



ALFALFA . . .

IN THE

SALT RIVER
VALLEY,
ARIZONA.



[MINNEAPOLIS, 1896
Roper Printing Co.]



COMPLIMENTS OF

THE RIO VERDE CANAL CO.

THE RANCH AND FRUIT MEN who speak in this pamphlet are cultivating Alfalfa, raising Cattle, Hogs and Horses, and growing Semi-tropical Fruits on

Irrigated Lands

..IN THE..

SALT RIVER VALLEY,
ARIZONA,

Which were taken a few years ago at \$1.25 per acre and are now worth from One to Two Hundred Dollars per acre.

Immediately adjoining these Cultivated Lands the Rio Verde Canal Company is opening to Water and Settlement

250,000 ACRES OF

GOVERNMENT LANDS

Equally fertile, which are now being taken at \$1.25 per acre, by settlers under the Desert Land Law, in tracts of 40 to 320 acres to each settler. Residence on the land not required. Payment for the land

Twenty-five Cents per Acre at Time of Entry

And One Dollar per acre at the time of final proof, which must be within four years from date of entry.

For particulars as to locations, water supply, etc., write the

Rio Verde Canal Company,

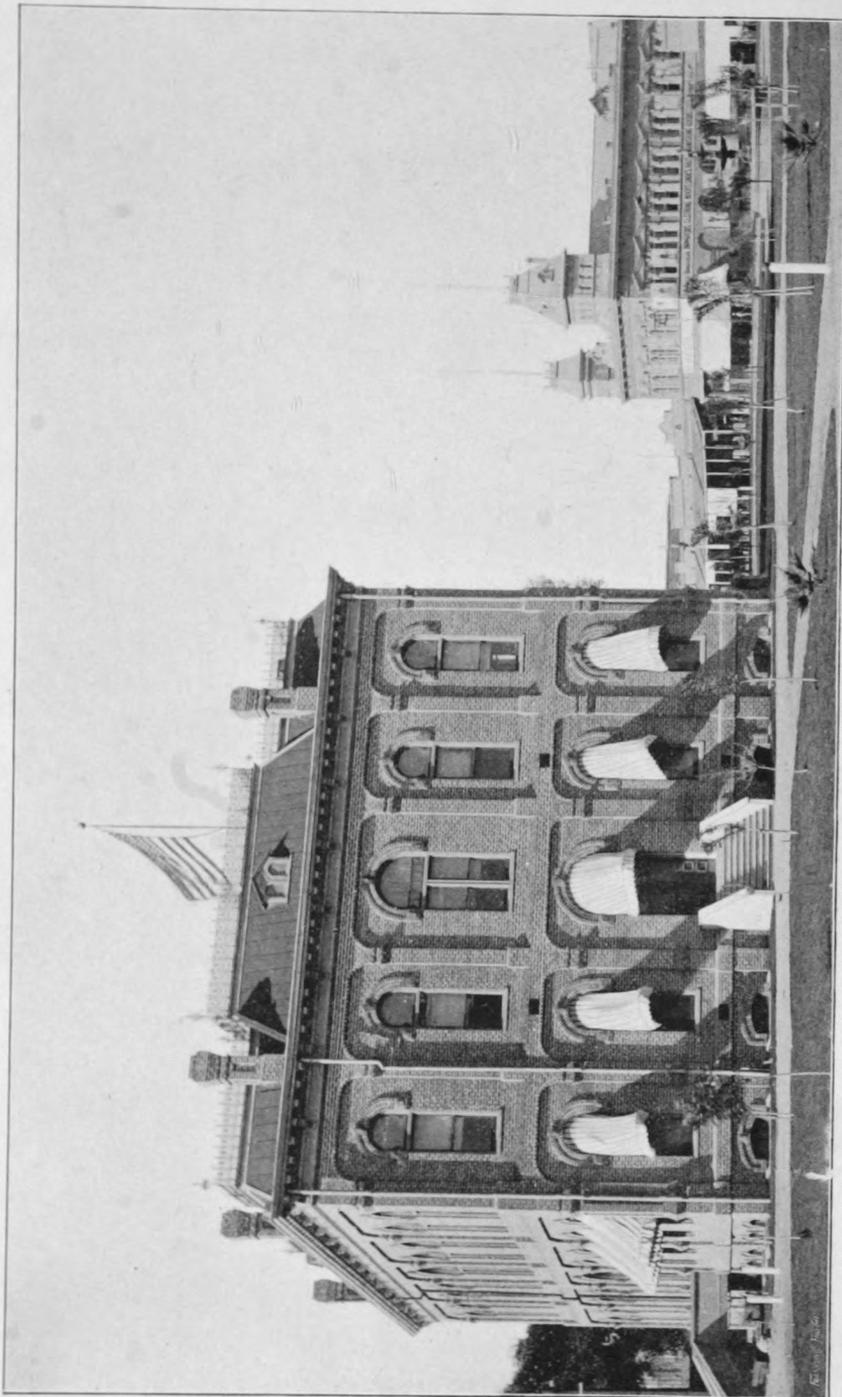
— PHOENIX, ARIZONA, —

OR TO ANY AGENT OF THE COMPANY.

SALT RIVER VALLEY, ARIZONA.

Photo by Hartwell, Phoenix.

Published by The Rio Verde Canal Co.



CITY HALL, PHOENIX.
Occupied as Territorial Capitol.

ALFALFA • • • IN THE SALT RIVER VALLEY, ARIZONA



Alfalfa.

Is the common name applied to a great forage plant or grass which has within a few years wrought a complete practical revolution in farming on the Pacific slope.

In the arid and almost grassless regions which abound west of the one hundredth meridian, cattle raising was an uncertain and often unprofitable industry until the coming of those twin sisters of progress, irrigation and alfalfa.

So perfect was the adaptation of this grass to irrigated land and so entirely satisfying in its results, that its introduction and marvelous spread is a marvel even in this century of marvels.

This publication is made to acquaint those who are as yet strangers to this plant, with some of its habits, qualities and uses; and the profits arising from its culture.

To do this we do not attempt any set speech or long dissertation, but propose to cite the testimony of experience in its propagation and to its usefulness.

