

FARM AND GARDEN

THE WHEAT PLANT.

Its Root System in Relation to Shallow and Deep Sowing.

"I have always had the impression, and it is general, too, that a wheat plant had two sets of roots. In order to learn the exact mode of the growth of the plant and of its roots, I planted Sept. 26, 1898, two grains of wheat, one (Fig. 1) one-half of an inch deep and the other (Fig. 2) two inches deep. No. 1 came up three days before the other, and they were dug up Dec. 20 and washed. Notice that the head of the cluster of roots forms at the grain.

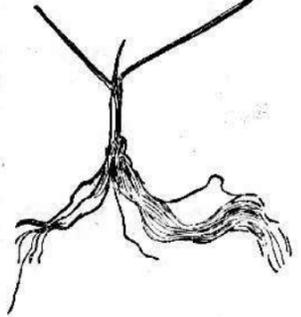


FIG. 1—WHEAT PLANT.

and in the one-half inch deep plant the roots and the stalk or the lower end of the stalk are formed together. In the two inch deep plant there is a small root that connects the base or lower end of stalk with the head of the cluster of roots.

"If you examine a wheat plant that has been frozen out, you will find that there is no cluster of roots, but simply the stalk cut off, as shown at A in Fig. 2, but in Fig. 1 the cluster of roots and base of the plant are together and are nearer to the top of the ground, and they draw up with the plant as the frost heaves the ground up and are not broken. I think the proper way is to cover wheat very shallow, just so it is covered on ground that is inclined to be wet and heaves out by freezing, but on ground that is well drained and that is not inclined to freeze out the plant Fig. 2 is all right, and will stand the dry weather the best; consequently drained land is the best and more sure to raise a crop, and shallow sowing is the best on undrained land."

Commenting upon the foregoing communication from a subscriber, the Ohio Farmer remarks:

When the seed is planted deep, two sets of roots are produced, one from the bulb at lower end of stalk and one from the seed grain below. This is really the case whether the seed is planted deep

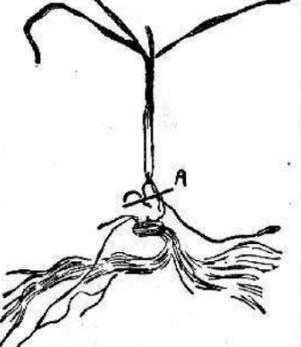


FIG. 2—WHEAT PLANT.

or shallow, but in the latter case they are close together and form one cluster to all appearance. Hence in land that heaves up, shallow sowing is best, as the roots form a mass near the surface and heave up with the soil and settle back again when frost goes out. In deep sowing the stem is broken in two between the primary and secondary roots.

Potato Queries.

In answer to a question as to the best method of planting potatoes The Farm Journal advises: 1. All things considered, we prefer to plant in drills rather than in hills, the drills being 2 1/2 or 3 feet apart, according to soil and variety, and the seed being dropped 12 to 18 inches apart. 2. We have always been able to grow satisfactory crops by spreading fertilizer in the bottom of drill and mixing it with the soil before putting in the seed. 3. The number of eyes to leave on a seed piece depends a great deal on the variety and on the size of the seed tubers. Heavy setters require fewer eyes than varieties that are less prolific in tubers. When small tubers are used for seed, more eyes must be left on the piece than when the tubers are large. We usually cut early potatoes when large to one or two eyes, but White Stars and similar kinds have done well for us when we have used medium tubers cut in half or planted whole.

Bacterial Rot of Cabbage.

As there is no remedy known for bacterial rot of cabbage, prevention must be relied upon. These measures are recommended in The National Stockman and Farmer by Professor Stuart of the Indiana station: Avoid planting in land on which infected plants have been grown. Several years may be necessary to rid the land of the germs. Do not use manure containing decayed cabbage leaves or stalks either in the seedbed or field. Wet land should be avoided, as it favors the development of the disease. Keep the plants as free from insects as possible. Remove and destroy all diseased plants or portions of the plant as soon as diseased condition is noticed.

ALKALI LANDS.

Conclusions From Investigations In the Yellowstone Valley.

Alkali and the treatment of alkali soils are subjects which are attracting very great attention at the present time, as alkali has already injured or is a serious menace to large areas of land in arid districts. It is always a source of uneasiness in such sections, for if the alkali is not apparent when the lands are first irrigated, it is liable to appear after a few years as a result of the present system of irrigation.

