

## IRRIGATION BY PUMPING TO BE TRIED OUT IN BOX BUTTE COUNTY

County Commissioners Co-operating  
with United States Department  
of Agriculture

WORK TO BE COMMENCED  
ABOUT FIRST OF JUNE

Exact Location for First Well Has  
Not Yet Been Selected—Inter-  
esting Article on Subject

Irrigation by pumping will be tried out in Box Butte county this spring. The county commissioners have made an appropriation for this purpose and the U. S. agricultural department, through its station at Lincoln, is co-operating with them in the experiment. This department has made a standing offer to counties in the dry farming districts to try out "pumping for irrigation" plan and will appropriate funds for the purpose equaling the amount any county will subscribe.

Cheyenne county is also working with the U. S. department of Agriculture and will experiment with the plan near Sidney.

The exact location of the first well for Box Butte county has not been announced but in a recent letter to W. D. Fisher, U. S. Agricultural Engineer at Lincoln, writes that they will get busy at once and have a man on the grounds not later than the first of June to supervise the construction of the well and the installation of the equipment.

In the April 5 issue of the Nebraska Farmer is an article under the heading, "Pumping Water for Crops; Factors That Govern Successful Methods," written by I. D. Wood, of the Department of Agricultural Engineering, University of Nebraska.

It contains much valuable information, is quite interesting, and we print it in full below.

In sections of Nebraska where rainfall is light the question of pump irrigation will always be considered by farmers. Without doubt in many cases it may be made profitable if the right crops are raised, the proper pump outfit is bought and if the owners will give more study to the care and operation of machinery. Nine out of ten cases of failure of pumping plants can be traced to one of these causes. In this article it is possible to give but a general outline of the subject.

Too much cannot be said regarding the preparation of the fields to be irrigated. Often the lateral ditches are placed too far apart and much water is wasted by allowing runs of ten to twelve hours. In Bulletin No. 152 of the Nebraska Experiment Station is the following good advice on this subject:

"Under ordinary conditions in western Nebraska a run of one hour and thirty minutes to two hours should constitute the distance between laterals. Irrigators on sandy soil frequently try to force water through rowed crops in rows forty to sixty rods long. Often it requires eight to twelve hours and sometimes longer for water to go through such rows. The waste of water through underground seepage in such cases must be readily apparent to the most unobserving irrigator."

**Long Runs Waste Water**  
Anyone who has studied conditions in the Lodgepole valley in Cheyenne county must have been impressed with the waste of irrigation waters that takes place there because of carelessness in the preparation of the fields. Long runs are common and rowed crops are planted so that washing and clogging have resulted from irrigation waters rushing between rows. Under most conditions a fall of four inches per 100 feet is about right. The amount of water required varies with the crop, the soil, the cultivation and the altitude. Experience is the best teacher to follow on this point.

In this article particular attention is given to a pump for raising water from a ditch and delivering it to lands on a higher level than the ditch bank. A purchaser generally wants to know what sized pump to buy to deliver a certain quantity of water to a certain height and at what speed the pump should be operated to deliver the most water at that height with the least power.

The centrifugal pump is the type most frequently used for raising large quantities of water for comparatively short lifts.

**Size of the Pump**  
In a recent inquiry to The Nebraska Farmer a subscriber asks this question: "What size pump will I need to deliver one cubic foot of water a second at a height of fifteen feet above the ditch from which I wish to pump?" A general answer can be given to the question and may serve to answer other inquiries of a similar nature.

Water is to be raised fifteen feet above the ditch and this distance we call the hydrostatic head. But some other things must be considered which will add to this head. There is a friction loss in the foot valve and strainer in the pipe flowing in and in keeping the water flowing. In reality, then, instead of pumping against fifteen feet of head, we have a loss due to friction which requires enough additional power to raise water twenty-five to twenty-seven feet.

