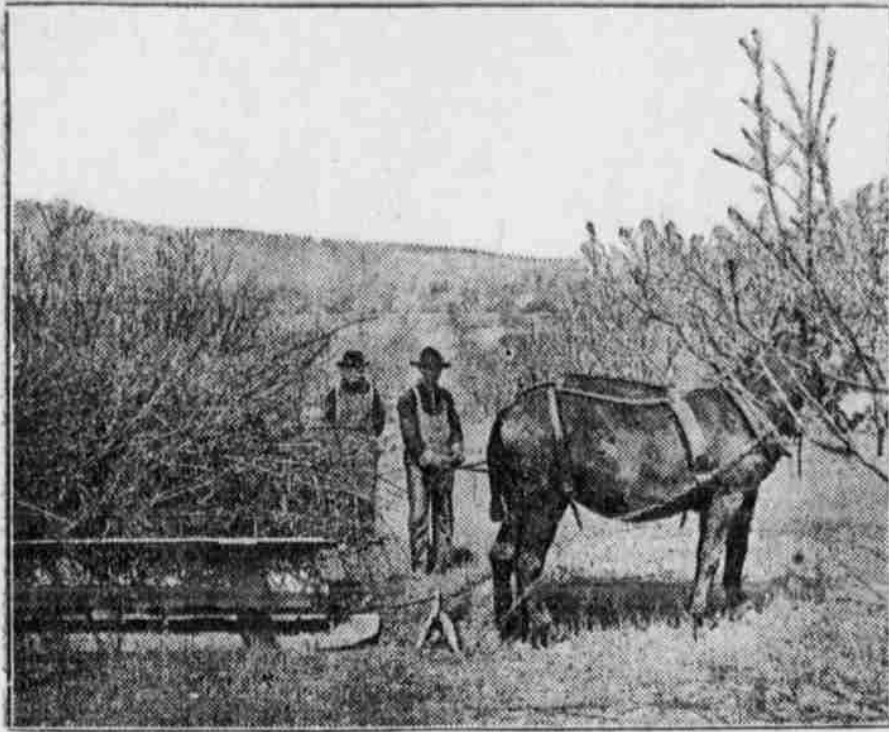


**METHODS IN MANAGEMENT OF ORCHARDS**



Sled for Hauling Brush From an Orchard.

There are a few special methods and practices in the management of peach orchards which are of sufficient importance in some sections to justify brief reference to them.

The Ohio agricultural experiment station has called attention to the efficacy of slightly mounding up the soil about the base of the trees in preventing injury during periods of excessively low winter temperatures. In the same connection it has been shown that various other factors relating to the soil may greatly influence the amount of damage which peach trees suffer during such periods.

The winter of 1903-4 was characterized in the Lake Erie peach district of Ohio by periods of severe and prolonged cold. Great number of peach trees were killed. The prevailing conditions and their attendant results on the peach trees are summarized as follows:

Exceptional causes of susceptibility to cold in rare cases of apparently healthy, vigorous trees: Low, moist, rich black soil which favored an extreme growth of soft, poorly ripened, or matured wood; or high culture upon soil rich in plant food which brought about similar results.

The unusually deep, hard freezing of the earth's crust was due, directly, to the continued, steady cold, but was intensified, in many instances, by a lack of humus or vegetable matter in the soil, which constitutes nature's insulation of the surface of the earth from cold and heat.

Providing that the orchards had been kept free from fungous disease and the San Jose scale by timely and thorough spraying, no injury of trees was found where stable or barnyard manure had been used upon the ground within the last year or two previous to the winter of 1903-4; rarely was an injured tree found standing in sod; no injury was done where the surface of the soil beneath the trees had been covered with even a very slight mulch; little injury was done where the trees stood in fairly well drained soil containing a moderate amount of fertility and humus; no injury was found where the trees were under the grass-mulch methods of culture.

Very few trees which, within the past years, had been affected with leaf-curl or infested with San Jose scale or borers remained alive or uninjured; and very few trees existing upon infertile or exhausted soil, depleted of humus, escaped uninjured.

