

DRAIN IRRIGATION LAND

Oxygen Is Necessary to Life of Plant Rootlets.

Drainage is as Essential for Successful Crop Raising as is Irrigation—Soil Must Have Some Ventilation.

Irrigation does not offer complete immunity against crop failure, as some people seem to think. It has been clearly demonstrated that farming is not made simpler by reason of irrigation. On the contrary it has often been made more complicated. The idea that all one has to do to grow crops in the arid and semi-arid districts is to apply as much water as can possibly be obtained is an egregious error. Water can never take the place of cultivation and fertilization. While moisture is absolutely necessary for plant growth there are other essentials that play as important parts in their development. Plants must breathe and plants must eat and plants must have sanitary environments. Plant physiology teaches us that oxygen is necessary to the life of plant rootlets since the cells of newly formed roots are filled with living cells which consist of a transparent

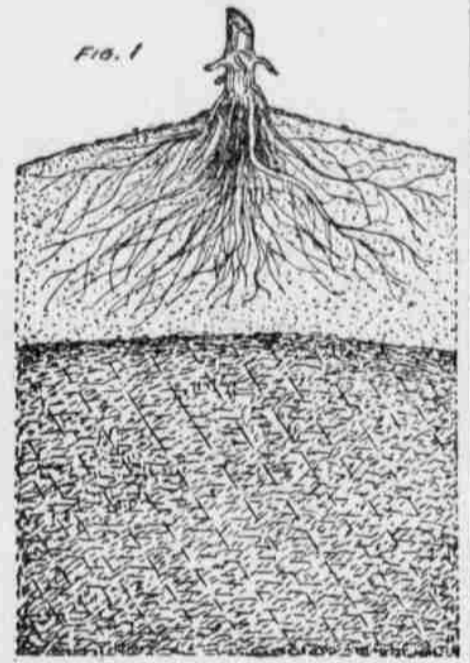


Fig. 1. In Wet Soil the Roots Grow Near the Surface and Are Left Without Water Supply During Drought.

Jelly-like substance called protoplasm which manifest the various phenomena of life. Protoplasm may exist in an active state when the plant is growing and while in this state it requires both food and oxygen, and without it cannot live. The presence of oxygen in the soil is indispensable to the life of all upland plants and a method of irrigation that abandons tillage is suicidal. The soil must be ventilated. A crust on the surface of the soil, such as always follows irrigation by flooding, is a great hindrance to its proper ventilation. The irrigation farmer who fails to follow each flooding of his land by tillage, as soon as the drying out of the soils will permit it, commits an error that in time will bear heavily upon him by at least partial crop failure.

Another fatal mistake being made by the irrigation farmer is the neglect of drainage. Drainage is as necessary to the perfect development of the plant as irrigation. The irrigation farmers of the lower Rio Grande valley have been taught this by the evils resulting from the wants of drainage to carry off the surplus water after flooding. They were rather slow in realizing the needs of drainage, but it has impressed itself upon them very forcefully. A careless use of irrigation water is largely responsible for the appearance of alkali in the Rio Grande valley. Alkali will never be a hindrance in the valley where a system of drainage is installed. To avoid the appearance of alkali should not be the prime object of drainage. A system of irrigation without drainage tends to raise the water table and

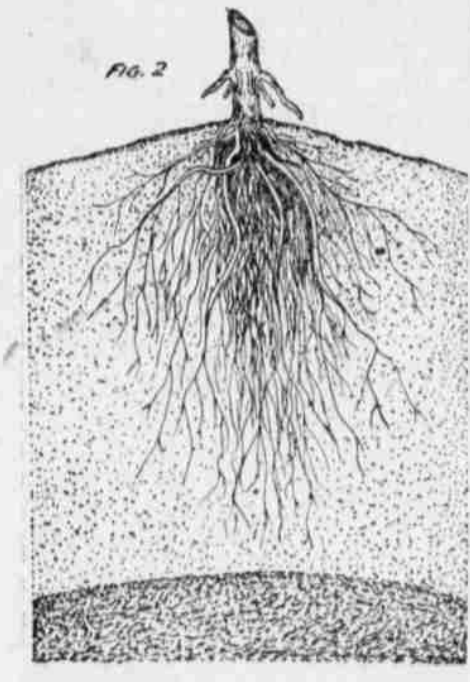


Fig. 2. Roots Grow Deep in Well-Drained Soil and Are Not Affected by Drought.

