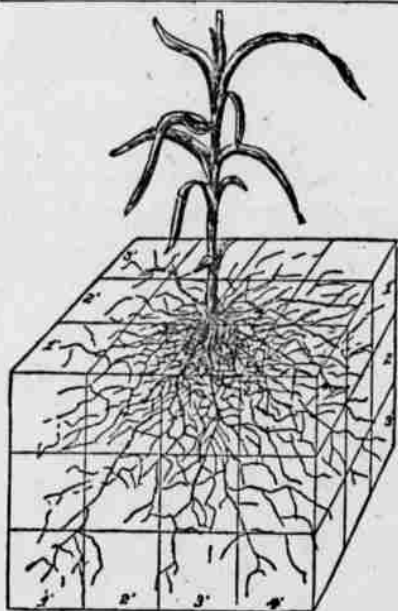




**Cultivation of Corn.**

Corn makes a rank growth both above and below ground, and for that reason requires treatment somewhat different from what is given to wheat or oats. Planting in rows is necessary not only to permit full development of the stalks, but also to give plenty of feeding room to the roots. Corn roots, if they have a chance, will occupy every inch to the depth of from three to five feet, and the yield of the corn will depend on the completeness of this occupation. The feeding ground, or, in other words, the corn root pasture, depends mainly on the preparation and cultivation of the soil. It may be limited in many ways, so that the farmer, instead of using from three to five feet of his field as soil, will use only a small portion of it. If the land is not properly drained, either naturally or artificially, the corn roots cannot penetrate into the regions saturated with water, for the water shuts out the air. If hard pan comes near the surface the corn roots cannot reach into that, and he may be cultivating but six, eight or ten inches of the field as soil. If the land be heavy and ploughed wet, full of lumps on the surface or resting on the plough pan or bottom of the furrow, the corn roots cannot utilize these, and hence his soil is limited. If he has ploughed under, in a dry time, coarse manure, so as to shut off the supply of water from below, the corn roots are again limited. It is, therefore, about as necessary for the farmer to understand corn roots and their habits and ways as it is for the surgeon to understand the anatomy of the system, where the bones lie, and where the arteries, veins, nerves and muscles are hidden under the skin. The corn plant, it will be seen, has no top-root. The first roots start out from the seed grain and go down.



DISTRIBUTION OF CORN ROOTS IN SOIL.

After this the roots are sent out in whorls of from two to ten. As the plant advances toward maturity, these whorls rise closer to the surface. The first roots thrown out immediately above the primary roots run sideways and occupy ten or fifteen inches below the surface. These lateral roots throw out fibrous or feeding roots, which run in every direction through the soil and occupy every inch within a radius of from two to five feet. It is evident, therefore, that if we plough corn immediately after planting, or after it is first up, we can plough as deep as we like, and generally the deeper the better. When, however, the roots begin to rise and occupy every square inch of soil within reach, it will not do to plough deep. Our cultivation must, therefore, be limited to the surface, and with the end in view of killing the weeds and forming the mulch of dry dirt which will shut off surface evaporation, and spread out the water which is continually rising from below within reach of the roots. The older and larger the plant the shallower should the cultivation be. In fact, if the ground is well prepared, ploughed deep when there is no danger of cutting off the roots, the only thing the farmer needs to do during the latter period is to maintain the mulch of dry dirt on the surface.

**Farm Help Less Expensive.**

Farm labor is cheaper than it was at this time last year and is pretty sure to continue so for the season. There has been some curtailment in manufacturing throughout the country, the result being that a great many men are out of work. With this condition farmers find that they can get help more readily now than they have been able to for several years.

It is ascertained that where contracts have been made in the Middle West and Southwest for farm hands the rate of wages averages about \$5 per month lower than that prevailing a year ago.

