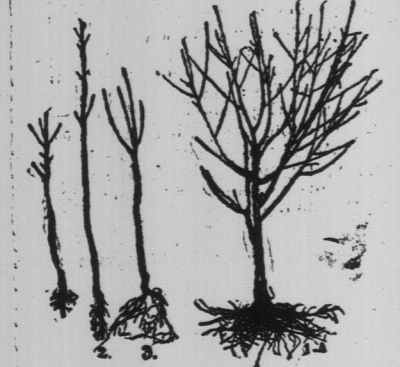


ROOT PRUNING.

A Timely Article Upon the Practice in a Northern Climate by Prof. J. Troop of Indiana.

In our earlier days we were taught that it was one of the essential requirements to success in transplanting trees to save all of the roots possible so that the feeding capacity of the tree might not be lessened more than was absolutely necessary. The subject of plant physiology was but little understood. The ability of the plants to form new tissue where needed and to adapt itself to surrounding conditions generally had not been studied to any great extent. Soon after Mr. Stringfellow of Texas made public his theories concerning close root pruning, a few years ago, a number of experiments



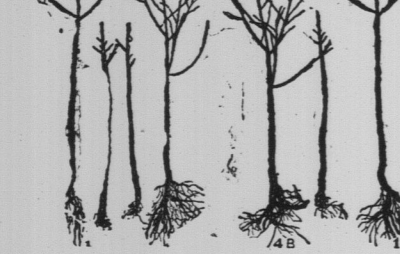
EFFECT OF ROOT PRUNING ON ST. JOHN PEACH.
Nos. 1, 2, 3 trees ready to set April, 1886. No. 1 after growing one season, Nos. 2 and 3 had died.

were immediately set in motion with the view of testing the truth or falsity of these theories, which, in some respects, were in direct conflict with the teachings of Downing and other noted horticulturalists. The results of some of these experiments have already been published, but the most of them have been carried on in the south where the conditions are different from those in the north. In a recent illustrated bulletin from the Georgia experimental station the subject is set forth in considerable detail, giving the results of a series of experiments, mostly with the peach, which cannot help being very interesting to the southern fruit grower at least.

In order to test this question for a more northern climate I began some experiments in the spring of 1886, by securing from the nursery four trees, as follows: German prune, Early Richmond cherry, Dutch Beauty pear (standard), Dutch Beauty pear (dwarf), St. John peach and Orange quince. Two trees each of these varieties were pruned so that not more than an inch or two of the roots remained and the tops were cut back as shown in the illustrations. The other two were pruned as they came from the nursery, except all ragged, broken ends of roots were cut off. The trees were photographed before planting and again after they had grown a single season. The result of this experiment showed a wide difference in the ability of different varieties to adapt themselves to this severe method of pruning. For example, the peach began to throw out its feeding roots almost immediately, and while two of the trees did not suffer from any other causes, the one that remained made a magnificent top and root system as well.

The dwarf pear made perhaps the finest root growth of any. Starting in the spring with nothing but a bare stub, at the end of the season there was a complete mass of fine feeding roots which could have been able, another season, to push the top along at a rapid rate. The standard pear made a fairly good growth, as did also the German prune, but the Early Richmond cherries did not seem to take kindly to the harsh treatment, and one of them died, while the other hardly made enough roots to sustain life. The quince made no growth at all, which was probably due to other causes than the close pruning.

It will be seen that these trees were all cut out in the spring. I am of the opinion that the results would have been more favorable to the system of pruning if they had been set out in the fall, as the top surfaces would then have had time to form the callus and be ready to send out their roots as soon as spring opened. In the autumn of 1886 two dozen Wealthy apple trees (three years old) were prepared in a similar manner by close-pruning each alternate three. After growing



EFFECT OF ROOT PRUNING OF EARLY RICHMOND CHERRIES.
Nos. 1, 2, 3, 4 are the trees ready to plant April, 1886. Nos. 5, 6, 7, 8 are the corresponding trees after growing one season. No. 3 had died.

two seasons these were taken up, and in almost every case a fine root system was found on the closely-pruned trees; in fact, more of the fine, feeding roots than were found upon the others.

