

FUTURE OF IRRIGATION

Subject Not Given Attention It Really Deserves.

Special Study Necessary to Ascertain Right and Wrong Way to Irrigate—Returns to Farmers Increased 600 Per Cent.

(By L. M. WINSOR, Utah Agricultural College.)

In this age of specialization the man who attempts to launch out in several directions is bound to fail sooner or later. He who sets out to do one thing, and does it well, is the man who succeeds. This is true not only in business and professional work, but on the farm as well. The successful farmer is the one who devotes himself to the particular line of agriculture for which he finds himself adapted.

There is one subject which has not been divided as it should have been, because of the lack of attention which it has secured, and that is the subject of irrigation. Degrees are still offered in irrigation engineering, which includes the entire subject of both the dam and canal construction, technique and the application of water to the soil and the drainage of the water from the soil.

In every case there is a right and a wrong way to irrigate, and a right and a wrong time to apply the water, and to know which is the right requires special study just the same as does the knowledge of how to produce a 1,200-pound beef from a grade Hereford steer. In fact, the mastering of the irrigation art is a great deal more difficult than most subjects, because so little thought has been given to irrigation, and so little of real moment has been written about it. However, this may be, we need not sit idly by and make no move to work out better methods of handling our irrigation water, just because there is no one to show us just what to do in every case. That is all the greater reason why we should set to and attack the problem for ourselves. The men who get a thorough knowledge of this question today are going to be the teachers of tomorrow.

To convince ourselves of the importance irrigation plays in our agriculture we have only to consider what our farms are without it. The arid farm is limited practically to the growing of wheat, while the same farm by the aid of irrigation has unlimited possibilities. An arid farmer does exceptionally well if he clears ten dollars per acre, while the irrigated farmer with an ordinary crop of oats can clear sixty dollars an acre on the same kind of soil. The increase, then, of 600 per cent, is due not to the farmer nor to the soil, but to the irrigation water, thus making the water five times as valuable as the soil. And with the more intensive farming thus made possible, the returns due to the water sometimes reach fifty times the returns from an equal area of arid land.

If the water is so valuable, why is it that so little attention is paid to its measurement and distribution? When a piece of land changes hands, the buyer never thinks of accepting it without first having it carefully surveyed and an abstract made of it, yet he is willing to accept the water for that land just as it comes, or just as the water master, if there be one, sees fit to give it to him. Many times he is not satisfied, and still he takes no steps toward the correction of this condition.

CURVE IN IRRIGATION DITCH

Should Be Moderated at 'Cleaning Time—Rock is Most Convenient for Making Wing Dams.

Both large and small irrigation ditches should have the curves moderated at cleaning time. This may, however, be done year after year with but little result if some means is not taken to keep the current from building up and cutting out at the old places. When there is a heavy deposit of sediment on a curve a small wing dam should be placed on the opposite bank some distance higher up to keep the current both from cutting in there and to allow it to deposit sediment and build up instead of scouring that side of the ditch. The current will then in time on the place where it formerly deposited, making a clear channel much more nearly in a straight line. Rock is the most convenient for wing dams, but brush and a bunch of old wire and a few stakes will serve, or, falling these, gunny sacks filled with dirt. Work with the water and make it work with you is the economic way.

Growth of Irrigation Systems.

The growth of irrigation systems throughout the world has been a remarkable feature of the agricultural progress of the nineteenth century, says a writer in the National Magazine. The great Assouan dam across the upper Nile has added myriads of acres to the fertilized area of Egypt; France has sown the northern Sahara with cases, made beautiful and fruitful by artesian wells; British India is dotted here and there by public works, which store up the floods of the periodical rains, against the scorching drought of midsummer, and besides millions invested by corporations and private citizens, the United States government has constructed some splendid irrigation systems in what have been considered irremediable deserts.

IRRIGATE TO INCREASE YIELD

Many Sections of Country Where Method Could Be Profitably Used by Farmers.

In the eastern part of the great plains, where the rainfall is not large, but ordinarily sufficient to mature crops, there are many localities where irrigation could be practically used to raise the yield of field crops or to promote the growth of trees, vegetables, fruits and ornamental plants in orchards and gardens and about the homestead. As the farmers in this region accumulate capital they will undoubtedly resort more and more to irrigation as a means of increasing their income, securing more of the comforts of life and making their home surroundings more attractive.

The same thing is true of the Pacific coast. In the Willamette valley in Oregon, for example, while the annual rainfall is abundant, there is a long dry period in the summer. Many crops which would grow best at this season are greatly hindered by drought. The agricultural experiment station at Corvallis has been studying this problem in co-operation with the department of agriculture and has already demonstrated the usefulness of irrigation for alfalfa, clover, potatoes, and other crops. Business men in Portland, Ore., have become so well convinced that irrigation in western Oregon is profitable, that they are now developing a large irrigation project near Salem. Vast areas in the Sacramento and San Joaquin valleys in California were for many years farmed without irrigation. But after long hesitation and much active opposition the great wheat farmers adopted irrigation as a profitable insurance against drought, and, once convinced of its benefit, spent millions of dollars in developing and managing irrigation systems.