plants suffer as a result of the soil becoming waterlogged, making it impossible for the roots to obtain oxygen and the plants are drowned. The position of the water table is important. Where it lies deeply, plant roots may delve to a considerable depth without injury. But where it is shallow the plants cannot perfect a complete and sturdy root system. Drainage will lower the water system and increase the space for a more perfect development of plant root system.

PREPARE LAND FOR ALFALFA

Early Cultivation Should Begin as Soon in Spring as Ground Can be Worked.

Good preparation of the land is important. The soil should be quite firm and should have a mulch of loose soil an inch and a half or two inches deep over the surface. Fall plowing will insure sufficient packing of the soil and in the spring the surface can be worked up into a good seed bed. This early cultivation should begin as soon in spring as the ground can be worked and be continued to conserve moisture until danger of heavy freezing is over, when seeding may be done, says the Denver Field and Farm. There should be sufficient moisture in the soil to germinate the seed and keep it growing until it is eight to ten inches high when water may be applied if needed.

With spring plowing it is difficult to get a seed bed firm enough and one that will retain moisture well enough for best results. The soil will be too loose and will dry out quickly. It is therefore advisable when the land is plowed in the spring to irrigate before seeding provided the soil does not contain an abundance of moisture. For best results the seeding should be done tolerably early in spring. The particular time will depend upon the altitude and the local climatic conditions. A few degrees of frost will do no serious injury but heavy frost is likely to kill alfalfa when just out of the ground. If the seed bed is in perfect condition and a drill be used, eight to twelve pounds of first grade seed the acre should be sufficient for a good stand. When soil conditions are unfavorable or broadcasting is practiced from 12 to 18 pounds may be required. On irrigated land it is better to have a thick than a thin stand. The use of a seeder that sows in drills and covers the seed is to be recommended as the seeds are covered and each seed is given an equal chance for germination with every other. A drill with press wheels attached is also desirable. The seeds should be sown shallow—from one-half to two inches deep.

OXYGEN NEEDED IN SOIL

Irrigation Farmers Are Warned Against Further Neglect of Proper Drainage System.

The germs in the soil which develop a nitric acid in the soil find oxygen indispensable to their life, and it is important that a large supply of it penetrate the soil. Oxygen is also needed to prevent the destruction of the nitrates after they are once formed and with these facts staring us in the face, it is plain that we are in danger of having the soil depleted of its useful nitrates through the destruction of the organic matter, if the land is allowed to remain too long with insufficient ventilation, as a result of poor drainage. This fact is emphasized in the works of all our soil experts. Prof. Goff, in his book, "The Principles of Plant Culture," sums the whole matter up in this terse statement:

"Drainage promotes soil aeration by forming an outlet for the surplus water that would otherwise fill the cavities. Although moisture is essential to root growth, land plants do not prosper with their roots immersed in water. True, most plants may be grown in 'water culture,' i. e. with their roots from germination grown in water that is freely exposed to the air; but the roots of land plants soon smother for want of free oxygen when the soil cavities are filled with water, because the soil tends to prevent the water within its cavities from absorbing air."

The farmers on irrigation land are especially warned against further neglect of drainage. Delay is suicidal. Procrastination is not only the thief of time, but a robber filching the possibilities of success from the farmer whose lands are saturated with alkali water.

POULTRY NOTES

The best producers are not always the best market fowls. Gentleness counts much with chickens, as it does with other birds and animals.

The necessity for fresh air has led to the great popularity of the open front houses.

All brooders and brood coops should be thoroughly cleaned and put away for the winter.

Hot mashes on cold days are on the feeding program of many successful poultry raisers.

Eggs and fowls used in the home should be credited at market prices. This is only fair.

When the white of an egg is watery it shows that one is not feeding a good, well-balanced ration.

Chickens should have good food and plenty of it, as well as clean, fresh water and clean coops.

