

GROW SUGAR BEETS

Amount of Water Required to Raise a Maximum Crop.

Depends Entirely Upon the Climatic Conditions, the Time of Planting the Land, and Crop Previously Grown on Soil.

For several years we have been trying to determine the minimum amount of water that would be required to grow a maximum crop of beets. From a theoretical point of view this work appears to be very important, but after working along this line for some time, and also studying the results obtained by the various experiment stations that have carried on similar work, we find that aside from a scientific standpoint the work is of no particular value, says Prof. F. Knorr in Ranch and Range.

The amount of water that a field requires to produce a maximum crop depends entirely upon the climatic condition, the time of plowing the land, and the crop previously grown on that soil.

Even if we should be able to say just how much water is required for a certain yield of beets a farmer cannot measure out the water and then apply this amount to his acreage. All that we can do at the best is to use our own judgment and apply water accordingly.

Irrigation water may be applied either by flooding or by ditching the rows. Farmers that have followed row irrigation are as persistent in their arguments that this is the best method of applying the water as are those that flood the beets and think they are right. Experiments that we have conducted on a rather heavy soil have shown no difference so far as yield is concerned, but we have found that it requires less water for the same amount of land where we irrigate by the row system.

This past year we came across a new feature so far as this irrigation is concerned. We handled a piece of rather sandy soil, the beets were furrowed and the water run along each row in one case and every other row upon another part of the field. After two days of a rather high wind we found that the beets were badly cut down by the blowing sand. The beets recovered very quickly, we cultivated the field and at once flooded a portion of it in order to wet down the surface. Another wind-storm that came up soon after this irrigation again damaged that portion of the field that was row irrigated but did not affect the flooded part of the field. The water had settled the sand and held it in this manner saved the plants from being cut.

So, after all the work that has been done to determine just how much water to apply we only know that to get the best results we must, as in all other operations, use our best judgment, bearing in mind that too much water drowns the plants and the lack of it dries them out.

All indications are that the beet seed next year will be much higher in price than in the past years. This is due to the cold, wet spring that prevailed in Germany throughout the best seed growing sections. Reports are coming from Germany that fully 80 per cent. of the beets planted for seed have rotted in the ground.

From the fertilizer experiments conducted at Fort Collins several years ago, we find that by the use of 100 pounds of sulphate of potash and 129 pounds of nitrate of soda the net increased profit per acre was \$19.43, or in other words, the cost of the fertilizer was \$9.12, the total income from the fertilized beets was \$89.45, those without fertilizer \$69.90.

There are upon the markets a great number of so-called "complete" fertilizers. We would not advise the use of these to the farmer, but prefer the purchasing of those elements that he desires and mixing them in such proportions as are required by the soil.

The Soil Mulch.

The soil mulch is for three purposes—to more readily admit the rain when it comes, to admit of a free circulation of the air into the soil and to prevent the loss of moisture by evaporation.

Sometimes the cultivation is not deep enough or sufficiently frequent and a crust forms at the top of the firm soil underneath the mulch. This crust shuts out the air to a degree and it matters little then how perfect may be the supply of moisture at the roots, for the growth will certainly be checked.

Nitrification.

That nitrification is a necessity to the soil during the crop growing season is unquestionably true. If the process of nitrification is going on sufficiently to meet the requirements of the crop this is always evidenced by the dark green and healthy appearance of the plant.

INFECTION IN WELL WATER.

One of the Principal Causes of Human Ailments, Many Causes of Which Overlooked.

In many places out in the semi-arid country water is found only at considerable depths and in these sections people are accustomed to sink deep wells for domestic use, because nature compels them to do so, but in other places it is possible to obtain water in shallow wells. Most persons fail to realize that shallow wells are almost invariably supplied by seepage water from surface washings and no matter how carefully the well may be constructed, its waters are likely to become polluted with the first heavy rainfall. It is a well known fact that impure water is one of the principal causes of human ailments, but many of the causes of water contamination are generally overlooked.