These citations cover a broad field; coming as they do from ranchers of a few months' standing, from old irrigators having long familiarity with the culture of this grass, from the editorial page of the *Irrigation Age*, from dairy men, cattle feeders, hog raisers, honey men, and from the mere spectator.

Concerning these testimonies there are three remarks to be made.

First—They are bona fide, honest statements of real parties, and the authors do not evade interviews or responsibility.

Second—They do not exaggerate or overstate the facts. Many truthful statements could be procured giving much more flattering results than here set forth, but the aim has been to give the experience of the average successful man.

Third—Investigation is earnestly invited, and the reader who will take the trouble to visit the Salt River Valley and study the subject upon the ground will be convinced and converted, and, as multitudes have done before, declare that the half has not been told.

Not only do we give herein the written statement, but by the photographic art, we have tried to transfer the reader to the land of sunshine and have him look upon some of these fair fields in the Salt River Valley, Arizona, and see some of the wonders which alfalfa accomplishes.

These are no fancy sketches, but every day scenes, photographed by a responsible artist, and transferred to the printed page by the beautiful half-tone reproduction process.

The Indian School Farm.

We are able to present below a statement from Superintendent Hall, of the U. S. Indian School near Phoenix, which is very satisfactory. The facts are clearly and briefly put, and are exceedingly suggestive.

Department of the Interior,
Indian School Service,
Office of Superintendent.
Phoenix, Ariz., March 5, 1896.

J. K. Doolittle, Secretary Rio Verde Canal Co, Phoenix, Ariz.:

Sir—I desire to state that five (5) crops of alfalfa hay were cut on the U. S. Government farm last year, averaging two (2) tons per acre each cutting or ten (10) tons for the season. In addition to this one crop was cut for seed, requiring no irrigation. Each crop of hay required one irrigation to grow it.