This is a good time to figure up accounts for the year and see what the chicken business has done for us.

Young geese are not to be picked the first year, unless you sell them dressed, a very difficult thing for the novice to do.

The things which are important in the poultry business are the things which are deemed the least important by the big raisers.

To keep poultry from roosting over feed mangers and other places that ought to be kept clean, nail a small wire four inches above the board.

HAPPENINGS IN THE CITIES

Was Bitten by Bloodthirsty Barbastel



NEW YORK.—A large, ferocious, bloodthirsty barbastel, which chiropterous mammal is probably more familiar to you under its Latin nickname of Synotis Barbastellus, caused a panic among the one hundred employees of Benjamin Fechter, a clothing manufacturer, when it flew through a window of the loft the other morning at 10 o'clock, and bit, scratched, clawed and tore the hair, eyes, ears and noses of several of the men and women working at the machines.

The barbastel is generally insectivorous or frugivorous, and is a first cousin of the big-eared Megera-magis, which inhabits Australia. The barbastel in question, however, was decidedly carnivorous, and to judge from the way it tried to make a ten-course dinner from the physiognomy of Morris Binberg, one of the cutters, it had not eaten for several days.

Binberg was the first one to see the barbastel as it flew into the shop. Binberg has nice fat cheeks and the barbastel made straight for the cutter, who dived under his machine too late. The terrible animal caught him by the hair and Binberg started to do a Marathon around the room, shrieking for help at the top of his lungs, while women fainted, and of course, it follows that strong men grew pale. The other employees ran out of the room in a panic, but as they couldn't

pronounce the name of the bloodthirsty animal they did not succeed in getting help.

Rosie Goldstein tried to slip under the safe, saying that the barbastel was an eagle and that she had often seen its species in Russia, but the space beneath the bottom of the safe was too narrow for Rosie's buxom figure, so she was compelled to crawl under a bench.

In the meanwhile Binberg had grabbed a stick and tried to beat the barbastel, who was devouring the hair tonic on Binberg's curly locks. He managed to hit the barbastel once, after having bruised himself a dozen times.

Manager Joseph Blankford was dancing around in a frenzy, crying, "B-b-b-b-b-b-b-bastel, b-b-beat it," but the ferocious animal couldn't understand Yiddish and transferred his affections from Binberg to Blankford. Joe won by a nose in the race for a closet.

Finally Mr. Barbastel was cornered and clapped under an empty box, and some 5 or 18 people sat on top to make sure that it didn't escape.

Mr. Fechter returned from a business call, and found his employees completely metroboilized by the awful encounter. Cautiously lifting up the box, he looked within and began to laugh as though he would burst a blood vessel. His employees were aghast when Mr. Fechter grabbed the animal and shoved it into a wide-necked bottle.

"What is it, a-neagle?" asked Rebecca Zuckerman.

"No, you blockheads; it's only a bat," said Mr. Fechter.

"Oy oy," said the employees, and went back to work.

Finds Young Son After a Long Search

DENVER.—"There's my papa," said four-year-old Frederick Eugene Lockwood, pressing his face against the window-pane of one of the rooms of the state home for dependent children. A minute later the boy had his arms around his father's neck and both father and son were crying with joy. His identification by the boy was a test suggested by the father to prove that he was the boy's parent.

Frederick H. Lockwood, the father, is a balloonist and parachute jumper, and when there are no circuses nor county fairs where his services are in demand he works as a cook in hotels and restaurants. For more than a year Lockwood has been trying to find his boy, but without success. A few days ago he finished an engagement at the more hazardous of his two occupations in the south and came on to Denver to make another effort to find the boy.

When he asked for the custody of the child he suggested a test to prove that he was the boy's father. He stood, with several other men, outside the home and the boy was taken to a window and asked if he recognized any of the party. The child picked



out his father without hesitation. This time he was successful, but heard a story that made his blood boil with anger.

Little Frederick Lockwood was taken to the detention home last October and left there by Mrs. Edith M. Villamea Goebel, who told the matron of the home that the boy was turned over to her by an inmate of a resort in Seattle, Wash. She asked the detention home to take charge of the boy.