The interest taken in the alkali work of the department of agriculture during the summer of 1898 has been so widespread and there have been so many requests for copies of a technical bulletin which is just about to be issued that the department has thought best to present the matter in rather more popular form, which is accordingly done in farmers' bulletin No. 88. The study of the alkali problem by the department was carried on in the Yellowstone valley, where the conditions are as simple as can be found anywhere. Those interested in the subject will do well to obtain and read the bulletin from whose summary of conclusions one or two items only are here reproduced.

The results of these investigations show that there is no sodium carbonate or black alkali in the soil. The source of the alkali is in the sandstone and particularly in the shale or slate rocks from which the salts have been derived. Before irrigation was introduced the salts were present in the soil in rather large amounts, but well distributed, and not in such large quantities as to be injurious to crops. The injury is due entirely to overirrigation, to the translocation and local accumulation of salts by means of seepage waters and to the imperfect drainage facilities in the compact gumbo soils and the inability of the excess of salts and of seepage waters to escape.

The first trouble appears to be due to the seepage waters. This, of course, need not necessarily be so, but it appears to be the case in this locality. The open, sandy lands, having better underdrainage, are not likely to be injured by a rise of salts, except from an excessive application of water or in the low places in the path of the drainage system, especially when these are underlaid, as they are liable to be, by the heavy gumbo subsoils. The gumbo soil requires great care in cultivation, as it is easily ruined by the accumulation of seepage waters and the subsequent accumulation of salts.

There are many areas in the valley, of course, which have still a low or moderate salt content, which are probably safe for years to come. There are other areas in which the salts are now accumulating, while there are still other areas which have gone beyond this stage, and what were once fertile tracts have been thrown out as barren flats. The investigations show, further, the very disturbing fact that the injury need not be due to a local application of water, but to the injudicious application of large quantities of it in remote localities and on neighboring farms over which the unfortunate person has no control and for the effects of which he has at present no redress.

Kansas Farmer's Timely Hints.

Push the grass and clover seeding. Sow oats at the very first opportunity. Make a little early garden as soon as possible. Set out the raspberry plants at the first opportunity.

Rolling the ground often benefits the fall sown wheat.

After the oats and clover are sown push the work of plowing so as to plant the corn early.

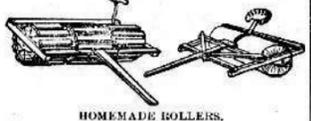
Keep well up with the work. To get behind now too often means keeping behind the whole season.

The peach can be pruned at any time now. Cut back the new growth of wood from one-third to one-half.

In transplanting trees or plants care should be taken never to allow the roots to become dry.

Inexpensive Rollers.

I herewith present two ways of making rollers which will not be expensive if you will do the work yourself. One roller consists of logs of any desired size, and a roller of this kind will last a long time if kept housed. Put on a mower or planter seat for the driver. The other



HOMEMADE ROLLERS.

er may be made out of castoff snower or planter wheels, which can be picked up almost anywhere for a small price. Have plenty of holes drilled through the rims and bolt on 2 by 4 or 2 by 6 scantlings of the desired length. The frame may be made of pine, and a binder or a power tongue may be used.—Iowa Homestead.

One Thing and Another.

The department of agriculture reports that cotton is produced to a limited extent, but at a high rate of profit, in the southwestern corner of Utah by irrigation.

The California orange crop this season has been estimated at 8,000,000 boxes.

Castor beans planted April 13 at the Oklahoma station yielded about 13 bushels per acre, which was more than was obtained from late planting.

The good reputation of bromine grass (Bromus inermis) is spreading in the west, and it is likely to be put in more extensively than ever before for hay.

Many farmers are beginning to see that the rise of alkali is coincident with the accumulation of seepage waters and to realize that the trouble is probably due to a too lavish use of water in irrigation.

SHE SANG FOR DEATH.

The Pathos and Tragedy of Emma Abbott's Passing Away.