Stocks of all kinds have done especially well and mature rapidly, keeping hog-fat, requiring no care or grain. Our cattle, hogs, horses and poultry all practically live upon alfalfa.

One young orchard, two years old, furnishes abundance of fruit for use of the institution, such as grapes, apricots, peaches, etc. Figs, dates, almonds (older trees) bear plentifully. Very respectfully,
HARWOOD HALL, Supt.

What the People Say Who Live There.

We give below several interviews with people who are living in the Salt River Valley.

There has been no coaching nor effort to have these statements sustain any theories or pet ideas of our own, but the people have written just what they chose to say.

If you will write any of them (enclosing stamp) they will no doubt answer you.
Benjamin Eager, August 29th, 1893:

I came here in October, 1892, from Northern Wyoming. Formerly lived in Ohio. I bought 320 acres eleven miles northeast of Phoenix. Took possession January 1st, 1893. I have 280 acres in alfalfa. I have up to date received \$2,400 in cash for pasturage. The price ranges from 75 cents to \$1.25 per month. We get \$1.50 per month for horses. I have over 200 tons of hay in the stack now, worth \$5.00 per ton, and 160 acres of alfalfa now ready to cut. We have two acres in a miscellaneous orchard of apricots, peaches, pears, pomegranites, figs, almonds and quinces, from all of which we have a good yield. We have also a good vineyard.

With plenty of water I can clear \$6,000 a year off this place one year with another. I can cut eight tons of hay to the acre every year. On twenty-five acres this year, I pastured one hundred and fifty head of horses up to May 1st, and on the 10th of June it was mowed and I paid for cutting 60 tons of hay. It measured 65 tons after standing 30 days in the stack. Seventy-five head of yearlings on 25 acres will not keep the alfalfa down. We put and keep them there 30 days again. We can repeat this process over and over without exhausting the pasture.

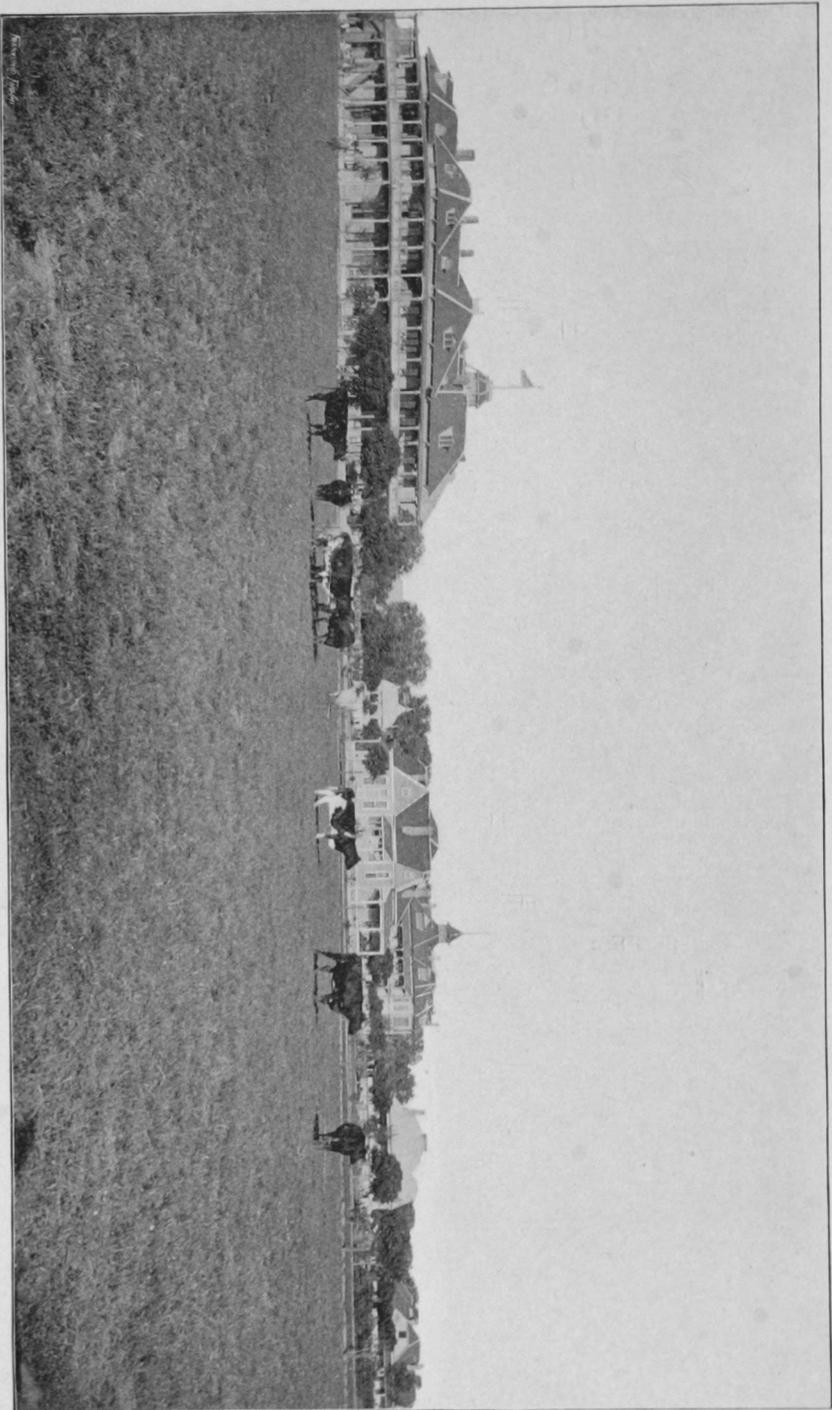
D. E. Terrell, a 30-Acre Rancher.