When the child was undressed at the detention home it was found that his left arm was broken, his left collar bone dislocated and that his body was covered with marks and bruises. He was sent to the county hospital, and from there to the state home. He has never recovered from his injuries, and may be a cripple all his life.

Ants' Nests Divert Fashionable City



PARIS.—With the approach of spring the rage for novelty has descended on fashionable Paris. On all sides new forms of the entertainment of guests and new ways of doing things are being suggested to experiment.

One of the most curious of the new fashions is the ants' nest craze. No hostess thinks a drawing room complete unless it contains a glass case inside of which are a few pounds of earth, a large number of ants and their eggs, and a supply of more or less suitable food. Guests are provided with magnifying glasses and are invited to watch the industrious insects carrying on their domestic and civic duties, much as if still in a country field.

To vary the program the ants are made to engage in a pitched battle as one swarm is introduced into the nest of another. Invaders and invaded lock in fierce combat, and a hastily improvised hospital and ambulance service for the injured is organized by the non-combatants. This idea was introduced into Paris society by a well-known stinger.

Another innovation which is having an immense success is a dog's training college, which was opened in the most fashionable quarter of Paris. Here a society woman's dumb friend is lodged, fed, and educated in all that he should and should not do at the trifling fee of about \$30 a month, though day pupils are admitted at a lower rate.

Many graceful accomplishments are imparted in the course, which is divided into school and college grades, and diplomas are awarded on a certain standard of proficiency being attained. It is jokingly said that the time-honored French polish is going to the dogs.

Old Mansion May Be Sold for Taxes

CHICAGO.—Remnants of what once was the Reber mansion, Chicago's pride in ante-bellum days, will be sold for taxes by Cook county some time in March. For forty years county, state and city have attempted unsuccessfully the collection of taxes on this last vestige of the Reber estate.

And the proceeding will not be without its pathos and romance. By it the home will be sold over the head of Gertrude V. Reber Backus, who in her eighth decade of life is alone in the world. In her eighty years she has seen the mansion of old transformed into a forfeited hovel.

The property is at Ellis avenue and East Fortieth street, in the heart of a choice residence district. Lots of 50-foot frontage there are valued at \$10,000. Tax complications have destroyed title to the Reber property and Mrs. Backus has been clinging to her home in the face of impending dispossession.



For thirty years tax buyers have grasped the Reber property at each delinquent tax sale. In those years the residence, with its site, was accepted as a good risk by tax buyers. As years went by and the aged owner clung persistently to her abode, even in defiance of law, the tax buyers abandoned it as a bad proposition.

Since 1901 the county has levied on the property regularly. Delinquency notices were served with no effect. Court procedure had as little effect. The gray-haired defendant let everything go by default and held steadfastly to her abode.

NO OBJECTIONS FROM TONY

"Lovable Little Chap" Probably Would Not Have Minded a Succession of Tunnels.

Being Sunday evening, and the races having taken place that afternoon, the trains were packed. In one compartment a little boy had been standing all the way, but before the journey had proceeded much farther Mrs. Jones kindly took him on her knee.

"Were you very frightened, dear, as we passed through the tunnel?" the gentle lady asked.

"Not much," replied the little boy, shyly.

"But I thought you trembled a little as I kissed you," remarked Mrs. Jones, who was not even middle-aged yet. "And what's your name?"

"Tony," came the answer.

"Then you're a very lovable little chap! And how old are you?"

"Twenty-five, ma'am."

And Tony Spurs, the lightweight jockey, slid to the floor to the accompaniment of a piercing scream.—Answers.

PHYSICIAN SAID ECZEMA CAME FROM TEETHING

"When my little girl was about eight months old, she was taken with a very irritating breaking out, which came on her face, neck and back. When she first came down with it, it came in little watery-like festers under her eyes, and on her chin, then after a few days it would dry down in scaly, white scabs. In the daytime she was quite worrisome and would dig and scratch her face nearly all the time.

