

TO STUDY SHELTERBELTS

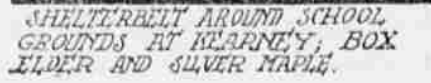
GOVERNMENT IN NEW LINE OF EXPERIMENTS TO HELP FARMER



OLD VINEYARD ENCLOSED ON ALL SIDES BY WIND BREAK OF MONTEREY CYPRESS

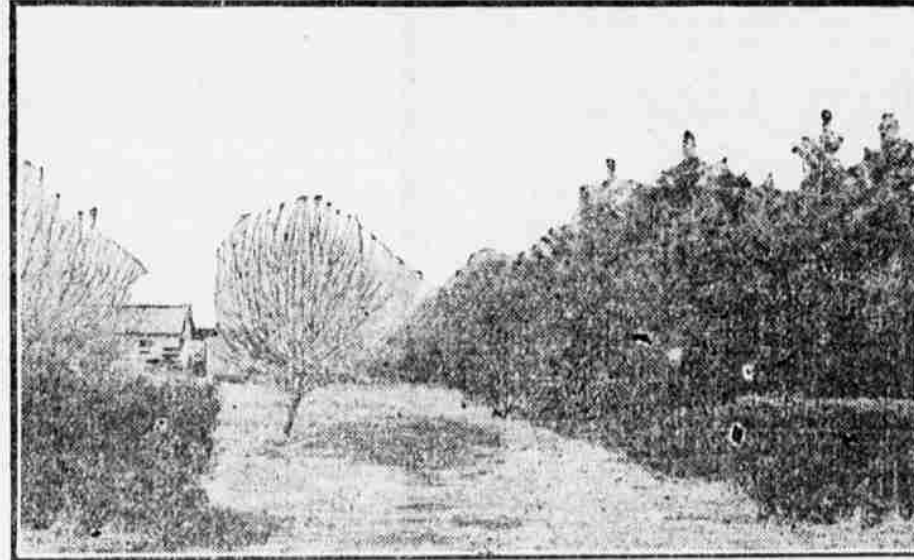


WIND BREAK OF COTTON WOOD ON SIDE OF ALFALFA



SHELTERBELT AROUND SCHOOL GROUNDS AT KEARNEY, BOX ELDER AND SILVER MAPLE

Uncle Sam's tree planting and farm experts have just undertaken a practical and scientific study of the use and effect of timber windbreaks and shelterbelts in the agricultural regions of 14 western states. This is the first time in this country that a study of this much-discussed question has been undertaken over a wide region under one plan, for the purpose of collecting data for the benefit of the agriculturists who are developing the western plains. At present windbreaks are planted haphazard, one kind here, another there. If one kind



Cedar Windbreak for Orchard and Barn, Saunders County, Cal.

is better than another, the government experts think that fact ought to be known, and it is believed that the study about to be undertaken will settle the question once for all. It will at least collect such facts never before brought together.

The work will be done by the United States forest service. In some states the agricultural experiment stations will co-operate in the studies, and in these cases the forest service will provide the necessary apparatus, and the other expenses will be shared half and half by the government and experiment stations. The investigations will be taken up in five states this year and extended to the other nine as rapidly as the investigations are completed. Four of the states in which the study will be made this year are Nebraska, Colorado, Oklahoma and Kansas. The fifth will be either Minnesota, North Dakota or Iowa. Ultimately the investigations will cover Minnesota, North Dakota, South Dakota, Nebraska, Iowa, Kansas, Oklahoma, Colorado, Texas, New Mexico, Utah, California, Washington and Idaho.

The sudden ruin that hot winds sometimes bring to growing crops in parts of the west are well known. Blowing strongly across the unobstructed plains, these winds may in a few days blast all hope of even a partial harvest. This is particularly in the lower portion of the central plains region, and in years of unusually low rainfall. Here the winds most to be feared blow from the southwest or south. In the northern prairie region the former is exposed to the hot "Chinook" wind, which sweeps down from the Canadian mountains. This either dries out growing crops or, if it prevails before the danger of killing frosts is past, causes loss through withering vegetation forward prematurely. Cold winter winds also do great injury to crops, make the climate more severe for stock and men, and interfere with an even covering of snow upon the ground. This is true from Canada almost to the gulf.