"In 1893 I left Howard Lake, Minnesota, for the Salt River Valley, Arizona, and settled about a mile and a half north of Glendale on the S. F. & P. R. R., twelve miles northwest of Phoenix; bought 30 acres of desert land unimproved; planted eighteen acres in alfalfa in December, 1893, and cut two crops off this land in 1894, and in 1895 I cut five crops off of it, getting a ton and a half per acre the first

Photo by Hartwell, Phoenix.

SALT RIVER VALLEY, ARIZONA.

Published by The Rio Verde Canal Co.



U. S. INDIAN SCHOOL.—Harwood Hall, Supt.

cutting and one ton per acre for each of the subsequent cuttings. This year at this date, April 14th, I am cutting the first crop of 1896, and it is estimated that it will go two tons per acre. The place cost me \$36 per acre, and I now hold it, with the improvements, at \$100 per acre. I am well pleased with the country and have no desire to return to the North again. The climate is as good as I know of anywhere.

Mr. H. M. Porter came from Iowa to the Salt River Valley and settled on eighty acres near Phoenix, a portion of which was an old Aztec or Toltec ruin, and this is now one of the prettiest and thriftiest ranches contiguous to the capital. But read Mr. Porter's statement:

April, 15, 1896.

"Six years ago I was in the Salt River Valley on a tour of inspection, and after looking over the country, I purchased eighty acres of unimproved land 2½ miles northwest of Phoenix, paying \$25 per acre for it. In the fall of 1890, I brought my family and settled permanently in the valley. In 1891 I commenced improving the place, and now have about seventy-five acres in alfalfa, consuming two years in getting it cleared, leveled and planted. In 1893 I cut five crops of alfalfa from forty acres, each cutting averaging 1½ tons per acre. In 1894 I took four crops from seventy-five acres, averaging about the same as the 1893 cutting. In 1895 cut four crops, averaging with the 1893-4 crops. Instead of the fifth cutting, I let forty acres for cattle pasturage, receiving \$125 for one month's rental. I sell at least one hundred tons of hay per year, at \$4.50 per ton on the ranch, besides selling a good many tons delivered in Phoenix for which I get \$5.50 per ton. In addition I feed twenty-five head of stock of my own, besides horses and other stock taken for pasturage, averaging forty-five to fifty head the year round. I have 2½ acres of orchard in miscellaneous fruits—apricots, plums, peaches, pears, quinces, figs, olives, nectarines, apples, grapes, blackberries of different varieties, and almonds, and the largest rose tree in the valley. The umbrella trees on the ranch are one, two, three and four years old, the four-year-old tree measures fourteen inches in diameter, and the three-year-old trees ten inches by actual measurement. When I trimmed these trees in 1895 I cut off limbs which measured 16 feet in length of one year's growth. The five acres of ground on which my orchard, house, garden, barn, barnyard and pond are located was a prehistoric Aztec or Toltec ruin. I leveled up the inequalities from the different mounds, and it is now the prettiest and most valuable plat of ground on the ranch. The pond is 300 feet long by 90 feet wide, five deep and well stocked with German carp, some of the fish weighing four and five pounds each. I can run water into the pond over night and use it for irrigating in the day time. The climate is the finest I know of, and I don't think it can be surpassed anywhere. I have refused \$100 per acre for the ranch. I immigrated from Iowa to this valley.