A four-inch centrifugal pump is about the right size to deliver one cubic foot of water per second. The speed of the pump probably would be about 540 revolutions a minute. The

## STATE STATISTICS ARE GATHERED BY ASSESSORS

Important to Citizens That the Information Be Accurate and Complete

The Nebraska statutes fix the duty of gathering agricultural statistics on the assessors. On or before July 1 the collected information must be summarized and given to the county clerk, whose duty it is to forward to W. R. Mellor, secretary of the Nebraska state board of agriculture, who, by the same law, is charged with the compilation of the statistical information sent in from the various counties and publish same in his annual report to the governor. Early in March the office of the state board of agriculture sent out to the 2,000 assessors of Nebraska blank reports and summaries for use in the 1916 gathering of these statistics. Letters accompanying such blank reports to the county assessors, among other matters, contained the clause: "Please urge your township assessors to gather these statistics in a painstaking, truthful manner, as the good name of Nebraska and your county depends on their work. Impress on them the necessity for accurate information to protect our farmers from bucket shop manipulations." The grain dealers in large cities receive their information from their paid agents. If no other reliable information were gathered, the temptation to take greater profits would be largely increased, and such profits come from the pockets of the farmers. The facts as received from the assessors and the people who act as crop reporters is the only check on these large grain dealers, and the state board of agriculture gives publicity to the facts received which assists in minimizing unjust speculation.

engine must be adapted to the pump both in the matter of horsepower and in giving the proper speed. Quite frequently a pumping outfit is not running at the proper speed for the head and the discharge. It would be a waste of money to have the pump owner to determine whether it is giving the most economical results.

**Power for Operating Pumps**  
The following table shows approximately the horsepower required to lift water against certain total heads:

Gallons per minute	10 ft.	20 ft.	30 ft.	40 ft.	50 ft.
225	1.2	2.25	3.37	4.50	5.62
300	1.5	3.00	4.50	6.00	7.50
400	2.0	4.00	6.00	8.00	10.00
450	2.25	4.50	6.75	9.00	11.25
700	3.50	7.00	10.50	14.00	17.50
900	4.50	9.00	13.50	18.00	21.50
1000	5.00	10.00	15.00	20.00	25.00
1200	6.00	12.00	18.00	24.00	30.00

gallons per minute can be reduced to cubic feet per second by dividing by 448, and from this table it is apparent that to deliver 450 gallons a minute or one cubic foot a second, about six horsepower are required.

Another device which has been used to some extent for lifting water is the water elevator. This operates on the principle of the grain elevator, it being a chain with buckets attached running over two wheels. One wheel is stationed in the water and the other is at the elevation to which the water is to be lifted. The buckets dip into the water and fill and are then elevated and dumped at the upper end.

Such elevators are operated both in wells and streams and raise water as high as seventy feet. One of these outfits in Texas delivered 700 gallons a minute at a height of seven feet.

A twelve-horsepower displacement engine furnished the power. In some sections of the south where is pumped for irrigating rice, the steam engine is used for power and the entire time of one man is consumed in caring for the plant.

**Internal Combustion Engine the Best**  
Because of the high cost of labor and fuel only one type of engine can be used successfully in irrigation work, and that is the internal combustion motor. Without doubt the engine can be operated cheaper, and its use is to be recommended where the operator is a good mechanic. The engines which use oils heavier than gasoline have a higher compression and hence must have piston rings and valves in good condition. On the other hand, a gasoline engine will run when in a poor state of repair. One man should be made responsible for the operation of the plant and he should be just as particular about its condition as he would be of a new automobile.

Whether or not you are able to make pump irrigation pay depends upon these factors: The height the water must be raised; how well the engine and pump are mated, or, in other words, the efficiency of the outfit; the kind of crops raised; and the amount of rainfall in the region.

**Card of Thanks**

The Beck brothers and family wish to express their appreciation for the kindness and sympathy extended to them during the illness and death of their sister and aunt.



## EVERYBODY'S DOING IT NOW; CLEANING UP AND PAINTING UP

A cleaner, more beautiful and more healthful Alliance is what all citizens of Alliance are working for this week.

A hearty response has been received to the appeals of the governor, the mayor, the Commercial Club and the newspapers, and everybody is doing his little share in the program of clean-up and paint-up as outlined for this week, April 10 to 15.

The work was undertaken systematically, several organizations of the city co-operating with the city officials and the Commercial Club. Saturday the Boy Scouts were pressed into service and with a drum corps paraded the city bearing the stars and stripes and clean-up and paint-up banners. Afterwards they made a tour of the entire city inspecting the streets, alleys and personal premises and made suggestions to property owners and tenants where conditions were requiring a little special attention for this campaign.