One night in the city of Denver, located at the foot and in plain view of the Rocky mountains, Emma Abbott was billed to appear in "Faust." In the same city a most attractive and beautiful 18-year-old girl, belonging to one of the wealthiest families, lay in the last stages of that fell enemy of the human race—consumption. Some weeks before the arrival of the company she said to those around her: "Oh, I hope the sun will shine and the weather will be warm and genial, so I can hear Miss Abbott sing once more. I think I could then pass away peacefully and without any single regret." But there came with the queen of the lyric stage a northern hurricane—with the very air charged with icicles, which penetrated the lungs. Some one told Miss Abbott of the grievous disappointment of the dying girl. She went to the opera house and never sang more sweetly, and as soon as it was over and the audience dismissed called her carriage and directed it to drive to the home of the young lady.

The scene which followed was worthy of the finest brush ever wielded by the grand old masters. There lay the dying earth angel, with pallid lips, hectic cheeks and lustrous eyes and the light of immortal beauty shining upon her face. Standing beside her, in one of her richest robes (the one she had worn that night), sparkling with pearls, rubies and diamonds, stood the almost divine mistress of earthly melody.

The first piece rendered was "The Old Folks at Home," and then followed "I Know My Redeemer Liveth." The finale of this weird scene was "Rock of Ages Cleft For Me, Let Me Hide Myself In Thee." And then Miss Abbott bent over the frail form and kissed her an eternal farewell. Soon after the spirit passed into the wild winds which rang through the wild mountains near by—set sail for that haven from which the first homeward bound bark is yet to be seen—the stainless soul waited to the stainless heavens by the sweetest music ever heard on earth—into the melodies of paradise birds.

Miss Abbott returned to her room at the hotel and retired. Some time during the night she awoke with a pain in the left lung. It rapidly grew worse. A physician was summoned. Then another, and another, who applied every remedy they could command. All to no purpose. It was typhoid pneumonia in its worst form. The black angel was kneeling at her door. Angels of the heavenly choir had that night listened to her voice in the sickroom and sent for her to come home to them.

In three days that voice which had so often raised the souls of men and women to the noblest, the grandest heights in holy ecstasy, was forever stilled in death—gone forth into—the night.

So faces the summer cloud away, So sinks the gale when storms are o'er, So gently shuts the eye of day, So dies the wave along the shore.

—H. C. Stevenson in Atlanta Constitution.

GERMAN MILITARY SERVICE.

A Curious Method by Which It May Be Avoided.

Anybody can emigrate from Germany before he is 17 years old without running the risk, in case he should return, of being forced to join the army, but he will be allowed to remain only nine months in Germany. If he stays longer he becomes again a German citizen and must do military service. If he leaves when he has been a little less than nine months in the country and stays away for two or three weeks he can return without running any danger and can stay another nine months. If he does this every nine months he can live as long as he likes in Germany.

As soon as a man is 17 years old he cannot leave Germany without serving in the army. He can, however, get permission to leave the country until he is 20 years old if somebody is willing to give bond that he will return and serve his term.

In case a man forfeits his bond he cannot return to his fatherland before he is 45 years old, as he would be promptly arrested and sentenced to serve a longer term than the original one. After a man is 45 years old he can go back to Germany without being punished and live there as long as he likes.

In case a deserter is caught in Germany before he is 45 years old he is sentenced to two or three years' imprisonment in a fortress and all his personal property is confiscated.—New York Herald.

An Eye to Business.

The doctor hurried in and called the druggist to one side.

"I've just been called to attend the Crossin baby," he said, "and I've given a prescription that calls for nothing but paregoric. When they send it over here, you must tell them it will take at least an hour to put it up and the cost will be \$3.50. That's the only way to make them think I'm any good, the medicine's any good and you're any good, and I want to keep their business."—Chicago Post.

Proof Positive.

His Honor—What's the charge, officer? Drunk?

Officer—No, sir—crazy.

His Honor—How do you know?

Officer—Well, sir, he is a proprietor of a daily paper, and I heard him tell a man that the paper probably had the smallest circulation in the city, and so—

His Honor—The padded cell—quick!—Harlem Life.

Legal Reporter.

"Gentlemen of the jury," said the pompous lawyer, assuming his most imposing mien, "I once sat upon the judge's bench in Iowa."

"Where was the judge?" quickly inquired the opposing attorney, and the pompous gentleman found the thread of his argument hopelessly entangled.—Detroit Free Press.

LOVELL SHOW THE WAY.