Shallow wells not only receive the sewage from the surface but science has proved that many kinds of plant life will extend their roots 50 feet deep to reach water. Since no kind of land plants will live if their roots are immersed in water for even a comparatively short time, after every heavy rain a shallow well is not only filled with surface leachings, but there is usually a considerable amount of decaying vegetable matter directly in the well. In cities where there is an epidemic the health department immediately investigates the water supply and almost invariably finds the trouble in that direction. The average farmer and resident of rural districts on the other hand manifest surprising negligence in this respect.

The usual well is one only deep enough to furnish a water supply and no thought is given to its source. It is not considered that a sub-stratum might carry the filth, teeming with germs, of an outbuilding ten rods away directly into the well and the drinking of such water is one of the principal causes of disease in rural places. Nature has provided an abundant supply of pure, wholesome water, filtered and free from germs, down deep in every part of the world. These great beds can be made readily accessible by tapping them with bore-holes and casing to bed rock to exclude possible pollution from surface leachings. When one considers the improvement which has been made in well drilling machinery during the last half century, it is inexcusable for any man to longer shirk his duty to his family and himself by not obtaining the pure water supply that nature so wisely provides.

TURKEY RED IS BEST WHEAT.

Outyields Other Kinds and Seldom Tests Below No. 1.—Flour of Excellent Strength.

It is the opinion of experienced wheat growers that the Turkey Red outyields the Jones Pife variety from four to eight bushels to the acre. It is very heavy and seldom tests below No. 1. In milling qualities it stands next to the Bluestem variety. The bran is thin, and some millers say it produces more flour per bushel than the Bluestem wheat. When made from wheat of good quality the flour is of excellent strength, and many of the mills are now grinding it for the bakers' trade. The Turkey Red sold for one cent less than the Bluestem variety during the season of 1906.

There is quite a tendency in this wheat for the kernels to become starchy. Perfect kernels are hard, horny and flinty. When they become yellow they contain less protein and more starch. The cause of this retrogression is not well understood and presents an interesting subject for investigation. For seed it is probably safest to plant wheat containing as few yellow, starchy kernels as possible.

WINTER FORAGE FOR STOCK.

Abundance of Feed Guarantees Best of Results in Production of Cream and Butter.

An abundance of feed, and as cheaply grown feed as possible, is the one thing to which the farmer-stock man should bend every energy.

With the exception of perhaps a few very dry spots, there is not a farm in our territory that cannot be made to provide an abundance of forage for dairy cows, particularly winter forage. Nor is this all. The more forage there is provided and consumed, the greater will be the producing capacity of the land so devoted to it. It is the one kind of farming that builds up itself and the farm at the same time. Fodder corn and silage, oat hay and millet, rape, mangels, turnips and, where possible, clover and alfalfa, should be grown on the strongest land and fed out on the same; and more forage crops grown where the resulting enrichment goes, until every cow, calf, sheep, hen, horse and hog shall not know what short feed or pasture means the year round. Then the butter and cream will come the year round instead of for a few weeks only; the egg basket will be a constant surprise, and the pigs, calves, lambs and colts will weigh as they never weighed before.

Care of Garden.

The garden will do well manured with barnyard manure applied in the fall and diked into the soil if not plowed under deep. Both barnyard and green manure work well on land for any crop and produce astonishing results in the growth of garden truck. Green manure will tend to make heavy soil light and easier handled and will make sandy soil heavier and not so apt to blow with strong winds



HUMORIST IN OLD LAFAYETTE

Amusing Letter Written by Prisoner, Giving Peculiar Condition of Affairs in Fortress.

Fort Lafayette, situated on the little island just off Fort Hamilton in the Narrows and now used as a powder station, was a prison during the civil war. In it were confined many persons arrested for treason by the United States marshal in this city.