H. M. PORTER.

A. M. Austin, Phoenix:

I live two miles southwest of Phoenix. I have 160 acres. Have been there five years. Have been in the dairy business ever since I have been there. I came to Phoenix with 75 cents in my pocket. Worked for two years for wages, then bought a half interest in the place and recently bought the other half. I have 95 head of Holstein cattle, 20 head of horses, farm implements, machinery, a couple of milk wagons, etc. The place with what there is on it is worth \$11,000 above all encumbrances. I know of no country equal to this. A man can grow

almost anything he wants and all he wants of it. I went to work at \$45 a month and now I am making \$20 a day clear—naturally I am satisfied.

Anderson Root, August 19, 1893:

I came to the Salt River Valley from Cass county, Nebraska, in November, 1892. I came to this country for my health; I had lung trouble and am now almost entirely well. I bought eighty acres eight miles northwest of Phoenix with hardly any improvements. I paid \$25 per acre besides the water right. I have put on about \$1,600 worth of improvements. Twenty acres was in alfalfa. I have sowed this year 45 acres of alfalfa with barley, and 10 acres of wheat. I sold my wheat to the mill at 75 cents per bushel; it brought me \$18.50 per acre. The cost was \$4.50 per acre—net \$14.00. The first crop from my new alfalfa was principally barley, which I cut for hay—the second crop was clear alfalfa. I have cut to date four crops from the old land and three crops from the new, and have now turned in 77 head of steers to feed off the new land, which was ready for another cutting. I kept four horses and three cows all summer on three acres. I have 200 tons of hay in the stack. I think, except apples and corn, everything grows as well here as in any place I ever saw. My potatoes are fine and mealy. One of my neighbors got a good crop of corn by planting the latter part of July. On a few old trees I got peaches 10 inches in circumference. My figs were a good crop, six inches in circumference. I set out strawberries in January and had large fine berries in May. I have a variety of young fruit which has done splendidly. We get larger crops here and can raise many things that cannot be raised in other places.

Statement of Mr. E. F. Kellner.

Mr. Kellner is one of the wealthy residents of Phoenix. He has accumulated a large part of his fortune during his residence there. He is largely engaged in merchandising, wholesale and retail, has mining interests in gold, silver and copper and has investments in other property; but he has stated more than once that taken one year with another he has no property so steadily and uniformly remunerative as his alfalfa acres.

Phoenix, Ariz., March 11, 1896.

Rio Verde Canal Co.:

Gentlemen—Herewith give you a synopsis of my experience in Salt River farming for the past 10 years. I have confined myself to alfalfa, and still consider it the safest, best and most profitable crop of all. With ample water supply, it will beat most any other investment, and prefer it to the various enterprises of stores, saw mills, quartz mills and brick houses I have run during the same period. I have farmed about 1,000 acres, 100 inches of water is the minimum for one quarter section to have it do well. . . . Headgates should be of uniform pattern, adjusted to change automatically, especially if the water is pro-rated according to the supply in the river. The land is worth nothing without a good water supply, but with plenty of water will yield beyond all imagination. About fifteen pounds of alfalfa seed to the acre gives a good stand. It is best sown in the fall, but have had a good stand from some sown in April right on the new unplowed desert soil and simply brushed in and irrigated right after. The most danger to alfalfa is a strong wind breaking it off while young and only one stem. The first spring crop is the most nutritious and should be cut to keep down weeds and stacked away for winter finishing feed. It will yield an additional crop of 1 to 1½ tons to the acre about every two months. Cattle, hogs, sheep, horses and mules, turkeys and chickens and bees thrive on it all the year around. My preference is

