounce of paris green would be needed if there was a normal number of quails in the country, and they would be back in ten years if each farmer would protect the birds that remain and prohibit shooting on his lands."

BEST ROSES.

We live on Staten Island and have eight city lots, four of which are devoted to flowers, mostly roses of all leading varieties, but we like the Conrad F. Meyer the best. It is growing on a trellis on the south side of our home. The plant is about twelve feet high and spreads twelve feet up to our bedroom windows. It is now six years old and blooms very early and freely each spring. The flowers and buds are beautiful, similar to La France in color and shape and earlier by two weeks than any other roses in our garden. They are very fragrant and a most beautiful sight when in full bloom; fine for cutting and last a long time when cut in bud and kept in fresh water. The foliage is large, full leaved and almost exempt from bugs, receiving no more spraying than the other roses. It is our favorite, also very much admired by all our neighbors.—John A. Howard, New York.

THE BORER.

Worming with a wire is the sure way of getting borers in trees. A heavy application of some paint that will not injure the tree but will remain in an unbroken coat on the bark for two or three months is effective in preventing the female from laying her eggs in the tree and will greatly reduce the amount of worming that must be done.

The borer lays its eggs in or under the bark of apple trees. After hatching the larvæ feed upon the inner bark and wood to such an extent that the tree is seriously weakened or killed. The pest is found over the whole of the eastern portion of the United States and as far west as Kansas and New Mexico.

The female lays her eggs, one at a time, in an incision she has made in the bark, usually just above the surface of the ground. About fifteen or twenty days later the eggs hatch and the larvæ appear. When full grown these are nearly an inch and a half in length. They first attack the inner bark, eating out broad, more or less circular galleries and thrusting out through small holes in the bark castings which form little heaps of reddish wood fragments around the base of the tree. During the winter the borers are quiescent, but early in the following spring they attack the solid wood, while some of them work their way up the trunk.

CATALPA SPHINX.

Owners of catalpa trees should watch in the summer and early autumn for the appearance of large yellow and black caterpillars on the trees. Unless controlled, when present in large numbers these caterpillars may do considerable injury, sometimes completely stripping the leaves from the trees.

Farmers Bulletin No. 705, United States Department of Agriculture, gives complete information for dealing with this difficulty. The bulletin is free and those interested should send for it.

HOW TO COOK ONION TOPS.

The tops of young onions, chopped fine, are useful for seasoning salads, &c. When properly cooked the tops of young onions make a very palatable dish.

The tops, including the white portion of the stalk which is not used with the onions, should be washed several times, cut into pieces one-half to an inch in length, and cooked in salted water to which baking soda has been added in the proportion of one-fourth of a level teaspoonful to two quarts of the cut up greens or tops.

As soon as the onion greens are tender pour off the water in which they were cooked, add butter, heat thoroughly and serve on buttered toast.

A poached egg may be placed on each slice of toast and green onions. Onion tops thus cooked are tender and mild in flavor.

WILD ONIONS TROUBLESOME.

The wild onion ripens in June or July and produces on the top of the stem a cluster of aerial bulblets. The underground portion contains from two to six newly formed bulbs. The aerial bulblets have soft shells and germinate in the autumn. Some of the underground bulbs have soft shells and germinate in the autumn, while others have hard shells, remaining dormant during the winter, germinating the following spring.

To rid a cultivated field of wild onions the land should be ploughed in the autumn as soon as the new plants are 12 to 15 inches high, being careful to turn under all the tops. The next spring another ploughing may be required, but ordinarily disking will suffice. Cut off all the tops as fast as they appear, using a cultivator for the purpose. Deep plough again in the same manner and repeat in the spring. Two years should eradicate the wild onion.

In lawns the aerial bulblets are seldom produced because the tops are kept cut back with the lawn mower, but the plant propagates by producing underground bulbs and is most often found growing in clusters. To eradicate from lawns where the onions are not too plentiful a good plan is to dig out the entire cluster when the soil is soft. The hole made should be filled with soil and planted to grass seed. Another successful method for killing onions in lawns is by the use of chemical plant poisons, as coal tar, creosote oil or carbon bisulphide. A small amount of the poison should be applied directly to each cluster. This can best be done by using a small spring bottom oil can. After the onions are dead the bare spot left should be seeded to grass.