Here is what one prisoner wrote in 1863 in a letter that a Brooklyn man, then a boy, picked up in a bottle which was washed ashore on the Dyker meadows just after the war and which he has in an old scrap book:

April 4, 1863.

Hotel de La Fayette.

In consequence of many prisoners being exchanged from Fort Lafayette and not mentioned in the papers, and for the benefit of the World, Herald, Sun or any other public and daily journal I send this small notice in this frail but buoyant vessel. I beg to state that we are all right here. Nothing to do and plenty of time to do it in. Beautiful view down here. I don't think, especially at night between the door cracks and window bars. There are some curiosities down here for Barnum. Outside sentinels—"Halt! Who comes here?" Prisoner—"A friend. Can I have a bucket of water?" Sergeant—"Yes."

Fine living. Bread and pork for breakfast, pork and bread for dinner; what's left for supper. Coffee boiled in hogheads full every year. Hogheads never empty. Consequence, plenty of water. No trouble to read your letters. They are all read for you. Also your money and watches are well cared for. See another prisoner. "How are you?" Sentinel—"Stop that noise." Exit prisoner.

Card playing is understood down here—high, low, jack, whist and loo. Smoking? I don't think. Tobacco is a sight good for sore eyes. We see a piece every new prisoner. Wonder Burke doesn't send these good looking soldiers up to town to parade on the fourth of July. They are all kinds and shapes.

They keep a goat down here to eat what the rebels leave. The poor creature has to be helped up. Two cats are in the same fix. There is also an attentive doctor down here. One medicine only. If it don't cure you're sorry, for then you have to die. That's all I know about it. Guess that's also a military necessity.

We expect Honest Abe down here in '65, soon after the next election. Hope he'll bring his rail splitting machine. Might be amusing. There is a good deal of fun down here. Very busy for us. Pretty busy for the soldiers. Our clothes are all torn. I will mend them as soon as I find thread and needles. Looked for some



Reading Your Letters.

ever since I've been here. You can find some real bloods down here. If you've got money you can get a few extras. Them that ain't got any stick to the old thing.

If any good intentioned person or persons should pick this up please hand to where directed in care of any person but those connected with this prison and if a tobaccoist he will oblige by sending a small piece to S. S. Ft. Lafayette. Taps. Out g. lights. Good-by.

The letter was written in pencil and in haste, judging from its tone. Perhaps the writer of it is alive to-day and will recognize it.

Chances for Soldier's Promotion. Although the enlisted man in the American army has always been better treated in every way than any other soldier in the world, his compensation is very small compared with the wages paid in civil life and the attractiveness of the service was appreciably enhanced by the increase for which the recent amendment of the law has provided. Even more important than this consideration in popularizing the service, however, is the fact that it has been made easier than formerly for the private to rise from the ranks and to become a commissioned officer. This has long been possible, as was shown in the brilliant career of the late Gen. Lawton, but formerly the obstacles to be overcome were so serious that it could only be accomplished by a man of exceptional abilities and attainments.

Graham Crackers at their Best

There are no better Grahams than "Sunshines"—none half so good.

Sunshine Grahams are made of the best whole wheat graham flour, at the "Sunshine" bakeries—the finest in the world.

The ovens are of white tile and are on the top floor—sunshine and pure air all around them.

Sunshine Grahams

Each package is protected by the triple seal. So you can be sure they are clean—pure and wholesome.

The "Sunshine Seal" on the end is proof of the genuine. Be sure it's there.

You miss the best in Grahams—'til you try "Sunshines."

At your grocer's in 10c sealed packages.

LOOSE-WILES BISCUIT CO.

LUCKY MAN.



She—Two men whom I refused to marry, sir, have become millionaires! He—Is that the reason why?