In southern California, dry winds from the north and northeast sweep down from the Mojave desert with de-

structive results. Coming in June, these winds may reduce the wheat yield to almost nothing. Windbreaks of eucalypts and Monterey cypress, now in such common use to protect orange groves and orchards, long ago convinced possessors of highly valuable irrigated land of the value of tree planting for protection purposes. But there are two sides to the wind-break question. Some prairie farmers declare positively that belts of osage orange, for instance, are a "nuisance." Others cite figures to show positive benefit. Mr. Morris Thompson, who lives near Downs, Kansas, gives his yield of corn from a field protected on the south by a row of tall cottonwoods as six bushels per acre more than in places where there is no protection. About 15 acres are benefited in this way. It is highly improbable

that the wind-break occupies sufficient land to offset this benefit.

The forest service proposes to find out just when and how much windbreaks increase the yield of crops. To carry out the plans, much technical work will be necessary. Instruments will be used to measure heat and cold, moisture and dryness, both above and below ground; to register the force of the wind near the windbreaks and some distance away; to measure light intensity, and take note of the effects of shade; to register frost at different distances from the trees; and to keep account of the effect of the wind-breaks on the snow which covers the ground to leeward in winter. Many other measurements and tests will be made, and elaborate data will be collected by experts who will have charge of the study.

Corn will be the crop studied behind the wind-break this year. Trustworthy conclusions cannot be obtained by comparing results from different crops. Each crop makes its own demand upon the soil, so that what would destroy one might do little harm to another. Corn is a particularly good crop to experiment with because it is easily injured by hot, dry winds, will not stand shading, and is very sensitive to frost.

The instruments and apparatus for each state will be read weekly by persons assigned to that duty by the agricultural experiment stations in the respective states. The whole work will be in charge of an expert for the forest service, at Washington, who will be assisted this summer by three or four persons, also from the forest service, who will study general conditions in the states under investigation. In regard to the effects of wind-breaks on crops, the work will continue until crops are gathered next fall, when the actual yield of sheltered fields will be measured, and results compared with near-by unsheltered fields. Some of the observations will continue through the winter.

It is expected that the results will be published both by the forest service and by the experiment stations which co-operate in carrying out the work.

WALKING COSTUMES



The illustration to the left shows a very smart costume that would look well made up in a dull elephant gray cloth.

The skirt is high-waisted, and has a train, it is trimmed with gray satin ribbon to simulate an over-skirt.

The coat is fastened with a single button under a rosette of the ribbon just on the bust, it then slopes off to the back; the collar and cuffs are of pale gray cloth, trimmed with ribbon. The sleeve is plain, but has an epaulette on the top.

Toque of gray ermine, trimmed with a shaded feather.

The other neat little costume is made up in royal blue Venetian cloth. The skirt consists of thirteen gores, the seams of which are wrapped.

The coat is a semi-fitting sack, reaching just below the hips, a piece of silk is let in between the side and front seam; tabs of the material are placed over it, in the point of each tab a silk-covered button is sewn, the waistcoat reaches down just to the waist, and is fastened by silk-covered buttons; the collar also is of silk. The plain coat sleeve set into a silk cuff at the wrist.

Straw hat, trimmed with roses, and foliage.

HAVE THE MONOGRAM FAD.

Initials on Everything is the Rule Now with the Girls.

Girls have gone monogram mad might be thought by the way initials are in evidence! The background may be silk, satin or wash material; it may be leather or metal; in some way or another the owner's monogram is introduced, and by no means inconspicuously either.

On purses the letters are governed entirely by the size of the portmanteau, but as a rule the initials are detached rather than being run together.

Traveling bags for girls who will move about this summer are not considered equipped until the owner's initials are put on. For this the letters are as plain as those in the alphabet of a child, and each is separate. They are placed quite near the top, at the middle of the side. Occasionally they are to be seen on the end, but this is regarded as a freak. Brass letters are preferred to those of nickel. The newest key rings that girls may have for themselves or use as gifts end in a single initial letter. The plain cushions for hammocks or lounging chairs are embellished in huge initials, sometimes of brass. In the latter case they are thin, though wide, and when on a tan leather background are certainly decorative.

Wash blouses show the monogram done, preferably in small letters, on the left side of the front; hosiery has a single letter on the instep.

Trimmed Skirt Favorites.

Now that it is the fashion to trim the bottom of the skirt with one deep fold every woman seems to be adopting it, whether it is becoming or not.

Decidedly it is not when the wearer is short or unduly stout, as it cuts the height, the wearer's height apparently ending where the fold begins. If, however, she will slash the deep fold in several places, and round off every corner, she will be able to wear this up-to-date style most successfully.