The usefulness of a cover crop in preventing the washing of the soil during the dormant period of the trees is frequently well demonstrated. Moreover, in some regions where the winters are rather severe and there is a very limited snowfall, a cover crop prevents the snow from blowing away, thus affording additional protection against the extreme freezing of the roots.

Another practice which is entirely regional, but which may be of considerable advantage at times, is the shading of the trunks of the trees with board protectors, lath screens, or in some other equally effective manner. This method is of use particularly in regions in which long periods of extremely hot weather usually occur and where the trees are not well shaded on the south and southwest sides. Shading in the manner suggested sometimes affords a measure of protection against the form of winter injury commonly called "sun scald."

In nearly all of the experiment station bulletins on peach culture, in current horticultural literature, and in the standard works in which peach growing is discussed in detail, emphasis is habitually placed upon the necessity of so managing the orchard that the trees will cease growing and the wood will become fully mature before the advent of cold weather. Other wise, serious winter injury is anticipated. To accomplish this end it is generally advised to cease tillage in July or early August, to withhold fertilizers rich in nitrogen, and to avoid excessive fertile soil in selecting sites for peach orchards.

Undoubtedly such advice is perfectly sound and applicable to a large proportion of the peach-growing districts, but there appear to be some rather marked exceptions that are applicable in important peach-growing sections,

to which the reader's attention may well be directed.

These exceptions to the general practices have been brought to light largely through investigations carried on by the Missouri agricultural experiment station. They consist primarily in so managing the orchard as to maintain the trees in active growth until rather late in the season. This may be accomplished by continuing the tillage later than is ordinarily advised, or by using a nitrogenous fertilizer, or by heavy pruning, which results in a vigorous growth of new wood. Any condition that seriously reduces the vitality of the tree tends to make the tree, especially the fruit buds, susceptible to injury by winter temperatures. The production of an excessive crop of fruit is a common cause of depleted vitality. The conclusions of the Missouri experiment station tentatively summarized are as follows:

Where nitrogen was applied to peach trees a good crop was produced and harvested. On plots receiving no fertilizer there was practically no crop. There was likewise a failure of peaches in the surrounding region where no fertilizer was applied. The cold winter of 1911-12 was disastrous to peach trees in Missouri. Injury to peach trees caused by the cold so weakened their vitality that disease like the bacterial shot-hole leaf disease was common. On the plots fertilized with nitrogen there was little bacterial disease. On adjacent unfertilized plots the injury from this cause was very great. The trees in the plots fertilized with nitrogen also recovered from winter injury much more successfully and quickly than unfertilized trees in the same locality.

The application of phosphorus and potassium either singly or in combination did not result in increased yields. The results of the investigations on fertilizers for peaches seem to indicate clearly that a nitrogenous fertilizer or a method of cultivation and management which favors a vigorous tree growth when combined with pruning, spraying, and thinning fruit on over-loaded trees will increase the crop. The above treatment tends to make them carry their fruit buds through winter and frosts of spring much more safely than where an average or weak growth only is secured. Our results seem to disprove the theory that trees must make their main growth early in the season and then be checked or retarded in their growth in August or September in order to ripen their wood before going into winter. In some experiments at this station where the trees have been encouraged to grow vigorously right up until some of the green leaves froze on the trees, either by the use of fertilizer or by severely pruning back the winter before or by thinning the fruit, they have uniformly carried their fruit buds through the winter much more safely than with trees that shed their leaves and ripened their wood early.

A very careful correlation of these results with the conditions which are generally considered essential in the growth of peach trees in the northern districts is necessary in order to understand their significance. There is no real conflict or lack of harmony in the methods advised for the different regions, though in the abstract they may appear to be directly incompatible.

In the northern districts, the normal winter is continuously cold and without any warm spells of sufficient duration to affect the dormancy of the trees. It usually remains cold until winter finally breaks. When it warms up enough to start the trees into activity and cause the buds to swell, there is comparatively little danger thereafter of serious frosts or freezes. Moreover, the critical factor—the one which largely governs the management of the orchard in the present connection—is low winter temperatures which are sufficient to kill the buds or injure the trees even when they are perfectly dormant. To best meet this low-temperature factor, it is recognized that the trees must be thoroughly dormant and the current season's growth well ripened.