"I consulted our physician and found she was suffering from eczema, which he said came from her teething. I used the ointment he gave me and without any relief at all. Then I wrote for a book on Cuticura, and purchased some Cuticura Soap and Ointment at the drug store. I did as I found directions in the Cuticura Booklet, and when she was one year old, she was entirely cured. Now she is three years and four months, and she has never been troubled with eczema since she was cured by the Cuticura Soap and Ointment. (Signed) Mrs. Freeman Craver, 311 Lewis St., Syracuse, N. Y., May 6, 1911. Although Cuticura Soap and Ointment are sold everywhere, a sample of each, with 32-page book, will be mailed free on application to "Cuticura," Dept. L, Boston.

"Twixt Satan and the Sea.

Doctor—You are in pretty bad shape. You must stop going to those cheap restaurants.

Patient—But, doctor, the prices at the other places would make me still sicker.

Sick Women

When shown positive and reliable proof that a certain remedy had cured many cases of female ills, wouldn't any sensible woman conclude that the same remedy would also benefit her if suffering with the same trouble?

Here are five letters from southern women which prove the efficiency of Lydia E. Pinkham's Vegetable Compound.

LETTER FROM VIRGINIA.
Elliston, Va.—"I feel it my duty to express my thanks to you and your great medicine. I was a sufferer from female troubles and had been confined in bed over one third of my time for ten months. I could not do my housework and had fainting spells so that my husband could not leave me alone for five minutes at a time.
"Now I owe my health to Lydia E. Pinkham's Vegetable Compound and Blood Purifier. Whenever I see a suffering woman I want to tell her what these medicines have done for me and I will always speak a good word for them."—Mrs. ROBERT BLANKENSHIP, Elliston, Montgomery Co., Va.

LETTER FROM LOUISIANA.
New Orleans, La.—"I was passing through the Change of Life and before I took Lydia E. Pinkham's Vegetable Compound I was troubled with hot flashes, weak and dizzy feelings, backache and irregularities. I would get up in the morning feeling tired out and not fit to do anything.
"Since I have been taking your Compound and Blood Purifier I feel all right. Your medicines are worth their weight in gold."—Mrs. GASTON BLONDEAU, 1541 Polymnia St., New Orleans, La.

LETTER FROM FLORIDA.
Wauchula, Fla.—"Some time ago I wrote to you giving you my symptoms, headache, backache, bearing-down, and discomfort in walking, caused by female troubles.
"I got two bottles of Lydia E. Pinkham's Vegetable Compound and a package of Sanative Wash and that was all I used to make me a well woman. I am satisfied that if I had done like a good many women, and had not taken your remedies, I would have been a great sufferer. But I started in time with the right medicine and got well. It did not cost very much either. I feel that you are a friend to all women and I would rather use your remedies than have a doctor."—Mrs. MATTIE HODNOT, Box 406, Wauchula, Florida.

LETTER FROM WEST VIRGINIA.
Martinsburg, W. Va.—"I am glad to say that Lydia E. Pinkham's Vegetable Compound has done wonders for my mother, daughter and myself.
"I have told dozens of people about it and my daughter says that when she hears a girl complaining with cramps, she tells her to take your Compound."—Mrs. MARY A. HOCKENBERRY, 712 N. 3rd St., Martinsburg, W. Va.

ANOTHER LETTER FROM VIRGINIA.
Newport News, Va.—"About five years ago I was troubled with such pains and bloating every month that I would have to go to bed.
"A friend told me to take Lydia E. Pinkham's Vegetable Compound and I soon found relief. The medicine strengthened me in every way and my doctor approved of my taking it.
"I will be glad if my testimony will help some one who is suffering from female weakness."—Mrs. W. J. BLAYTON, 1029 Hampton Ave., Newport News, Va.

Why don't you try this reliable remedy?

NEAL DRINK HABIT
3 Day Treatment
The Neal Treatment neutralizes and eliminates all the stored up alcoholic poisons in the system. When this is done the drinker is in the same physical and mental condition that he was in before he ever had a drink, for it is the stored up alcoholic poison in the system that causes this appetite, and when once the alcoholic poisoning is eliminated the appetite is gone. Quits while at the Neal Institute, enjoys all the comforts of privacy and convenience of a first-class home, club or hotel. Names are never divulged. For particulars, write NEAL INSTITUTE, 1502 S. 10th Street, Omaha.