After their work was finished the chairman of the organization reported as a result of their inspection 277 places unsanitary or in need of cleaning up.

This list was itemized as follows: stable nuisances, 33; outside vault nuisances, 30; ashes, old barrels, papers, etc., 184; vacant lots with rubbish, 36; billboard nuisances with rubbish in the rear, 4.

The police department has also taken a hand in the campaign and nice results are being obtained in all quarters. In two or three places parties, who overlooked the fact that this campaign is for their benefit as well as others, were inclined to be peevish and were a little sassy about the matter, but when the police informed them that they might have their choice of complying with the city ordinance relative to the matter or taking their chances for violation thereof, they proceeded to join the clean-up brigade and everything was lovely.

The campaign will have a wonderful effect on the fly nuisance, which it has been proven beyond question is largely responsible for illness. The destruction of the breeding places for the flies will make the fly swatting season much easier and if all persons in all communities would join heartily in this work the elimination of the fly nuisance might be anticipated.

Early in the season several thousand cocoons were "captured" by the children and turned in for the bounty offered by the Commercial Club, and Alliance will be practically free from another nuisance this season.

While the health question is of the greater importance the question of beautifying the city comes hand in hand in the campaign and as a result of the "cleaning up" and the "painting up" done by community co-operation this week Alliance will present a better appearance this summer than ever before.

### ANNUAL ROLL CALL

First Baptist Church Holds a Very Interesting Meeting

The members of the First Baptist church of Alliance held their annual Roll Call last Friday, on the twenty-fourth anniversary of the church organization.

One of the most interesting features of the meeting was a history of the local church by Mrs. Julia T. Boone-Barkhurst, the only charter member of the church present.

The annual report showed a balance on hand in every department in amounts sufficient to liquidate a large portion of the outstanding indebtedness. Although the church was without a pastor much of the time something over \$1800 was paid out during the year.

Letters and responses from absent members were read.

Rev. Ray E. York, of Lincoln, was present and gave a very interesting address on the "Five Year Program for Nebraska Baptists." Rev. York is the new superintendent of missions for the state of Nebraska and is making a tour of the western part of the state.

Scratch pads.—They are always a very convenient thing to have on your desk in the home, office or store. We have them for sale. Big pads and little pads. Tabbed on the end and on the side. Pencil paper and ink paper. Pick the kind and size you want for 20c per pound. They run three to twelve to a pound. Herald office.

Funeral designs made on short notice. Alliance Greenhouse.

## EIGHTY-FOUR CASES ON SPRING COURT DOCKET--PETIT JURY CALLED

Eighty-four cases are on the docket for the spring term of district court which will convene Monday April 24, with Judge W. H. Westover of Rushville presiding.

Of these three are Naturalization cases, four are criminal cases and the remainder are included in the Civil docket. In the Civil docket there are seventy-seven cases, including nine divorce suits, twenty-six foreclosure suits, four ejectment suits instituted by the C. B. & Q. R. R. Co., four damage suits against the city of Alliance, and thirty-four miscellaneous cases.

There will be no grand jury summoned for this term of court, and the petit jury, twenty-four in number, were called this week. These jurors were summoned by notice sent by registered mail by County Clerk Hargraves as provided in the new laws, instead of by personal service as in former years.

**The Petit Jury**

The Petit Jury is composed of the following Box Butte county citizens: R. L. Harris, George Burke, E. V. Cramer, H. J. Ellis, C. H. Fuller, J. V. Rice, A. L. Davis, C. A. Dow, George H. Clayton, Lincoln Lowry, John Brennan, W. N. Thompson, P. K. Christensen, Thomas A. Green, Frank Potmesil, Herman Rehder, W. F. Walker, Fred Nason, Robert Ball, Henry Carey, W. S. Acheson, R. M. Baker, W. B. Young and H. U. Carpenter.

The bar docket for the April term is being printed this week at the Herald office and will be ready for distribution to the members of the bar by the county clerk in a few days.

**Criminal Cases**  
On the criminal docket there are

four cases, as follows:  
Earl Montague, rape and seduction.

Ray Tompkins and Mike Swayze, larceny.