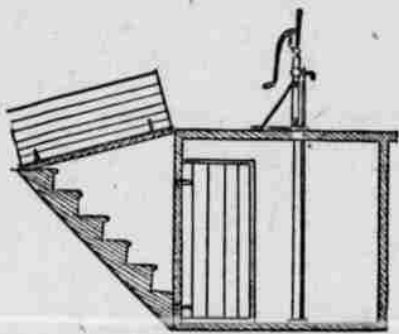
A common rate of pay for farm hands

at this time is \$25 per month, as against \$30 last season. Competent men with experience in special departments of farming will command more, but not as much as in 1906 and 1907. Good live stock hands receive \$35 to \$45, but above this there are few men hired even for fancy farming or the specialties who are receiving more.

Youths and inexperienced immigrants are offering their services for from \$15 to \$20 per month.

**Concrete Outdoor Cellar.**

A simple method of constructing a cool, outdoor cellar in localities where the common house cellars are too warm for use during the summertime, is shown in the accompanying sketch. It is a cellar made under the pump, so that the water pumped by the windmill has a very cooling effect. In places where it is difficult to obtain ice, it will prove indispensable to the dairyman who keeps a few cows. Another important item is the fact that a man does not find it necessary to



OUTDOOR CELLAR.

pull up all of the pipes every time that he finds it necessary to repair the pipes and pump. It is constructed of concrete. The top is re-enforced with one-half-inch steel rods placed one foot apart each way and the concrete is about six inches thick. The sides are made by using a form and the stairs are also made of concrete and are re-enforced by small steel rods. The cost, including the labor, amounted to about \$50. In the west and southwest it will also answer the purpose of a storm cave, which is considered a fixture on all farms.—Farm and House.

**A New Swindle on Farmers.**

An entirely new but highly successful scheme to separate farmers from their money has been worked in South Dakota during the past few months.

An oily grafter calls on a farmer and makes a bid for his land. The figures are absurdly low at first, but by degrees are raised as high as \$60 an acre, and the farmer consents.

Then the visitor explains that he is only an agent, but that he can sell the land at the price named if the owner will agree to pay for advertising at the rate of 50 cents an acre.

The "agent" promises orally that the advertising money will not be payable until the land is sold, but this stipulation is not contained in the contract that the farmer signs.

In a few days he receives a copy of an ad and not overcourteous demand for money.

It is said that twenty-two agriculturists were caught with this bait in Brown County and that one of them gave up \$320.

**Thunder and Milk.**

To many persons the curdling of milk in a thunderstorm is a mysterious and unintelligible phenomenon. Yet, according to scientists, the whole process is simple and natural. Their claim is that milk, like most other substances, contains millions of bacteria. The milk bacteria that in a day or two, under natural conditions, would cause the fluid to sour are peculiarly susceptible to electricity. Electricity inspires and invigorates them, as alcohol, cocaine or strong tea affects men. Under the current's influence they fall to work with amazing energy, and instead of taking a couple of days to sour the milk they accomplish the task completely in a half hour. With an electric battery it is easy on the same principle to sour the freshest milk.

**The Coddling Moth.**

About one-fifth of the first laying of eggs by the coddling moth is on the fruit, the rest being on the leaves and branches. The young larva that hatches from the egg is able to feed on the foliage to some extent and may come into maturity without entering the fruit, although it rarely does so. About 80 per cent of the first brood finds its way into the apples at the calyx, while the rest eat in at other points, principally at the stem. Only about 28 per cent of the second brood enters at the calyx, the others eating in where the apples touch each other, or a leaf at the stem end. The average life of the adult insect, or moth, is about four days.

**Farm Threshing Companies.**

Farmers should form organizations for threshing. It is well to have a number of men help in threshing who are congenial. When the thresher comes into the neighborhood all know the routine and all help stays with the machine while it is in that vicinity. There is no room for boobies and stunts about a threshing job. The man who shirks should be given a chance to join another ring.

**ALL RUN DOWN.**

Miss Della Stroebe, who had Completely Lost Her Health, Found Relief from Per-na at Once.