In pastures where there are only a few clusters the same treatment recommended for lawns is the most advisable. Where pastures are badly infested they must be cultivated as recommended for cultivated fields.

SPRAY POTATOES WITH BORDEAUX.

In spite of the present high price for copper sulphate this year, many who grow potatoes will wish to spray them in order to prevent the blight which was so general and destructive last year. The question arises whether it will pay to use bordeaux mixture. Some are considering the use of a commercial prepared bordeaux and others the use of sulphur in some form.

The New York State College of Agriculture at Cornell University points out that experiments conducted by several experiment stations show that bordeaux mixture is the most efficient fungicide for controlling potato blight and that there is no satisfactory substitute. Lime-sulphur solution should not be used on potato vines, as it injures them. Some of the commercial bordeaux pastes have given good results.

Experimental work has indicated that it may be possible to use a weaker bordeaux than has heretofore been generally recommended. A 3-3-50 bordeaux, or three pounds of copper sulphate and three pounds of lime to fifty gallons of water, may be effective if the applications are thorough and timely.

Since the disease starts during damp weather, it is necessary to have the vines sprayed before such weather comes on; and it will not be necessary to spray for blight if the weather continues dry. One spraying, however, will not protect the new growth that comes out after an application is made, so the new growth should be protected by subsequent applications before blight weather comes on. From four to eight applications, depending on weather conditions, are necessary to control blight and rot.

The vines should be sprayed thoroughly. This can be done best with a pump that will maintain a pressure of 120 pounds or more, depending upon the nozzle used. A fine mist should be produced that will be driven among the vines or will float among them, so as to protect them completely.

WHAT IS YOUR BEST ROSE?

What is your best rose and why? We want to know and so do thousands of readers of THE SUN Garden Department. No matter where you live, whether in Maine or California, Canada or Florida, THE SUN Garden Department is read all over America and in many foreign countries.

Tell the story of your best road and why briefly, using not more than fifty printed lines of SUN space, less if desired.

We will give a dozen of the newer roses, selected for the locality in which they are to be planted, for the ten best articles received each month during July, August and September.

Autumn Planting.

Ten prizes will also be given, each prize consisting of 600 Holland bulbs of very best quality, 100 hyacinths, superfine mixed, thirty red, thirty blue, thirty white, ten yellow; 100 single early tulips, mixed; 100 single late tulips, mixed; 100 Darwin tulips, mixed; 100 cottage tulips, mixed; 50 English iris and 50 Spanish iris.

These ten bulb prizes will be given for the ten best articles on autumn planting. The articles may be on outdoor bulb planting, bulbs planted in the autumn for winter flowering, window gardens, on the conservatory or small greenhouse, autumn ornamental tree or fruit tree planting, autumn work in the garden or any other subject relating to autumn garden work. The articles must be received by August 10.

The rose prizes will be delivered by parcel post anywhere in the United States or Canada. The bulb prizes will be shipped from New York city, but the winners of the bulb prizes will have the express charges to pay. Weight of boxes will be about forty pounds each. Address all communications to The Garden Department, THE SUN, New York.

NEW ANNUAL POPPIES.

Weeber & Don of New York will offer seeds of a new double annual poppy next season. The flowers are very double, fringed, and the colors are striking. Seemingly this new variety forms a class between the carnation flowered and peony flowered poppies. The flowers are so unusual that at first glance they are mistaken for artificial tissue paper flowers.

Poppies are growing in popularity and there will surely be a large demand for Weeber & Don's new double poppy.

THE CARE OF MILK IN HOT WEATHER.

Milk should be kept clean, cold and covered. Do not permit the bottle of milk to be left out in the heat a moment longer than necessary. Under no circumstances leave an uncovered pitcher, bowl or pan on the porch to receive bulk milk. Keep milk at a temperature of 50 degrees Fahrenheit or lower; the colder the better. At such temperatures bacteria develop very slowly and the milk undergoes little change until consumed. A slight rise in temperature above this point permits bacteria to multiply rapidly and causes rapid deterioration of the milk, which may render it unfit for ordinary use and highly dangerous for babies and children.