Valuable Knowledge Spreading. Every day sees hundreds of new recruits in the war against tuberculosis, and every day brings new methods for the fighting of the plague. The National association predicts that if the present degree of interest is maintained, within five years everybody in the United States will have been informed on the way to prevent and cure tuberculosis, and concerning the infectious nature of the disease. Two things in particular are needed, and for these the National association is working in every way. They are, a more complete registration of tuberculosis cases, and the further isolation of dangerous advanced cases of consumption.

A Sunday Sermon.

One must accept life as it is. It gives us great happiness if we are wise enough to see it, and it balances the scales by sending great sorrows, too.

But that is life.

If you would make the world brighter try to forget your hurts, dry your eyes and turn to help those who need the pressure of a friendly hand, the encouragement of a smiling look.

Sorrows and troubles of all kinds should teach one a great lesson—the lesson of universal kindness.—New York Times.

ON FOOD

The Right Foundation of Health.

Proper food is the foundation of health. People can eat improper food for a time until there is a sudden collapse of the digestive organs, then all kinds of trouble follows.

The proper way out of the difficulty is to shift to the pure, scientific food, Grape-Nuts, for it rebuilds from the foundation up. A New Hampshire woman says:

"Last summer I was suddenly taken with indigestion and severe stomach trouble and could not eat food without great pain, my stomach was so sore I could hardly move about. This kept up until I was so miserable life was not worth living.

"Then a friend finally, after much argument, induced me to quit my former diet and try Grape-Nuts.

"Although I had but little faith I commenced to use it, and great was my surprise to find that I could eat it without the usual pain and distress in my stomach.

"So I kept on using Grape-Nuts and soon a marked improvement was shown, for my stomach was performing its regular work in a normal way without pain or distress.

"Very soon the yellow coating disappeared from my tongue, the dull, heavy feeling in my head disappeared, and my mind felt light and clear; the languid, tired feeling left, and altogether I felt as if I had been rebuilt. Strength and weight came back rapidly and I went back to my work with renewed ambition.

"To-day I am a new woman in mind as well as body, and I owe it all to this natural food, Grape-Nuts."

"There's a Reason."

Look in pkgs. for the famous little book, "The Road to Wellville."

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

Like an Earthquake.

Former High Sheriff Chesterfield C. Middlebrooks, whose bungalow at Highland lake stands partly over the lake on stone and cement foundations, was awakened at four o'clock the other morning by loud noises which he says shook his bungalow like an earth tremor.

He says that after the household had been shaken out of a sound sleep, he, not waiting to dress, went outside to ascertain the cause of the noise. He found, he says, that a monster frog had its bed directly under the bungalow. The frog weighed fully six pounds, he says, and every time it croaked the bungalow cracked and shook.

Mr. Middlebrooks bought an anchor, strong rope and enough red flannel to bait 150 hooks, and will try to save his property by capturing the bull-frog.—Whistled (Conn.) dispatch to New York World.

A Trying Time.

Judge—Why did you strike this man?
Prisoner—What would you do, judge, if you kept a grocery store and a man came in and asked if he could take a moving picture of your cheese?—Harper's Weekly.

Important to Mothers.

Examine carefully every bottle of **CASTORIA** a safe and sure remedy for infants and children, and see that it bears the Signature of *Chas. H. Fletcher* In Use For Over 30 Years. The Kind You Have Always Bought.

Reprehensible to Allow It.

Husband (reading from his paper)—Here, they say, is a comet coming towards the earth, traveling at the rate of a million miles a minute.
Wife (awaking from a doze)—Why don't they enforce the speed laws better?

PERRY DAVIS' PAINKILLER

Is the best, safest and surest remedy for cramps, colic and diarrhea. A safe remedy for wounds and sprains if it is unobtainable. 25c, 50c and \$1.00.

Occasionally women try to reform a man by roasting him.

Mrs. Winslow's Soothing Syrup. For children teething, softens the gums, reduces inflammation, allays pain, cures wind colic. 25c a bottle.

A malicious truth may do more harm than an innocent lie.

Lewis' Single Binder straight 5c.—Many smokers prefer them to 10c cigars.