There is one point, however, which Mr. Stringfellow claims to be in favor of his close-pruned trees, the truth of which was not demonstrated by my experiments. He claims that a close-pruned tree will send its roots down deep, almost perpendicular, in the subsoil and so anchor the tree more firmly to its place, while the tree not pruned will have most of its roots near the surface. My experiments show that nature asserts herself here as well as elsewhere. Some trees are naturally deep-rooted, while others are shallow, and it makes but little difference, so far as is concerned, whether they are close-pruned or not. It depends more upon the nature of the variety than upon the pruning.—Prof. J. Troop, Indiana, in Orange Judd Farmer.

Seen by a Cyste.

“What do you think of the adage that all is fair in love and war?”

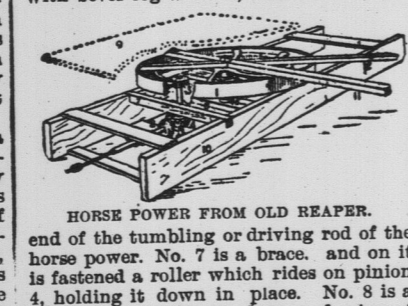
“Incomplete,” quickly replied the mystic, “No mystic made of marble, which invariably divides the spoils of love and war.”

INCUBATOR CHICKS.

How to Take Care of the Little Things After the Hatching.

Take chicks from incubator as soon as they are dry, place in a basket with a piece of flannel under and over them, and set near the stove or in a warm place; do not feed for 24 hours. Then remove to a brooder heated to 90 or 95 degrees, and feed a few bread crumbs. Keep clean water before them, arranged so they cannot get wet. A tumbler upside down in a saucer makes a good fountain. After first feed, inclose them under hover of brooder till next feed. Feed often and little at a time; they must not be overfed; feed four or five times a day, regularly, and inclose under hover after each feed. Clean away all food that is left; no stale food. Touch them with a stick at a time; they should go under hover. Wheat and cracked corn should be the main food for a week or ten days and you should feed them after fifth day. Do not habituate them to one kind of food. They should be hungry for their last feed of the day, just before dark. This last feed should be hard, dry grain. Be persistent in making them go under the hover, from the first, until they learn that it is a mother to them. Never let them become chilled by huddling in corners outside of hover. A chilled chick will generally die of bowel trouble. If front and top of brooder are made of glass, the sun will blister the chicks when it shines hot, and give them bowel complaint. When they huddle in corners, it is too hot or too cold. Carry out these directions for a week or ten days and you will have no further trouble. You can then let them out, but make them all come in early every evening for a few days. Keep dry grain in a trough in the brooder, to induce them to return.—Ohio Farmer.

Horse Power From Old Reaper.
As several have asked for plan converting an old reaper into a horse power, I send you a sketch of one I have frequently used for cutting hay, corn, etc., and pulling roots by one horse. The following are the parts of the power: No. 1 is the driver wheel, No. 2 is the cog wheel, No. 3 is on the shaft, No. 4, and bevel cog wheel 4 meshes with bevel cog wheel 2, which is on the shaft.



HORSE POWER FROM OLD REAPER.
End of the tumbler or driving rod of the horse power. No. 7 is a brace, and on it is fastened a roller which rides on plunger 4, holding it down in position. No. 8 is a brace, which holds the bottom of the drive wheel axle. No. 10 is the frame, ten inches high. The arm, 11, is three feet long, and to it is hitched. No. 12 is also ten feet long, and to it the horse is tied. No. 9 represents the cover for the power. Richardson, in London Farmer's Advocate.