**Read What She Says:**

MISS DELLA STROEBE, 710 Richmond St., Appleton, Wis., writes: "For several years I was in a run-down condition, and I could find no relief from doctors and medicines. I could not enjoy my meals, and could not sleep at night. I had heavy, dark circles about the eyes. "My friends were much alarmed. I was advised to give Per-na a trial, and to my joy I began to improve with the first bottle. After taking six bottles I felt completely cured. I cannot say too much for Per-na as a medicine for women in a run-down condition."

**Per-na Did Wonders.**

Mrs. Judge J. F. Boyer, 1421 Sherman Ave., Evanston, Ill., says that she became run down, could neither eat nor sleep well, and lost flesh and spirit. Per-na did wonders for her, and she thanks Per-na for new life and strength.

HOWARD E. BURTON.—Assayer and Chemist. Leadville, Colorado. Specimen prices: Gold, Silver, Lead, Zinc, Copper, Nickel, Iron, Tin, Platinum, and all other metals. Mailing envelopes and full price list sent on application. Control and Umpire work solicited. References: Carbonate National Bank.

**WHEN YOU COME TO PORTLAND**

ARRANGE TO STOP AT

**THE CORNELIUS**

PARK AND ALDER STS.

A New and Modern European Hotel, catering particularly to State people. A refined place for ladies visiting the city, close to the shopping center. Rates reasonable. Free Bus.

N. K. CLARKE, (late of Portland Hotel) Mgr.

**A Rare Bargain**

Douglas County Farm in the heart of the famous Shoestring Valley. Sixty acres—45 acres cleared; 15 acres fir timber; soil rich and mel-low; no rocks; schoolhouse 1/2 mile; on county road; running water; well; over 800 bearing fruit trees; 5-room log house, barn and other out-buildings; two miles of fence; full assortment farm implements; all house furnishings; all crops. Must sell. Price for everything, \$2,500. Address

MRS. O. A. DEARING

Room 419, Corbett Bldg., Portland, Ore

P N U No. 33-08

WHEN writing to advertisers please mention this paper.

**A Rabbit and a Whistle.**

Did you know that a short, sharp whistle from the mouth would stop a rabbit? It surely does. Next time you see little Molly Cottontail leap from her burrow and make off don't shoot; just whistle. Whether from fear or curiosity I cannot tell, but she will stop still in her tracks. An antelope has been known to do likewise. An African hunter once said that the elephant is the most timid of all animals and can be frightened into a cold sweat by a mysterious noise.—New York Press.

**Working His Patient.**

Ambassador Wu Ting Fang was once, it is alleged, telling about a certain selfish politician. He said: "The man reminds me of a doctor of Shanghai. A mandarin came to this doctor for advice. He could not sleep, had no appetite, suffered a good deal from depression and nevertheless was taking on fat at an alarming rate. 'We'll soon put you in condition again,' said the physician. 'What you need is exercise—good, hard exercise. Four times a week you can come here and put in the morning polishing my floors.' 'But why not my own floors?' the mandarin inquired. 'Mine,' said the physician, 'are larger.'"

**A Bit of Advice.**

This is a bit of advice offered by the Gunnison Gazette:

Young man, if you should come across a girl who, with a face as radiant as a sunflower, says as you appear at the door, "I will be busy for half an hour yet, for the dishes are not washed," just squat right down on the doorstep and wait for her, because some other chap may come along and secure the prize, and right there you will have lost an angel.

**In the Literary Workshop.**

"Brooks," said Rivers, who had been struggling desperately with an idea for more than half an hour, "give me a rhyme for 'perfunctory.'"

"Sorry, old man," answered Brooks; "but there isn't any."

"Dash it!" exclaimed Rivers.

Thereupon he proceeded to do it in blankety blank verse.

**When the Hair Falls**

Then it's time to act! No time to study, to read, to experiment! You want to save your hair, and save it quickly, too! So make up your mind this very minute that if your hair ever comes out you will use Ayer's Hair Vigor. It makes the scalp healthy. The hair stays in. It cannot do anything else. It's nature's way.