Clyde Curry, receiving stolen goods.

Charles Wallace, assault with intent to inflict great bodily injury.

**Naturalization Docket**

Three foreigners are making application to be admitted to become citizens of the United States. They are Johan Gottfrid Carlson, Theresia Horvorka and Gustaf Edwin Theodore Johnson.

**Civil Docket**

Of the seventy-seven cases on the civil docket there are none that will attract more than ordinary attention unless it is the four suits brought against the city of Alliance by Albert Wiker, Martha Miller, Enoch Boyer and Anna Worley. These suits are for damages alleged to have been sustained when the grade on Box Butte avenue was changed, and the cases are continued from a previous term of court.

**Divorce Suits**

Eva L. vs. Charles F. Wyckoff.  
Edith K. vs. Eddie H. Bateman.  
Wm. E. vs. Elsie G. Snyder.  
Bertie E. vs. Richard S. Primmer.  
Goldie E. vs. Charles Fuller.  
Beulah vs. Gilbert R. Fish.  
Maude vs. William Carter.  
Florence vs. Leo L. Leon.  
Mary C. vs. George R. Carter.

**Ejectment Cases**  
Ejectment suits have been instituted by the C. B. & Q. R. R. Co. against the following persons: Jos-

## TO HOLD AGRICULTURAL SCHOOL IN FALL IN WESTERN NEBRASKA

### FORMER RESIDENT DIES AT NORFOLK HOSPITAL

Remains of J. A. Hunzicker Brought Here for Burial—Funeral at M. E. Church Monday

J. A. Hunzicker, a former resident of Alliance, who died at the state hospital at Norfolk last Thursday morning, was buried here Monday, the funeral services being conducted at the M. E. church by Rev. J. B. Carns, and interment made at Greenwood cemetery.

Heart trouble was assigned as the immediate cause of death. Mr. and Mrs. John M. Schirk, the latter a daughter, who had been called to Lincoln the first of last week by the accidental death of Mr. Schirk's brother, stopped in Norfolk on their way home, and two sons, F. S. and W. A. Hunzicker, of Jennings, went to Norfolk to bring the remains to Alliance.

Among those from a distance who were here for the funeral were Mr. and Mrs. Marquardt, Lawrence Akers and Clyde Patrey, of Goodbreak; Lee Helling and family of Lakeside; Mrs. E. Stinett, O. S., W. A. and F. S. Hunzicker and Miss Lydia Hunzicker, of Jennings.

The deceased was a native of Switzerland, where he was born, in 1853. He came to America, locating in New York when but a lad nine years of age. Two years later he came to Richardson county, Nebraska, and from there he moved to Box Butte county in 1902.

He was married in 1875 to Miss Wilhelmina Luthy, who with seven children survive him. On daughter died in infancy. The surviving children are three sons, W. A., O. S. and F. S. Hunzicker, of Jennings, and four daughters, Mrs. John M. Schirk, of Alliance; Mrs. Wm. Marquardt, of Goodbreak; Mrs. E. Stinett and Miss Lydia Hunzicker, of Jennings.

### FISHER NOT A CANDIDATE FOR CLUB SECRETARYSHIP

Gave Notice to Board of Directors at a Recent Meeting that He Does Not Want Position

W. D. Fisher, secretary of the Alliance Commercial Club for the past two years, gave formal notice to the Board of Directors of that organization at a recent meeting that he is not a candidate for the position for another year. The board took no official action with regard to the notice but made it plain that they are very reluctant to accept the notice as final. Mr. Fisher has not made known his plans for the future. That his work here has been a success cannot be contradicted. He has worked hard and worked long with the interests of Alliance, Box Butte county and western Nebraska always in mind; has accomplished results beyond the expectations of the members of the organization; results that few men could expect to accomplish under the same conditions, and Alliance will be benefitted for years to come from the things that have been done by the club through him.

The secretaryship of a commercial club carries more "grief" probably than any other work. There are hundreds of members with almost as many different ideas to please and it takes lots of work and even more patience to obtain results in the face of all obstacles.

His printed reports of the things accomplished by the local club and the fact that the entire club regrets his decision to leave is evidence enough of the success of his work here and should he continue in the same line of work the city that secures his services is to be congratulated.