Concentrating the Manure.
Very few farmers have the stable manure to fertilize all their lands as they would like. The best thing for such farmers to do is to apply this stable manure mainly to such crops on which they expect to put the most of their labor. It does not pay to plant, cultivate and hoe manure the labor more active, and therefore more profitable. With mineral fertilizers it is different. These are usually applied to grain crops, and in dressings of 150 to 250 pounds per acre are usually sufficient for the crop, besides leaving some to be taken by the clover. If these mineral fertilizers soon become insoluble in the soil that it does not pay to apply them in large amounts. A small quantity each year, however, make the crop fit to be applied to, is much better.—Prairie Farmer.

Look at Your Plum Trees.
Before warm weather comes all the plum trees should be looked over, and any that show marks of black warts that indicate black knot should be removed with a sharp knife, and the wound washed with carbolic acid solutions or some other antiseptic. In fact, it is a good plan to spray plum trees with a carbolic acid solution, made one part of carbolic acid to 2,000 parts of water. This will remain on the spores which are dormant during the winter until they burst their bounds and begin to spread the disease over the tree. The solution named is much stronger than can be applied after the foliage is in its tender growth.

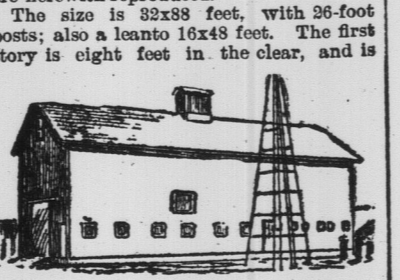
Buying Nursery Stock.
In making out orders for fruit trees and vines don't forget to order from nurseries having as near as possible the same soil and climate as the trees will have when planted, and buy from a nurseryman known to be practical, progressive and reliable. Get healthy, vigorous stock, with strong vitality, well rooted, good cane or stalk, with branches in proportion to the roots. Apple trees are considered best for planting at two to three years, not more than the latter age; standard pears should be two to three years old, dwarf pears, plums, peaches, currants, gooseberries and grapes, one to two years old.

The Muskrat Pest.
One of the worst pests about milldams and other embankments to hold water is the common muskrat. Thousands of dollars have been spent through New York to check the multiplication of this pest from the line of the Erie Canal. It is easy to trap the muskrat by placing a strong steel trap in his runways, and attaching it by a strong chain to a stake driven deep into the soil. It is necessary to look to the trap frequently, for the muskrat when it finds its foot caught will gnaw it off and escape on three legs rather than remain to be killed.

Keeping the Cows Clean.
Unless great care is observed much dirt will get into the milk at milking time. One of the easiest ways to keep the cows clean I have found is to cut the hair off the udder and around it with a small pair of barber's clippers. It is much pleasanter to milk to have this hair off the way, and it also removes the great nest harbor for dirt and filth. Then if any dirt becomes attached to the udder or teats it is a very easy matter to wash it off and dry it without having a lot of dirty water remain to drip into the pail, which is the case when the hair is thick and long.—National Stockman.

MODEL DAIRY BARN.

A Very Roomy Cow Mansion Built by a Well-Known Wisconsin Dairyman—Dimensions and Construction.



C. I. MORRISON'S DAIRY BARN.
used for stables, etc., as shown in the plan. The upper story is used for hay racks and except two feed bins (12x19 feet, each one on each side of the place where we drive in to unload hay, etc. Also water tank in left end feet, holding about 65 barrels.

To unload the hay, we drive into the door shown at the end of the barn, and the hay is elevated to the track at the top of the barn, which carries it where wanted. We use a returner on the car, which, as the load is discharged, brings it back to the load, with the hard work of the old way.

The space where we drive in with load is 17 feet high, with top of door 12x18 feet, which space is covered with trapdoors when not in use.

The frame of the barn is a combination of the plank and large timber frame. Barn is covered with drop siding and lower story is lined with building paper and matched lumber. The doors are made double and the one shown at the end of the barn, 12x18 feet, has an inside door hung on pulleys and balanced by two weights which raises door out of way when not in use.