In hot weather the best plan is to have the milkman put the milk directly into the refrigerator, because at that time of the year milk cannot be kept properly without ice. If a refrigerator is not available provide a small box containing ice, and if ice is unobtainable provide some tight container with insulated walls that keep the heat from getting rapidly to the cold milk. A homemade fireless cooker is admirable for this purpose, especially if partially filled with ice. In the absence of any of these devices arrange with the milkman not to leave the milk in the sunlight, but to put it in the coolest, shadiest place around the house.

Handling Milk.

In handling milk around the home do not pour it from one vessel to another until it is to be consumed. Do not let the bottle of milk remain out of the refrigerator a moment longer than is necessary. Keep the milk covered, using paper caps or an inverted tumbler on bottles, or storing it in covered utensils. Any household utensil that is to be used as a vessel for keeping milk should first be cleaned thoroughly and scalded.

Before opening a bottle of milk wash and wipe the neck and outside of the cap with water and a clean cloth. The little depression on the top of the cap may collect dust or water and any milk that leaks out may attract flies. Lift out the cap with a pointed instrument so that the outside of the cap, which may be contaminated, will not be pushed down into the milk. Each time the milk is to be poured from the bottle it is a wise precaution to wash the neck as described.

In the Refrigerator.

The refrigerator where milk is stored should be cleaned regularly, especial care being given to keeping the drip pipe free and clean. The ice rack also should be cleaned and any place where food is kept or milk stored should be scalded occasionally with sal soda solution. The refrigerator, even though cold, may quickly be contaminated by a few drops of spilled milk or by small particles of food. No matter how clean the refrigerator milk should never be kept in an open vessel. As milk absorbs odors easily such food as fish, cabage or onions should not be kept in proximity to it.

Clean Empty Bottles.

As soon as a milk bottle is emptied rinse it thoroughly with cold water. Do not return dirty bottles and do not use milk bottles except to hold milk. Returning dirty bottles to the milkman may mean that a few days later either you or your neighbors will get contaminated milk. Milk bottles should never be taken into a sick room. In case of infectious or contagious disease all bottles should be boiled thoroughly and should not be returned to the dealer without the express permission of the attending physician. Such diseases easily can be made epidemic through disregard of this precaution.

Milk for Children.

Care of milk, important for all, is a vital necessity in a home where there are children. It is absolutely essential to the safety of babies. No intelligent mother will leave to an ordinary servant the task of caring for or preparing the milk for her baby. Mothers of small children should get from their own physicians explicit directions for the proper handling of milk and for cleaning and sterilizing nursing bottles. Write to the United States Department of Agriculture, Washington, D. C., and ask for a copy of Bulletin 413 on the care of milk. It is sent free. Pamphlets on infant feeding may be obtained from the municipal milk stations or health officers. Milk for babies cannot be kept too cold and too much care cannot be given to keeping it clean and covered.

PROTECTING ANIMALS FROM FLIES.

Common laundry soap	1 pound
Water	6 gallons
Crude petroleum	1 gallon
Powdered naphthaline	4 ounces

Cut the soap into thin shavings and dissolve in water by the aid of heat; dissolve the naphthaline in the crude oil, mix the two solutions, put them in an old dasher churn and mix thoroughly 15 minutes. Stir well before using and apply to cows, with a brush, once or twice a week. This is said to be an effective fly repellent.

South Carolina leads all other States to date this season in shipping cabbages—1,708 carloads.

Florida leads in shipments of potatoes, 1,243 cars. Texas is second, 1,208. South Carolina and North Carolina next, each with more than 1,100 cars.

Tennessee leads in strawberries, 2,208 cars. Arkansas follows with 1,727. Louisiana, 1,643.

Florida has shipped 4,566 cars of tomatoes so far this season and 302 cars of watermelons.

U. F., Yonkers.—Please send your address to Editor Garden Department, NEW YORK SUN.

Bring the Birds Around You
Make your garden or lawn a meeting place for the cheerful friendly, useful little creatures and beautify the place with a superb CARVED STONE BIRD BATH (or maybe two or three of them). Carved from solid genuine Bedford INDIANA LIMESTONE. Handsome semi-classical design. It will be just as attractive to you on your lawn as to the birds which will splash in it daily. Price very reasonable. Write for information and photograph. FREE.
Indiana Quarries Company
Merchants Loan & Trust Bldg. CHICAGO, ILL.