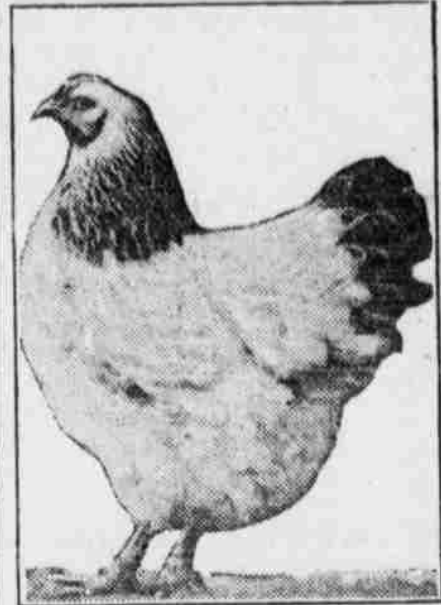
The United States Department of Agriculture, Washington, D. C., will send interested fruit growers, free of charge, its Farmers' Bulletin (No. 632) on "Growing Peaches," which gives in detail much information on the pruning of trees, renewal of tops, thinning, interplanted crops and special practices.

**POULTRY**

**MAKING MONEY FROM HENS**

Not Always Fault of Fowl That She Is Unprofitable—Owners Often Follow Wrong Scheme.

Most people keep poultry because they expect to make money from them. Yet more than half of the hens in this country do not earn the amount of food they consume in one year. When hens are unprofitable the owner generally concludes that the hens are to blame and he either does away entirely with them or else imports another



Prize Winning Columbian Wyandotte Hen.

other "kind" to go the way of the others.

Most of the trouble with poultry on the average farm is above the ears of the owner. In other words, the owner is following the wrong scheme or plan in the care he gives them and the management they receive.

All that is required to make money with poultry is to just give your hens a chance and they will produce.

If you have a flock of runty, sleepy, lazy old hens investigation generally discloses that you were originally to blame for their condition.

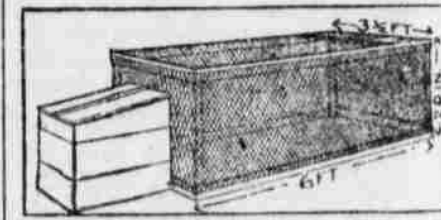
**CARE OF THE LITTLE CHICKS**

Excellent Shelter Provided for Hen and Her Brood by Use of Frame and Wire Netting.

Here is a drawing of an original coop and run for a hen and her young brood. Its advantages are many, writes Alfred M. White of Fairfield county, Ohio, in Orange Judd Farmer. For instance, the chicks are safe from hawks, crows and rats; at all times they have limited range without becoming nearly drowned in high, wet grass; they are near safe shelter at time of sudden thunder showers; hens with early hatched chicks are likely to wear them before chilly nights have passed; no danger of a hen picking another hen's chickens to death; chicks are always at their feeding place at feeding time.

The run is three and one-third by six feet and twenty inches high, covering twenty square feet of ground. The framework is made of one by two inch material. The sides, top and the ends opposite the coop are covered with one-inch wire mesh eighteen inches wide. The little slat door on top is for convenience in feeding and watering.

I use one-quart earthen water fountains, and about a six by ten inch shallow



Coop and Run.

low box for feeding. As soon as they are through eating the boxes are taken out so that they may be cleaned for next feeding time. Coarse sand or fine gravel is given every other day.

The coop is made independent of the wire run; that is, the two are not fastened together. The coop is covered with a slightly arched metal roof. A convenient wooden handhold is fastened on the center of the top for convenience in moving. A false board bottom about two-thirds the length of the coop is placed toward the back end. If a rain comes from the direction of the open end a full bottom leads the water over the entire bottom. Best make the bottom of narrow boards with one-eighth inch cracks that the fine droppings can sift through.