Their experience will doubtless be repeated in many regions in the United States as increasing population and more complete utilization of our agricultural lands raise the price of land and extend the market for high-priced crops until the cost of installing and running irrigation plants will be amply repaid by the increased yields per acre which irrigation is sure to bring. In response to considerable present demand for information along this line, and in preparation for the great future of irrigation in the humid region, the irrigation service of the office of experiment stations of the department of agriculture is making a broad study of the irrigation requirements and possibilities of different regions and is seeking to discover the most economical and effective methods for the utilization of available water supplies for this purpose.

A large share of the future agricultural property of the United States will depend on the reclamation and thorough utilization of land through drainage and irrigation. Development in both these lines should go hand in hand.

IRRIGATION OF STRAWBERRIES

Where There is Sufficient Slope to Land Rows Should Be Kept Down to Get Water.

A subscriber asks if strawberries which are to be irrigated by furrow irrigation should be planted on raised ridges, and water applied between the rows.

We have seen strawberry rows planted in this way, but we believe it is much better to try to keep soil level, for the plants will work themselves up on to rows anyway as they become older, says the Fruit Grower. On land which is nearly level, so that water has scarcely any fall, it might be well to ridge the rows, if there is danger of the water getting up on the berries, but if there is sufficient slope to permit the water flowing freely, we would much prefer keeping the rows down. If there is too much slope to the ground, then of course the rows should be planted with the contour of the hill. On some of the hillside in the irrigated districts of the west, strawberry rows are as crooked as can be, but they follow the contour and irrigation is much more effective.

FARM NOTES.

Try a few purple cabbages for pickling.

Cucumber vines require plenty of water.

A tool house is a necessity on every farm.

Has the asparagus bed been worth while this year?

Cowpeas for seed may be planted as late as July 15.

A wheel hoe will help to take away the drudgery of gardening.

Good seeds are of vital importance to the gardener. Did you get them?

Early-sown spinach, radishes and lettuce should be ready to use this month.

Put to soak some tobacco leaves for the plant lice. It will discourage them very much.

Will you start in the summer without first having made the cellar clean and sweet?

Put only first-class clean vegetables on the market. They are the only kind that pay.

Weeds are lot easier to get rid of when small than when they begin to crowd the plants.

It is difficult to see how a man who does not keep his road dragged can pose as a public spirited citizen.

In winter and spring, and sometimes in summer and fall, rhubarb pays as well as any other garden crop.

Busy is the plum curculio these days. Saw him off the tree to fall on a sheet—then the fire for him.

WASHINGTON GOSSIP

All Think They Could Do it Better



WASHINGTON.—Every time a business man visits Washington the idea comes to him of how much more easily and economically he could run Uncle Sam's business than it is now conducted. In a way it is one of those cases where "any sort of an individual could run a newspaper, or fill a public office, or preach a sermon or do almost anything in which the public feels a proprietary interest." The American visiting Washington feels that he is in a way looking after his own property, when he looks upon the buildings and sees how things are going.

A prominent New York manufacturer, in Washington on a visit, was shaking his head as he walked down the avenue toward his hotel. "Proof of the futility of paternalism, government ownership and socialism," he declared with a wave of the hand, "is evidenced in observing closely the operation of the business affairs of the government as contrasted with that by individuals, especially in the matter of economy and cost of operation. The higher

cost incurred in building battleships is but an illustration.

"Why," he exclaimed, wrathfully, "the revelations are simply astounding. The legal red tape of governmental affairs is something exasperating. If there is a labor-saving device introduced, it requires an endless amount of regulation. The quick, decisive action of business executive and initiative force is utterly lacking."

He told of one case reported to him where 18 typists were kept at work recopying each month 25,000 names of workers to whom checks were to be sent. Later an ordinary addressing machine had done away with the necessity of the services of these employees, but the department head was prevented by law from dispensing with their services until the end of the quarter for which the quota of help was authorized and imposed.

Another startling fact was revealed that some of the most learned bureau chiefs in Washington are receiving no greater salary than efficient shipping clerks in private enterprises. "It seems to me," concluded the business man tersely, "that when the comparative cost of the same work in the government and in private enterprises are considered, need is shown of at least more acceleration and elasticity in the conduct of governmental business if it is to be kept in line with modern commercial methods." — *Chapple's News-Letter.*

U. S. Cavalry Has New Appliances

NEW appliances and equipment are now being furnished to the United States cavalry. Not satisfied with giving the troopers the field wireless telegraph plant, the Maxim silencer, the automatic machine gun and other equipment, the war department is going a step further.