The best kind of a testimonial— "Gold for over sixty years."

Made by J. C. Ayer Co., Lowell, Mass. Also manufacturers of

**Ayer's** SASSAPARILLA PILLS, CHERRY PECTORAL.

**Deep Sea Amenities.**

The Oyster—You're a good deal tougher customer than I am.

The Clam—That's all right. You do a good deal crookeder shell game than I do.

**Quality IS OUR MOTTO**

Said an Employer: "Stick to quality. It will win out in the end." We do "stick to quality." That is the reason our graduates are so thorough and in such demand. Investigate our claims to superiority. Catalogue, business forms and penwork free. Call, phone or write.

**Portland Business College**

Tenth and Morrison, Portland, Oregon  
A. P. ARMSTRONG, LL. B., PRINCIPAL



St. Helen's Hall, Portland, Ore. Resident and Day School for Girls. Catalogue on Request.

**Behnke-Walker**  
BUSINESS COLLEGE  
PORTLAND, OREGON  
BEHNKE-WALKER STUDENTS SUCCEED. WHY?  
They are Trained for business in a business-like way.  
Why not enroll in a reputable school that places all of its graduates?  
I. M. WALKER, Pres. SEND FOR CATALOGUE O. A. BOSSERMAN, Sec.

**MULE TEAM BORAX**  
by softening the water, cleans the skin thoroughly, removes odor of perspiration and renders the skin soft and velvety.  
All dealers. Sample Borax, Booklet and Lace Centerpiece design on cloth ready to work, 10c, of PACIFIC COAST BORAX CO., Oakland, Cal.  
Local agents wanted. Write for money making plan.

**900 DROPS**  
**CASTORIA**  
ALCOHOL 3 PER CENT.  
A Vegetable Preparation for Assimilating the Food and Regulating the Stomachs and Bowels of  
**INFANTS & CHILDREN**  
Promotes Digestion, Cheerfulness and Rest. Contains neither Opium, Morphine nor Mineral.  
**NOT NARCOTIC.**  
Drops of Old Dr. J. C. WALKER'S  
Pumpkin Seed -  
Aloe-Senna -  
Rhubarb Sulfate -  
Aster Seed -  
Peppermint -  
25 Centesimal Grains -  
Warm Syrup -  
Cinnamon Sugar -  
Whispering Flavor.  
A perfect Remedy for Constipation, Sour Stomach, Diarrhoea, Worms, Convulsions, Feverishness and LOSS OF SLEEP.  
Fac-Simile Signature of  
Chas. H. Fletcher  
NEW YORK.  
At 6 months old  
35 Doses - 35 CENTS  
Guaranteed under the Food and  
Exact Copy of Wrapper.

**CASTORIA**  
The Kind You Have Always Bought, and which has been in use for over 30 years, has borne the signature of and has been made under his personal supervision since his infancy.  
Allow no one to deceive you in this. All Counterfeits, Imitations and "Just-as-good" are but Experiments that trifle with and endanger the health of Infants and Children—Experience against Experiment.  
**What is CASTORIA**  
Castoria is a harmless substitute for Castor Oil, Paregoric, Drops and Soothing Syrups. It is Pleasant. It contains neither Opium, Morphine nor other Narcotic substance. Its age is its guarantee. It destroys Worms and allays Feverishness. It cures Diarrhoea and Wind Colic. It relieves Teething Troubles, cures Constipation and Flatulency. It assimilates the Food, regulates the Stomach and Bowels, giving healthy and natural sleep. The Children's Panacea—The Mother's Friend.  
**GENUINE CASTORIA ALWAYS**  
Bears the Signature of  
**Chas. H. Fletcher.**  
The Kind You Have Always Bought  
In Use For Over 30 Years  
THE CENTAUR COMPANY, 77 MURRAY STREET, NEW YORK CITY.