Only a small detail, but a most important one.

CHARMING COIFFURE.



Composed of a long spray of silver apple blossoms, twined in and out of the hair.

VOILES IN PRETTY DESIGNS.

Popular Summer Material is of All Shades and Colorings.

The new silk voiles are in countless pretty designs. Over a foundation of black, green, blue, light and dark, are large and small squares, marked off in thin white lines. On the edge, to be used as trimming, are four or five satin bands of different widths, in the plain color. A silk voile in squares of black and white has on its border four bands of black velvet edged with orange, peacock blue or cherry. The most exclusive houses are using this material, each one usually confining itself to one color.

Quite unusual is the voile of natter blue, lined off with white. Woven in the border is a cashmere band, the colors harmonizing beautifully with the shade of blue. A red voile, stamped with white lozenges, with a cashmere band framed in lines of white, is wholly charming made up with a tunic skirt and low, sleeveless bodice over a white guimpe.—From a Paris Letter.

Well Groomed Hands.

A well groomed hand is a rarity, even though many people are careful about the nails. The hands show age much quicker than the face, for few people spend as much time on the hands as they do on the face, and then the hands are in water more than the face, with the result that they are drier and more apt to wrinkle. Soft and white hands are best acquired by night treatment. Use a toilet cream that agrees with the skin, and rub it in thoroughly before retiring, being especially careful to rub and massage the knuckles well. Then slip on a loose pair of gloves to keep the cream on the hands. Red hands are caused by poor circulation and often by tight cuffs or bracelets. Small gloves often make the hands red and leave marks on them from the seams in the gloves. The only way to effect a cure is to remove the cause.

New Color Combinations.

Orange and gray is one of the new-est combinations. A superb gown of gray mousseline de soie is made over an underdress of orange satin—satin as sort as the mousseline. The skirt is closely gathered and plaited back and front, falling loosely from the belt posed unusually high. The plaits are, however, fastened extremely close, freed only below the knees. A wide band of silver embroidery, done in gray flet in relief, breaks the line of the skirt; from back and front the band of embroidery meets on the sides and mounts to the belt line. The corsage is composed of the embroidery.

Coat of Black Silk Muslin.

A stunning long coat is made of black silk muslin, braided all over with white. Wide white silk braid outlines the edges, forms odd strappings and finishes the elbow sleeves with quaint bows. The back is very short-waisted and is finished with big gold buttons.

Stockings with Tan Shoes.

Nowadays if one wants to be ultra smart one must have dark blue stockings with one's tan shoes. This fashion was first adopted by the men, but women have embraced it enthusiastically and now every smart girl numbers among her belongings several pairs of such hosiery.

BREAKING THE BALKY HORSE

OF ALL THINGS DON'T CLUB THE BRUTE



TRAINING A BALKY COLT TO PULL.



HEAD AND TAIL CRANK DANCE.



A HOOKED HORSE.



THE GUY ROPE.

It would give me as much pleasure as anything I can think of to be able to hand you a "sure cure" for balkers, but I hardly think I have anything new to say on this subject. When we come to the genuine bred balkers we all have to admit that we are getting pretty close to the high stump. My experience is that the balking vice more than any other requires different handling for each individual case. I have never seen one that could not be started by some means, but when you speak of "cure" I'll go back and sit down. By cure I mean such correction of the fault that anybody can drive the animal. This cannot be done in all cases because, as a famous horse trainer has well put it, "you can't cure all the balky drivers."

For a sulker that will throw himself and refuse to get up, "hog-tying" is as good a remedy to apply as we are likely to find. Tie all four feet together and then go and weed the onions or sit down in the shade and read the news for an hour. Two hours may be necessary in some cases. You can very near tell when he has given up. His eyes will beg when you come near him. It is better, however, not to go near him for three-quarters of an hour. He must have time to gather in the fine points of your argument. He is usually very particular to keep on his feet after one or two applications of this remedy, and the chances are he will not balk at all with you, but the next man that gets him? Who knows?