ANTI-HOG CHOLERA SERUM.

New Method of Making It Free From Foot and Mouth Virus.

A new method of preparing anti-hog cholera serum, which permits the economical production of a clear sterilized product, has just been described in the *Journal of Agricultural Research* of the United States Department of Agriculture. The advantage claimed for the new method is that it makes possible the production of an anti-hog cholera serum which can be quickly sterilized by heat to a point that will absolutely kill any germs of foot and mouth disease and so yield a serum that is absolutely safe even if taken from a hog which might harbor foot and mouth disease and yet give no indication of being infected.

The method, as described by its discoverers, Dr. Marion Dorset and R. R. Henley of the biochemic division, Bureau of Animal Industry, consists in adding a slight amount of an extract from ordinary white navy beans to the defibrinated hog cholera immune blood which has been the form of the serum used in the past. The addition of this bean extract causes the red cells of the blood to agglutinate, and when the mixture is whirled on a centrifuge the red cells pack together and form a rather stiff jellylike mass. It is then possible to pour off a clear serum, leaving behind the red cells, which play no part in preventing hog cholera and which in fact simply tend to dilute the serum and render its sterilization by heat impracticable. To increase the yield of clear serum the discoverers added a small amount of ordinary salt and found that they obtained from 70 to 74 per cent. of clear serum. The clear serum thus obtained, it was found, could be heated for thirty minutes at a temperature of 60 degrees centigrade without changing its consistency or lessening in any way its effectiveness in preventing hog cholera. The heating to this point for this time is more than sufficient to kill any germs of foot and mouth disease which might accidentally be present. Practical tests with hogs show that probably all of the antibodies useful in combating hog cholera were retained in the serum, and the red cells extracted contained so few, if any, of these valuable bodies as to make the residue of red cells useless in preventing the disease.

Before the clear serum was developed many attempts were made to sterilize by heat in a practicable way the ordinary defibrinated blood. It was found, however, that heating the old product up to 60 degrees centigrade resulted in more or less complete coagulation of the defibrinated blood and in the destruction of the serum so far as its commercial worth is concerned. It was found that the highest temperature that could be used was 50 degrees centigrade and it was necessary to keep the old serum at this temperature for twelve hours to make certain that the virus of foot and mouth disease was killed. Heating serum at a steady temperature over this long period in ordinary practice is difficult and too expensive.

Attempts also were made to make a clear serum by centrifugalizing. It was found, however, that while the centrifuge would separate to some extent the red cells they were in such shape that it was difficult to separate the serum completely. An important quantity of antibodies were left behind in the red clot, and the resulting product was a cloudy rather than a clear serum. With this process, moreover, it was possible ordinarily to secure only about 50 per cent. of serum. Under the new method it is possible to secure as high as 74 per cent. of clear serum, which in actual test has proved to be fully potent. This clear serum, moreover, can be completely sterilized in 30 minutes, whereas the old serum had to be heated steadily for twelve hours.

The new form of serum is not yet being made or put on sale by the commercial serum laboratories. As this process was discovered by the Federal Government, any one in the United States is free to use it.

WHITE PINE BLISTER RUST GRAVE MENACE.

The white pine blister rust has reached a stage where energetic action is imperative if the disease is to be controlled. Not only is all of the Eastern white pine threatened but there is little doubt that if rigid State quarantines do not stop it the infection ultimately will ravage the great forests of the West.

European experience with this disease indicates that its further spread in this country will be a catastrophe which it is impossible to exaggerate. The mature white pine in the Eastern States is valued to-day at approximately $186,000,000. More than this, in many sections white pine is much the most valuable tree available for future forests. It is used in fully nine-tenths of the reforestation work in the northeastern States, and, because of its immunity to the gypsy moth, is of particular service in the areas infested with this pest.