**Rains Kill Young Ducks.**

Getting the body wet in spring or early summer will generally kill a young duck or gosling. Dampness will give them rheumatism and cold, and cold will bring on sore eyes. A young duck caught in the rain will often raise its head, open its mouth, and stand stone still until it drowns, when but a few feet farther along it could have found shelter.

**Feature of Poultry Raising.**

Poultry raising has one splendid feature about it which makes it possible to combine poultry with almost any other branch of farming, without inconvenience and with satisfaction.

**Earmarks.**

Alexander Powell, war correspondent and lecturer, said at a tea in New York:

"The English volunteer troops are splendid. You can tell by certain earmarks where they come from. You can tell the miners of the Midlands, the mill hands of Manchester, the bookkeepers of London, the—"

"How do you tell them?" a young lady asked.

"Well," said Mr. Powell, "it's easy enough to tell, for example, the bookkeepers. Every time the bookkeepers are commanded to stand at ease they try to put their rifles behind their ears."

**Too Sour.**

Professor Copeland of Harvard, as the story goes, reproved his students for coming late to class.

"This is a class in English composition," he remarked with sarcasm, "not an afternoon tea."

At the next meeting one girl was twenty minutes late. Professor Copeland waited until she had taken her seat. Then he remarked blithely:

"How will you have your tea, Miss Brown?"

"Without the lemon, please," Miss Brown answered quite gently.—Christian Register.

**Why She Went to Church.**

A devout old lady had become very deaf, and as her church was some distance from her home, decided to attend another one, which was nearer. She spoke to the minister of the second church about it, and was cordially received and urged to come whenever possible.

"Ah, well," she said, "all churches lead to heaven, and as I have grown deaf and cannot hear any of the sermon I thought I would attend your church."

**A Cinch.**

"My big brother is a printer," said the boy who worked in a downtown office.

"That's nuthin' to brag about," retorted his bosom friend.

"Maybe it ain't, but it's mighty handy just the same. When I want to go to a ball game, I get him to put a death notice in the paper, so the boss has got to believe I'm goin' to a funeral."

**Explained.**

Hubby came home from a club with his white waistcoat badly spotted.

"How careless you are," said his wife.

"Not at all," he replied. "You see, they didn't have any menu cards, and I knew you'd want to know what we had to eat."

**Speaking of War.**

Church—Don't hear so much now of engagements of American women and foreigners.

Gotham—The foreigners seem to be kept pretty busy now with engagements among themselves.

**Close Enough.**

"Where would the average 'speed king' be without his mechanician?"

"My firs guess is under the car."

A man can be reconciled to any sort of expenditure if none of the money belonged to him.

What the average man really should have is not his rights, but his deserts.

**SHOE TOKEN OF SUBJECTION**

Ancient Significance of Custom Which is Now Looked Upon as Merely a Joke.

As specially applied to weddings, there is a suspicion that the throwing of old shoes—or new slippers, for all that—had at first a significance which would surely be most objectionable to twentieth-century brides. It seems to have been a token of the complete subjection of the bride to her lord and master. In the East a shoe or a slipper was publicly borne at the head of the bridal procession in indication of the bride's subjection, and at some Jewish weddings the bridegroom used to strike the bride a blow with his shoe as a sign that she was thereafter to be submissive to his will. Among the Nestorians it was the custom for the bridegroom to kick the bride, and for her to remove from his foot the shoe with which he had kicked her. To this day there is a common custom in Russia for the bridegroom on his wedding night to require the bride to pull off his boots. In one of them is a whip, and in the other a gift. If she pulls off first the one containing the whip, she gets a stroke from the lash, and is to expect floggings thereafter, but if the gift is first disclosed her married life will be happy. It is related of Martin Luther that once, after performing the wedding ceremony for a couple, he took off the bridegroom's shoe and placed it upon the bride's pillow, as a sign that she should in all things and at all times be subservient to her husband.

**Steep the Sassafras.**

A St. Louis clergyman gloomily informs us:

"The images of the poet and the painter have ceased to charm us. We want the realities. Hence the passing of poetry."

Sassafras tea in liberal doses, about this time of year, was formerly believed to be a sound remedy for the physical conditions which generate that state of mind.