When the old world seems so gloomy on the skies ain't lookin' bright, When it seems ez dark in daytime en ez long some ez at night, It seems ez if a ray of light's a kinder struggle through, When you think of some ole friend you know'll shake the hand of you.

When you think about the dark spots of the times that over lie, En gazin at the future all is lonesome that you see, There's one time when your mind gits on to happy thoughts awhile, En that's when mem'ry shows you that ole sweet-heart's happy smile.

So I jist don't keer how lonely past er future looks to you, You'll allus find somehow the skies'll turn from gray to blue, You'll allus find them lightin' up, don't keer how dark the day, En when they light you'll allus find it's love that shows the way.

—Edward Singer in Cleveland Plain Dealer.

HE KEPT THE SEAT.

But it Was Worth What the Other Man Paid For It.

A man who had not been to church for a very long time, says a London exchange, finally harkened to the persuasions of his wife and decided to go. He got the family all together, and they started early. Arriving at the church, there were very few people in it and no pew openers at hand, so the man led his family well up the aisle and took possession of a nice pew.

Just as the service was about to begin a pompous looking old man came in, walked up to the door of the pew and stood there, exhibiting evident surprise that it was occupied. The occupants moved over and offered him room to sit down, but he declined to be seated. Finally the old man produced a card and wrote upon it with a pencil:

"I pay for this pew."

"He gave the card to the strange occupant, who, had he been like most people, would have at once got up and left. But the intruder adjusted his glasses and with a smile read the card. Then he calmly wrote beneath it:

"How much do you pay a year?"

To this inquiry the pompous old gentleman, still standing, wrote abruptly:

"Ten pounds."

The stranger smiled as though he were pleased, looked around to compare the pew with others, admired its nice cushions and furnishings and wrote back:

"I don't blame you. It is well worth it."

The pompous old gentleman at that stage collapsed into his seat.

No Deadheads There.

I heard a good story that comes from a little town in the northern part of the state. Among the members of the Methodist church at that place is an old railroad conductor who has been retired from the business for ten years or more. During the morning service at his church not many Sundays ago the old railroader was called upon by the minister to assist in taking up the collection—one of the stewards who usually helped in that work being absent.

The retired railroader started down the aisle with the contribution basket and passed it around like an old hand at the business. Everything passed off smoothly until he came to a good old brother who had nodded himself fast asleep, and just as he was about to pass by him he was suddenly overcome by the force of habit acquired in his railroad days. Giving the sleeping brother a dig on the shoulder with the basket, he blurted out:

"Ticket, please!"—Ohio State Journal.

Two Dear Seats.

Sarah Bernhardt while in London dropped into a bookseller's shop one morning. "I sold her quite a pile of books," said the proprietor, "and she seemed pleased. As she was going out she took hold of my pencil and asked me something in French which I did not understand. Seeing that I failed to catch her meaning, she looked about on the counters, then, quick as a flash, she took up a volume of one of the very best sets of Scott, bound in tree calf, opened it at the very center, wrote something quickly, calmly tore out the leaf, handed it to me, smiled, and went out."

The astonished bookseller looked at the leaf and discovered that Sarah had written a pass for two to her performance that evening! Magnificent, but it was not a cheap entertainment for the bookseller.

The One He Missed.

"I was elected by the votes of eight different nationalities," declared an east side alderman as he tucked his thumbs in the armholes of his vest and struck an attitude.

"That so? What were they?"

"Irish, German, Polish, English, Italian, French and Greek."

"That's only seven."

"What the deuce was the other now? There were eight sure."

"Americans," suggested a reporter.

"That's it. Couldn't think of them to save me."—Detroit Free Press.

Poor Business.

An old gravedigger who lived in a village at the foot of the Grampians was one day complaining about the dullness of times.

"Man, John, is trade that bad wi' ye?" said a sympathizing neighbor.

"Bad!" returned John, bringing his staff down with an impatient gesture. "I havena buried a leevin sowl this sax weeks."

During the middle ages, when the aristocracy of Florence and Venice was so tyrannous to its dependents, murder was considered as a small crime and poisoning was so skillfully effected that many people lived almost entirely on boiled eggs.

In the river Llano, in Texas, islands of floating sand are sometimes seen.

L. H. FENSKE.

Wholesale Dealer in

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—AND—

CIGARS



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