The possible loss from the disease in the West is even greater. There the mature stands of sugar and Western white pine are valued at $240,000,000. Both of these species have been attacked by the rust in Europe, and together with the limber pine of the Rocky Mountains would provide a means for disseminating the disease over the entire West. Up to the present, however, the infection has not advanced thus far, and the only way in which it can cross the arid plains is in shipments of Eastern nursery stock. This is the explanation of the urgent need for State quarantines. Each State west of the Missouri River should prohibit immediately all shipments from the East of five needle pines or of currants and gooseberries, which play an important part in the transmission of the disease.

CLEMATIS OVATA WANTED.

A SUN reader describes a wonderfully beautiful dwarf hardy clematis that grew in her mother's garden many years ago. The pendulous blossoms were pale bluish violet, lined with white and very fragrant.

"For years," she says, "I have tried to find this plant and have been unable to learn anything about it. Lately I found a description of it in the *Garden Magazine*, page 286, June, 1912, under the name of Clematis ovata, erect mountain clematis. The writer says: 'If known, every garden gate would be open for its entrance.' I wonder if this description meeting the eye of any of your readers would draw this lovely flower from an unmerited obscurity. I have spent much time poring over catalogues, but cannot trace it. I hope you will help find this lost treasure. Voyages of discovery in the flowery land are always interesting."

Can this lost favorite be one of the crispa group or C. integrifolia, or C. integrifolia?

Can any of our readers offer any information?

A bulletin on forest legislation in America prior to March 4, 1789, has just been issued by the New York State College of Agriculture, containing a record of a large number of laws enacted in the colonies for the preservation of forests, from the time of the Pilgrims to the institution of Federal Government in 1789. The colonial legislation provides for protection against fires, the conservation of timber, the prevention of trespass, and lays down regulations for the lumber and timber industry. Twenty years after the founding of Jamestown England became interested in the production of naval stores in the new world, and this pamphlet gives an account of the various steps taken by the Crown for the protection of forests in the colonies. As the activities of the colonies developed, laws were enacted for cooperation in the conservation of forests, and for controlling the use of rivers as highways for logs, rafts and other timbers, and will be of interest to those who have followed questions of the history of forestry and of forest legislation. This bulletin, No. 870, may be obtained by residents of New York on application to the State College of Agriculture, Ithaca, N. Y.

There are 20,000 acres of strawberries under cultivation in the berry section of Missouri, practically all in tracts of ten acres, each operated by its owner.

Bumper crops of strawberries are not permitted to lower the price, as they are distributed over a wider territory than when the crop is short.

Buyers come to the selling organization and pay the cash for the car of fruit before it starts on its journey.

The returns from strawberry growing, under the cooperative association system in Missouri, is from $100 to $300 an acre.

ADVERTISEMENT. ADVERTISEMENT.

NEW YORK SUN, SUNDAY, JUNE 18, 1916.

"PIED PIPER" RIDS PATERSON OF RATS

Chemicals Do What Zealous Shooters of Rodents Found to Be Hopeless Task.

PATERSON, N. J., June 17.—Rats! They fought the dogs and killed the cats. Not only that, they overran East Side Park and invaded some of Paterson's finest homes.

But the Pied Piper came on Thursday in the person of Virus, Ltd., 72 Front street, New York, with a chemical preparation. This was spread around in East Side Park. To-day not a rat is to be seen. "Great rats, small rats, lean rats, brawny rats, brown rats, black rats, gray rats, tawny rats, grave old plodders, gay young friskers, fathers, mothers, uncles, cousins" have vanished.

William A. Arnold, one of the residents of the East Side Park district, who had been gunning for rats every morning up to Thursday and had averaged forty or fifty a day, reported this morning that the rats had disappeared.

Mr. Arnold estimated that there were at least 5,000 rats in the district a few days ago. There are a number of deer and squirrels in the park, fed by the city. The rats have been stealing the food left for these animals.

The only criticism we have to make on the above article from the New York Sun is that we used no chemicals, but Danysz Virus, a bacteriological and highly scientific preparation, which is quite harmless to human beings, domestic and other animals and birds.

If you are troubled with Rats or Mice in your home, farm outbuildings, factory, etc., we suggest your communicating with us; we are certain we can help you.

VIRUS LIMITED, INC., 72 Front St., New York City
Phone Hanover 960.