**The Height of Atrocity.**

"I see the Germans are using gas instead of shot and shell," said Harkaway. "Could anything be more atrocious?"

"Oh, yes," said Dingleberry. "It would be more atrocious if after using the gas they should fire a volley of gas bills at their victims labeled 'Please remit.'"

**An Unmaker of History.**

Directory Canvasser—What is your husband's occupation, madam?

Lady—Oh, he unmakes history.

Directory Canvasser—Unmakes history!

Lady—Yes; he writes historical novels.

**Reduced.**

"They're having a marked-down sale of shoes at Blank's."

"I thought they prided themselves on never cutting prices."

"Who said anything about city prices? It's the sizes they've marked down."

**Troubles and thunderclouds usually seem black in the distance, but grow lighter as they approach.**

**Conversation attains its most asinine form in the grandstand at the ball park.**

**Don't Persecute Your Bowels**

Cut out cathartics and purgatives. They are brutal, harsh, unnecessary. Try **CARTER'S LITTLE LIVER PILLS**. Purely vegetable. Act gently on the liver, eliminate bile, and soothe the delicate membrane of the bowel. Cure Constipation, Biliousness, Sick Headache and indigestion, as millions know. **SMALL PILL, SMALL DOSE, SMALL PRICE.** Genuine must bear Signature **Woods**

**DEFIANCE STARCH**

is constantly growing in favor because it **Does Not Stick to the Iron** and it will not injure the finest fabric. For laundry purposes it has no equal. 16 oz. package 10c. 1-3 more starch for same money. **DEFIANCE STARCH CO., Omaha, Nebraska**

**DAISY FLY KILLER**

placed anywhere, attracts and kills all flies. Nest, clean, or medicinal, convenient, cheap. Kills all seasons. Made of metal, can't tip over; will not soil or injure anything. Guaranteed effective. All dealers sell. Express paid for \$1.00. **HAROLD SOMERS, 180 De Kalb Ave., Brooklyn, N. Y.**

**AVERAGE HUSBAND TO BLAME**

Woman Doctor Too Severe on Some Men for the Treatment of Their Wives.

"There are men and men—and men," began the gray-haired woman doctor, "and during my 20 years of practice I have discovered that possibly 50 per cent of married men are simply merciless in their attitude toward their wives."

"Some of them know it. A good many are ignorant. Some are beasts. But if the world could understand the physical condition of half the married women, there would be some tar and feathering parties held for a good many husbands."

"A man, when he marries, should know the limits of what a woman can endure—whether she endures it smilingly, patiently or complacently. The average man, I believe, wants to deal fairly with his wife. But he is the son of tradition and ignorance, and in his innermost being he believes that a woman was simply made for man's pleasure and convenience; that she is so constituted that she can endure anything; that women complain anyway and most of their aches and troubles are imaginary, and that 'nerves' are an entirely unnecessary affliction, which a wife delights in visiting upon her husband whenever she feels like it."—E. K. Wooley, in Kansas City Star.

**Varying Estimates.**

"I put my reliance in the wisdom of the plain people," said Senator Sorghum.

"But suppose the plain people do not happen to agree with you?"

"Then I refuse to be influenced by the thoughtless crowd."

**The milk of human kindness is usually distributed in rather small cans.**

**Whisky has caused many a man to go to work—in order to get the price.**

**"An Old Man at 40"**

How often you hear that remark! How many such men there are! And how needless it is!

Wrong food is the big cause.

When one feels old at forty the first thing is to correct improper diet. The main fault with the dietary is often a lack of the vital mineral salts in food. Without these mineral elements old age steals on rapidly.

To meet this very condition a food was devised which supplies those mineral elements such as phosphorus, iron, sulphur, etc.

That food is

**Grape-Nuts**

Made of whole wheat and barley, this delicious food retains all the nutriment of these grains, together with the priceless mineral elements—notably lacking in white flour foods—which the system must have to build and maintain vigor and elasticity of body, brain and muscle.

One can avoid this "old-age-at-40" business by proper eating and living.

**"There's a Reason" for Grape-Nuts**

—sold by Grocers everywhere.