In ventilating the stable, we have six openings in the roof, about half-way from floor to ceiling of stable. These open into flues (8x8 inches square, made of boards, which run to within six inches of ceiling. This carries the fresh air into the top of stable and prevents draft on the animals, also prevents the warmer air near the top from passing down and out of the openings.

The outlets for the foul air are 20 inches in diameter and run from near the floor to ceiling of roof. There are two of these, one on each side of the barn.

In regard to cost, it is as follows:
Lumber \$2,000
Hardware 175.00
Labor of carpenter, mason and painter 400.00
Total \$2,575.00
This includes board of carpenter, etc., but does not count my work or team work and work of hired man hauling lumber, stone, sand, etc.

An Experiment With Salt.
An observant farmer the other day called on me on a trial he made last season applying salt to mangos, says the editor of London Farmer's Advocate. Shortly before planting he secured one of 250 pounds per acre of salt, at the rate of 90 cents, from which he secured an average yield of 12 bushels of roots per acre, compared with those unsalted. That is to say, an outlay of a little over one cent gave him one bushel in return, which he thought was cheap mangels. As to any after-effect upon the land in relation to other crops he, of course, could not speak personally. With an extensive knowledge of vegetable it is well known that very considerable quantities are deposited through the atmosphere on land near the seashore, and the spreading of seaweed on land is common. With many of the best Old Country root-growing farmers it is usual to apply from four to five cwt. per acre upon their mangal land. It is sometimes mixed with the manure, and sometimes applied as a top dressing before the last horse-hoeing. The action of salt in promoting vegetable growth does not appear to be directly in its influence, neither sodium nor chlorine—the two constituents of salt—being considered absolutely necessary plant foods, unless in very small quantities. It has a mechanical effect upon soil something similar to that of manure, but its most important action is as a solvent, liberating necessary plant food. Being of an antiseptic character, it tends to prevent rankness of growth under certain conditions. Hence, we can readily understand that its effect may be favorable under some circumstances, and not so under others. While it increases the quantity of the crop, it has been found in the case of beet root to lessen the total quantity of dry matter and sugar, and in potatoes the percentage of starch. With regard to its use on mangels, which showed Old Country farmers practice, and the successful trial referred to above—which, by the way, was not our informant's first favorable experience with salt on mangels—it would be well in this country to have further trials this season by farmers and experimenters, the results of which we shall gladly make known. In the meantime it would seem applied in conjunction with other manuring, and at a rate not exceeding four or five cwt. per acre.

CHILDREN'S COSTUMES.

Govens For the Use of Little and Big Girls.

Large girls are dressed in very much the same fashion as their newly young lady-sisters, the difference often consisting solely in the length of the skirt. A girl under 11 is always supposed to dress with simplicity, but the schoolgirl's costume must be as correct and free from vagaries as if she were long gown. With children, on the contrary, something a little fanciful is desirable, lively opposition of color and quaint forms being entirely suitable for little people while they are really little. Plainness of design is always in the best taste, and no style of making the back is as a consequence again adopted. Plaids and dotted or flowered goods are used, and there are exquisite corded dimites with the finest possible figures in blue, pink or yellow, which make the daintiest of hot weather frocks, cool and easily laundered. A little child should have many of these, that they may be frequently changed; therefore simplicity of style is essential. They require little trimming, narrow Valenciennes lace and some ruffles of the same material as the gown being quite enough.



The picture shows a girl's dress of Scotch plaid in which red predominates. The skirt is trimmed with a band of gull-pure over red satin. The bodice has red satin revers crossed in front, bordered with insertion and a ruffle of guipure. The plait chemise is of white silk, the collar and ruche of red satin. The belt is also of red satin, tied at the back with long ends. The hat of red grosgrain is lined with white silk and trimmed with hoops of white silk. JUDIC CHOLLET.

WEDDING GOWNS.
Hints For the Benefit of Expectant Brides.