The "guy rope" works satisfactorily in some cases. Tie the small rope around the animal's neck and take half hitch on lower jaw. Let a good husky man pull steady on this rope. He will start with a lunge, and in many cases, especially young horses, will give up the standing habit. When other ideas fail rapid whipping across the nose with a light whip will start him. I have seen

balkers go to work like honest men after being driven a whirl by the head and tail trick. Tie knot in horse's tail and loop halter rope over this as short as possible. Let him spin until he gets dizzy, unloop halter and turn him the other way. I suppose the point is that anything which will take the animal's attention from his pet idea constitutes a remedy for the time being. I worked one balkers on a mower two or three days by tying his tail to the singletree tight enough to take part of the strain. After that he would pull by the tugs without having his tail tied. They certainly tax our inventive faculties, these balkers.

It is easier to say what not to do with a balkers. Don't hammer him. As soon as you lose your temper and go to clubbing him you might as well turn him out. The Rural New Yorker says that balky horses are sometimes started by clubbing, but they always balk harder next time; at any rate the majority of them do. I think balkers are always the result of bungling on the trainer's part. There are "natural balkers," I'll admit, but the tendency can be corrected by careful handling in breaking. Such a colt must be gradually worked up to the pulling point. He must learn to stretch a tug on a light rig before he is put on a load of any kind. We have to study the question from his standpoint as it were, sympathize with him, and encourage him instead of trying to force him too fast. You can get better results in less time by putting a collar and tugs and lines on him; for instance, put a rope in the tugs and pull back on it while you drive him around the yard, than you can by hitching him with a strong horse and dragging and slugging him along the road. When they are discouraged and sulky, it is a hard matter to make them see any bright side to life in the harness.

A HORSE WRANGLER.

THE AERATION OF DRINKING WATER

By J. W. Lawrence, Professor Mechanical Engineering, Colorado.

The aeration of water for drinking purposes is not new, but is becoming more general in various parts of the United States.

The aeration of water prevents stagnation, removes disagreeable odors arising from the decomposition of vegetable matter, and checks the growth of algae. There is disagreement as to how much oxidation of organic matter takes place, but it is well understood that aeration is of great benefit to water that is used for drinking. The greater the agitation of the water, and the greater the amount of air passed through it, the better the water. Sweet water, as found in nature, is never chemically pure, but contains more or less foreign matter easily determined by the chemist. Flowing springs and running brooks of this water are pure enough for all purposes, and safe enough for use, if not contaminated by the carelessness of man. But springs and brooks of pure water are not available to all. It is often necessary to confine water that is to be used for drinking purposes in ponds, reservoirs, cisterns, tanks, etc.; it then becomes stagnant and subject to many contaminating changes. This has been known for ages, and men have sought to better these conditions where they exist. Aeration is a means whereby a betterment is brought about, and there are many ways in which this aeration is accomplished. The old familiar chain pump is an example; the endless chain with its little bucket passing rapidly through the water creating quite a disturbance and doing its work fairly well. The pumping of air into a cistern, the water of which has become foul, because of having stood for some time, is another method; an air pump forces air to the bottom of the cistern, where it bubbles up through the water, oxidizing and sweetening it. The air-lift pump is

one of the simpler forms of pumps that performs this office and does it quite thoroughly.

The aeration of water is often performed in a small way, but there are many towns and cities of considerable size that are now giving attention to this matter. DeKalb, Ill., Point Pleasant, W. Va., are two places frequently mentioned. Brockton, Mass., has an aerating tank 59 feet high and 62 feet in diameter. Air is passed up through the water at Brockton by means of many perforated pipes in the bottom of the tank.

Another method is to cause the water flowing into a storage reservoir to come in with considerable force, projecting the stream into the air, causing it to mix with the air before it comes to rest in the reservoir. There is a system at Cambridge, Mass., which throws the water 40 feet into the air.

SILAGE DISTRIBUTOR

In a silo more than 36 feet in depth it is not necessary to have a man to tramp the cut corn. If the surface is leveled two or three times a day while filling, the silage will pack sufficiently to keep. But there is one objection to doing this. If the cut corn is allowed to pile up in the form of a cone, the heavier parts will roll to the outside of the pile and the grain and leaves will not be evenly mixed.

Several devices have been invented for distributing the cut material in the silo, but few of them are successful. One of the most satisfactory distributors where a blower is used consists of two boards, eight or ten inches wide and about half as long as the diameter of the silo, nailed together at right angles to form a trough. A 12-inch board is nailed over one end of this trough, the other end being left open. For use, the trough is suspended from the roof with the open side downward and the closed end toward the center of the silo. The open end rests above the top of the blower pipe. As the cut material leaves the pipe it follows along this trough until it strikes the closed end; then it is scattered about the silo. If a little care is exercised in adjusting this device it will give very good results.