### FAIR DATES CONFLICT

Dates Selected Conflict with Tri-State Fair Association

The dates recently selected by the Box Butte County Fair Association for their fall county fair conflict with the dates already announced for the Crawford Tri-State Fair, according to a letter received from W. C. Rudin, of that association.

A meeting will be held at an early date to consider the advisability of changing the dates.

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**SEEDS, SEEDS, SEEDS.**—Alfalfa seed, sweet clover, cane, millet and any other else in the seed line. Campbell's Seed House, Department A, Seward, Neb. 14-6730-May 1

Week's Session, to Be Known as "Potato Week", Is for Members of the Potato Clubs

MAY SELECT ALLIANCE AS PLACE FOR THE SCHOOL

Business Men offering Prizes to Members of Boys' and Girls' Clubs in Several Counties

L. W. Skinner, who is in charge of the Boys' and Girls' Club work of Nebraska, announces that his department will begin holding a special agricultural school at some central point in the western part of the state each week, the session to last one week and to be known as "Potato Week". The location for this has not been definitely fixed, but in all probability it will be Alliance.

Prominent business men in several counties that have taken up the work are showing an interest in the potato clubs and are offering prizes to the winners. Are there not some business men and organizations in Alliance that will show as much interest in this work which is being commenced in Box Butte county by the county agent and county superintendent?

Mr. Skinner's letter of explanation in regard to the club work and the potato week is given below:

This boys' Potato Week will be attended only by boys who have finished the job as 1916 members of the Potato Growing Club and have made a satisfactory report of results. It will be attended mainly by groups of boys from each county who have been given their transportation and other expenses for attending this school, as a reward for their ambition and industry.

The county superintendent of Cherry county has guaranteed a free trip to the boys' Potato Week, for the winners of first and second prizes for the Cherry county Boys' Potato Club, and expects to provide several others, if the number of boys take part in the contest make it worth while.

In Sheridan county, two banks and one individual have each offered a free trip to the Boys' Potato Week, to the winners of first, second and third prizes in Sheridan county Boys' Potato Club.

The district from which boys will attend this meeting includes twenty counties. The Extension service of the agricultural county is working the matter up in similar fashion in each of the counties concerned.

The boys who attend the Potato Week will be in charge of the state leaders of the Boys' Agricultural Clubs. They will make a special study with potatoes and everything connected with potato growing, other branches of agriculture, and will have a period each day for games and entertainment. The Box Butte Potato Club is opened to any boy who was ten years old but not eighteen years old, before the first day of January, 1916, and who can have the use of one-eighth of an acre or more of potato ground. On this potato plot he will do all the work himself, will keep a record of all his time and expenses.

Each working member will receive by mail, direct from the agricultural college, circulars of information, record blanks, and instruction cards upon which to apply for membership will be obtained from any teacher in the county, from the county superintendent or county agent. No application will be accepted by the Agricultural College after May 1.

### DISCONTINUE RESTAURANT

Stephens & Fink to Run Lunch Counter Only at Noke Stand

Feeling that the restaurant business is overdone in Alliance and desiring to devote their entire time to the bakery business, Stephens and Fink, who purchased the Noke Bakery and Cafe a couple of months ago, on Sunday discontinued the restaurant end of their business.

Several changes were made in the store and the lunch counter was moved to the back and center of the room. From now on lunches only, comprising sandwiches, pies, cake and such articles as may be served in their bakery oven, will be served.

### MINATURE WILL SOON BE LIGHTED FROM SCOTTSBLUFF

Scottsbluff Star-Herald: A contract has been entered into between the village of Minature and the Intermountain Railway, Light & Power Co., by which the latter, of Scottsbluff, will build a line and furnish Minature with electric lights and power, giving them 24 hour current, as well as the same satisfactory service now furnished Scottsbluff and Gering patrons. We understand that the Intermountain people are also planning to extend the line to Bayard, and are now dickering with the people there. This company has the money to make many investments and will extend wherever the business is desired and justified. There is an unconfirmed rumor that these people are also making overtures to Mitchell, but as to this we do not know.

R. A. Douglas, wire chief at the local telephone exchange, was called to Spokane, Wash., the latter part of last week, on account of the serious illness of his mother.