The enormous volume of mousseline de soie as a trimming and for entire gowns, and bodices does not decline, doubtless because it is so favorable to all complexions and has so soft and delicate an effect, no matter in what color it appears. Some of the warm weather hats newly shown consist of wire frames completely covered with mousseline de soie, which is shirred closely with little headings forming a mossy surface.

A bride's gown need not necessarily be dead white. It may be pearl, cream or ivory white, according to the taste of the wearer. Ivory or cream is usually preferred for brunettes, pearl or snow white for blonds. Whatever white is selected, all the accessories—shoes, stockings, gloves and trimmings—should be of the same tone; otherwise the effect is glaringly bad. Satin is still the usual material for wedding gowns, but white moire or fleur de velours is also admissible. The better the quality of the material the longer the train may be, while if the goods are inexpensive the train must be short. The petticoat should be very long, but should have no train. The inside of the hem of the train is usually faced with scant ruffles of silk, mousseline de soie or lace.

A wedding gown of satin is shown which has a perfectly plain skirt. The bodice is close fitting at the back, but forms a blouse in front. There is a chemise, front and back, of plaited white mousseline de soie, outlined by a tiny gas and belt are of satin, and a satin roseette is placed near the left shoulder, with long ends reaching almost to the feet of the gown. A spray of orange flowers depends from the left side of the belt. The sleeves are plain, with flaring wrist. JUDIC CHOLLET.

BENJAMINE GOWN.
being completed by a bolero of velvet of a darker tone. It comes down to the waist line and opens in front to show a yoke or plastron.

The illustration shows a costume of red bengaline. The skirt has two circular flounces trimmed with bands of black satin. The pointed bodice is ornamented with black embroidery and has revers of black satin, which open over a cravat and a jabot of embroidered white tulle. The close sleeves have bands of black satin at the top and wrist. The round hat of black straw is decorated with a long black plume, a bow of red satin and a gold buckle. JUDIC CHOLLET.

FASHION HINTS.

Lovely Silks For the Up-to-Date Woman's Wear.

It would seem that the silken fabrics produced during the winter could not be surpassed for beauty, but certainly some of those just prepared for use appear to excel them. Upon white or delicately tinted grounds of moire antique or of grosgrain with a woven, self-colored figure are shown printed designs of a chino character of the most exquisite coloring and composition. The designs are floral and seem to be melting into the fabric, so delicate is their coloring. Although the flowers themselves are not very large, they appear in large groups or garlands, sometimes forming a vague stripe. Of course gowns of such elaborately decorated fabrics require hardly any trimming, but in that fashion allowing the largest unbroken surface of goods.

The usual navy or Yale blue silk with white designs is seen in more profusion than ever this year. It has been worn for



SILK PETTICOAT.
many summers, and being very serviceable and generally becoming, it seems to enjoy a permanent vogue. The designs are chiefly of an arbitrary character this time—broken lines, curves and geometrical suggestions, placed close enough together so that the ground is well covered. The picture illustrates a petticoat of pink and white broche silk. It has a deep flounce of white surah, ornamented with lace insertion, and ruffle and groups of small tufts. The corset is of pink satin, and the corset cover is a little sleeveless bolero of pink satin, trimmed with lace insertion and tied in a knot in front. JUDIC CHOLLET.

SPRING GOWNS.
New Developments For the Coming Season.

A new fancy for coloring gowns is the employment of black net over white silk or satin. The net is usually embroidered, and sometimes several thicknesses of mousseline de soie of different shades are interspersed between the silk and the tulle or net to give a changeable effect. These rainbow tints are peculiarly attractive under flounces of black chintilly.

Large flowers are now worn in the hair with evening dress and are placed at each side of the coil of hair, high up or above each ear, in the old-fashioned style. Camellias, roses, dahlias, even peonies, are thus used.

The Louis Quinte coat is a charming garment and is favored for small dinners, receptions and teas. It need not be of the same material as the skirt, although the two should harmonize. The vest, over which it opens, is of different color, and both coat and vest are often embellished. The revers are small. A cravat of lace or mousseline de soie and wrist ruffles of equal delicacy are essential accompaniments.