An easy beginning doesn't always justify the finish.

DODD'S KIDNEY PILLS

FOR RHEUMATISM, BRUISES, DIABETES, BACKACHE

Small Pill, Small Dose, Small Price.

SICK HEADACHE

CARTER'S LITTLE LIVER PILLS. Positively cured by these Little Pills. They also relieve Distress from Dyspepsia, Indigestion and Too Hearty Eating. A perfect Remedy for Biliousness, Nervousness, Headache, Bad Taste in the Mouth, Coated Tongue, Pain in the Side, TORPID LIVER. They regulate the Bowels. Purely Vegetable. SMALL PILL, SMALL DOSE, SMALL PRICE.

Genuine Must Bear Fac-Simile Signature. *Beutwood* REFUSE SUBSTITUTES.

W. N. U., OMAHA, NO. 33-1903.

THE BUSY WORLD WEARS

W. L. DOUGLAS

\$300 SHOES \$350

W. L. DOUGLAS SHOES are Better Value for the Price Than Ever Before. The quality, workmanship and style cannot be excelled. A trial is all that is needed to convince anyone that W. L. Douglas shoes hold their place as the best and most comfortable shoes ever made.

W. L. Douglas's reputation for the best shoes that can be made for the price is world-wide. He stands back of every pair and guarantees full value in the wear.

CAUTION.—See that W. L. Douglas name and the red line is stamped on the bottom.

TAKE NO SUBSTITUTES.

Shoes for Every Member of the Family, Men, Boys, Women, Misses and Children. Whoever you like, W. L. Douglas shoes are within your reach. If your dealer cannot fit you, write Mail Order Catalog, W. L. DOUGLAS, Brockton, Mass.

This Book Free

The Safest and Surest Way of Curing Piles

Pay When Cured

Fistula and Rectal Diseases

The book is well worth reading. It tells the plain truth about piles and rectal diseases. It conveys a message of hope to those who have suffered for years and now consider their case hopeless. It points out the sure road to permanent relief for those who have tried medicine and prescriptions. The book gives a full history of my experience and tells of hundreds of cases that were cured. It will convince you that my method is the safest and surest way to obtain permanent relief from your affliction.

That's the fairest offer I can possibly make. That's the best way to prove to you that I do as I say. You risk nothing, you pay nothing until the cure has been accomplished. Then I give you a written guarantee (good as long as you live) that the cure will be permanent. Should the trouble ever return or any of the symptoms appear again after I pronounce you cured, I will treat you and give you the best attention at my command. Free of charge, until every symptom has disappeared. That's fair and square. It's the most liberal offer ever made. Why not accept it and rid yourself of the trouble forever?

Come and see me about your case. If you cannot come just now, write for my free book. Address **DR. E. R. TARRY,** 126 Bee Building, Omaha, Nebraska.

Constipation

"For over nine years I suffered with chronic constipation and during this time I had to take an injection of warm water once every 24 hours before I could have an action on my bowels. Happily I tried Cascarets, and today I am a well man. During the nine years before I used Cascarets I suffered untold misery with internal piles. Thanks to you, I am free from all that this morning. You can use this in behalf of suffering humanity. B. F. Fisher, Roanoke, Ill.

Pleasant, Palatable, Potent, Taste Good. Do Good. Never Sicken, Weaken or Grip. 25c, 50c, \$1.00. Never sold in bulk. The genuine tablet stamped C. C. Guaranteed to cure or your money back. 530

NONE BETTER

The next bill of staples you buy look to see what mark is on them, particularly what the name of the manufacturer is. If you see **DAY LUMBER COMPANY** and this mark you can be sure of the quality.

DAY LUMBER CO.

FREE TRIANGLE. Write today. Order numbers, prices, terms, samples, coloration facts. Buy from nearest, have commission. Lowest prices, best service.

DEFIANCE STARCH easiest to work with and starches clothes nicest.