Hereafter cavalry troopers are to be equipped with pocket electric lights and luminous field compasses. The bayonet is also to be added to the trooper's equipment, so that in effect, unhorsed, he will be as efficient as an infantryman.

Due to the extended need for foreign service on the part of the troops, and to the superior mobility of the cavalry arm in the foreign field, the United States is making extensive additions to the field conveniences of the troopers.

Each troop commander is hereafter to be supplied with one pocket electric flashlight, five inches long and covered with durable leather. This is on the recommendation of the cavalry equipment board. It is believed that the light will be useful to troop commanders in conducting night operations with other troops, or even in dependent night operations on a small scale, in reading dispatches, examining crossings and banks of streams before fording.

The lights to be supplied have been so covered as to be proof against wet weather and tropical temperatures. The luminous compasses are to be issued to each regimental and squadron headquarters, and their use is to guide troops across a dark and unknown country at night. The United States is here following the example of other countries, which have already adopted a compass of the luminous type.

The board has recommended the bayonet for the trooper on the ground that "the greatest accomplishments of the American cavalry have been scouting on foot."

Habits of Forbearance to Be Taught

learns the treatment he should give his companions and pets. The second grade deals with home life; the third, with school and play time, while the fourth takes up the home town or city in grade five the course broadens to include a consideration of the whole country; in the sixth, the child takes up good citizenship; in the seventh he studies the world family, and in the last he learns what the larger patriotism means.

In this way the child grows up in the understanding that good will, which he must show his friends and parents, should be extended to all the inhabitants of the earth. He begins by learning that he must be kind to animals and playmates, because he is in constant relations with them; then he comes to understand that this nation should be at peace with all others, because all nations are interdependent, and this finally leads to the last topic in the whole long course—the united world.

The moral qualities essential to the world peace movement, such as faithfulness, generosity, gratitude, hospitality, fair play, honesty, and consideration for others, are emphasized.

How Statesman Was Rendered Hatless

ONE of those unfortunate cases of mistaken identity between hats occurred a few days ago in the house cloak room. "Billy" Kent, the reform member from California, who wears the orneriest looking hat in Washington, walked off with a dome-covering that belonged to Ira Copley of Illinois. While the Copley hat was in Kent's possession an accident befell it, and Copley declares that he wouldn't wear it to a masquerade. He and Kent were classmates at Yale, and he felt free to tell him that he thought he should be reimbursed for the ruined hat. Kent and Copley each own several dray loads of money, but it was the principle of the thing.

"It isn't the first time that you have rendered me more or less hatless," said Copley. "I remember one time some 25 years ago that you threw a snowball at me, when I was passing along on the opposite side of the street, attending strictly to my own affairs, as was my wont. And my brand new derby had looked like a before-taking portrait. Now, once again you compel me to go to the hat store and squander my savings or else join



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Stop the Pain.

The hurt of a burn or a cut stops when Cole's Carbolic is applied. It heals quickly and prevents scars. 25c and 50c by drugists. For free sample write to J. W. Cole & Co., Black River Falls, Wis.

A man is judged by the company he keeps, and by the cigars he gives away.

It always makes good! What? Garfield Tea, the Natural Laxative, composed entirely of pure, wholesome and healthgiving herbs.

If a man isn't sufficiently original to manufacture his own lies he should stick to the truth.

Water in bluing is adulteration. Glass and water makes liquid blue costly. Buy Red Cross Blue Bluing, makes clothes whiter than snow.

Many a man hides his wife's coffin with roses, who never gave her a five-dollar bill to do as she pleased with.

There are imitations, don't be fooled. Ask for LEWIS' Single Binder cigar, 50c.

Men may be born modest, but women have to acquire all they get.

Garfield Tea purifies the blood and clears the complexion. Drink before retiring.

The gossip of today may be the superstition of tomorrow.

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The Kind You Have Always Bought

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Jimmy said: "My pa is a church member."

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"He ain't neither. My pa says your pa don't come to church, and even when he does he doesn't put nothing in the collection box."

"Huh! My pa is an honorary member, and honorary members don't hater chip in!"

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Have you ever noticed how easy it is to confuse the two words martial and marital, when one sees them in print?

Stop the Pain.

The hurt of a burn or a cut stops when Cole's Carbolic is applied. It heals quickly and prevents scars. 25c and 50c by drugists. For free sample write to J. W. Cole & Co., Black River Falls, Wis.

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Can quickly be overcome by CARTER'S LITTLE LIVER PILLS.

Purely vegetable—act surely and gently on the liver. Cure Bilioussness, Head-aches, Dizziness, and Indigestion. They do their duty.

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A WONDERFUL DISCOVERY.

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placed anywhere, attracts and kills all flies. Rest, clean, economical, convenient. Good. Lasts all season. Made of metal, can't split or tip over; will not soil or injure anything. Guaranteed effective. Sold by druggists or sent prepaid for 25c.

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