Blouses are not well represented among spring styles, the close fitting, pointed bodice coming to the front once more in different shades of pink, and is additionally trimmed with black feathers. JUDIC CHOLLET.

NEW MILLINERY.

Hats and Bonnets For the Theater and the Street.

White is much seen in spring hats, especially as trimming. Flowers are as largely used as they were last year, and water lilies, camellias, gardenias and magnolias are among fashion's floral favorites. The violet is not abandoned, however, and small clusters are tucked into the diaphanous trimmings of hats and bonnets and interspersed in fancy boas and muffs made of lace and chiffon. Even the entire for-



SUMMER COSTUME.
skins, with head and tail, which are still worn across the shoulders, are decorated with a bunch of violets fastened near the open mouth of the hood.

For the theater little hats entirely of flowers are made. Some are of primroses, others of violets, still others of lilacs. Tuques of feathers are seen for street wear and are trimmed with flowers.

Hats of mousseline de soie, puffed and shirred, are adorned with tulle, which composes a full lining for the brim—always of another color than that of the mousseline de soie—and an elegant trimming for the outside, mingled with flowers. For example, a hat of finely shirred black mousseline de soie is trimmed with white tulle and mauve orchids.

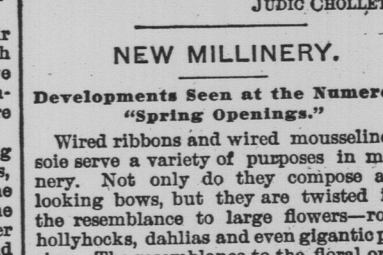
Bonnets of jet, gold, steel and colored spangles are still seen and are particularly pleasing for elderly women who consider their bonnet too juvenile. Real lace, velvet, embroidery and feathers are all appropriate decorations.

All the richest applied embroidery is outlined with fine chenille, which gives a high relief, yet an effect of softness.

The picture illustrates an attractive gown which has two graduated skirts of accordion plaited pink voile. The bodice is of pink liberty satin, closely fitting at the back and forming a flat plait in front, delicately embroidered. The square gump is plaited. The top of the sleeves are embroidered, and the belt and bow are likewise has a pink satin bow. The little toque of green straw is almost covered with choux of pink tulle, and is additionally trimmed with black feathers. JUDIC CHOLLET.

NEW MILLINERY.
Developments Seen at the Numerous "Spring Openings."

Wired ribbons and wired mousseline de soie serve a variety of purposes in millinery. Not only do they compose alert looking bows, but they are twisted into the resemblance to large flowers—roses, hollyhock, dahlias and even gigantic pansies. The resemblance to the floral origin-



NOVEL TOQUE.
nals is somewhat conventional, but nevertheless perceptible, and such decorations often given a very smart effect.

A novel bow is made of points, or "ears," as they are called, of tulle, finished at the edges with a tubular hem, which gives them stiffness. These are grouped together in a full ruche, like overlapping leaves, with longer ones at the ends, where two jeweled buckles appear.

Voils of lace, both white and black, are much employed as a trimming upon summer hats, being often draped over flowers or choux of mousseline de soie. Sometimes short ends of the veil are allowed to drop upon the hair at the back.

A lovely light, clear pink is largely used for hats for warm weather millinery, and sometimes entire hats are made of it. It is more effective, however, when combined with white or black or both together.

Skirts with an inlet panel of different material or color are again in vogue, and bands of embroidery thus used are very effective. Guipure over a silk or satin lining is used in the same way.

The picture illustrates a novel toque of russet yellow straw. A cream lace veil, bordered with a ruche, is draped around the crown, the ends being tied at the back, so as to rest upon the hair. In front are a pleasant's head and breast, with the crown, and around them are arranged points of turquoise velvet, with a knot of the same material. The collar is also of turquoise velvet and is trimmed with cream lace. JUDIC CHOLLET.

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