fattening beef. New cattle will bloat if put on young alfalfa without hay to mix. Cattle require about one month to get used to alfalfa, then gain rapidly from forty to fifty pounds a month. The increase of weight and price of fat cattle over poor, generally yields about 100 per cent on the first cost, and require about five months to be ready for market. With good management two head of steers per acre can be fattened on one acre of alfalfa. In making hay in this dry climate, care must be had not to let it bleach or dry out too much, a few hours generally is sufficient to cure it.

Yours truly,
E. F. KELLNER.

What a Small Rancher Can Do.

In answer to an inquiry, Mr. Bromell, one and one-half miles northeast of Phoenix, who formerly lived in Illinois, gave us the following:

"I have been in Arizona for about ten years, and during that time have been engaged in farming and bee keeping. Have improved two farms, unimproved or desert land each time, one of 40 acres and another of 80, the latter on which I now reside. I paid \$20 an acre for the 40-acre tract, lived there for five years, and after highly improving the place sold out for \$110 per acre. Purchased the 80-acre tract in 1893, paying \$100 per acre for the place unimproved. I have 30 acres well set in alfalfa, 10 acres in oats, 20 acres in barley and 20 acres in wheat. Have an orchard in bearing of about 200 trees, apricot, peach, pear, plum and apple, and blackberries and grapes.

Have about 150 stands of bees, and sold last year's product, amounting to 10,200 pounds of honey, at a remunerative price. This 80 acres is now readily worth \$10,000, although it is not on the market for sale. I don't know of any other section in the United States in which I would rather reside than here, the climatic conditions suiting me exactly, having come here for my health.

W. T. Hanna says:

I live on N. E. $\frac{1}{4}$, 25 3 N. 1 E. I have 65 acres of alfalfa, 40 acres of it new. Have been on the place seven years. We have fruit for domestic use, but depend largely on live stock.

With our present water supply, in an average season, we cut three crops of alfalfa a year, with an average yield of four and a half tons. If we had all the water we needed, we could cut five crops each year, with an average yield of seven and one-half tons per acre.

I think the largest hay product and the best results can be obtained by keeping meadow and pasturage separate. For nine months in the year we can easily pasture three head of cattle per acre. During the other three months they will do better if fed some hay. This year on 20 acres under fence, we have kept 10 to 12 head of horses and 40 head of cattle. From ten acres of it I have cut two crops of hay and have pastured it early in the season and since the last cutting. I have heard of no other place where one can do so well grazing and hay raising. Cows come in here at the age of 15 months to 2 years. In December, 1892, we slaughtered a bull calf, 15 months old; he dressed 1,800 pounds of beef. Horses mature and come into service a year earlier than they do in the East.

William Isaacs, Feb. 18th, 1893.

During the season of 1892, off from 12 acres of land four or five miles northwest of Phoenix, I cut six crops of alfalfa, got 120 tons and sold it in the stack at \$5 a ton. I am now feeding down my land, sowed to barley, the second time and will then let it grow up and harvest my crop. The cutting, curing, and stacking of alfalfa costs \$1.50 per ton.

Here is what another small farmer has to say of the Salt River Valley, who has an 80-acre ranch three miles northeast of Phoenix:

"I came from near Danville, Ill., in the latter part of December, 1893, having purchased eighty acres of land two years before, and have it nearly all in cultivation. I paid \$50 per acre for the land in 1892. It is now worth \$100 per acre. There is set in alfalfa 55 acres, 15 acres in barley and wheat, and will have five acres in strawberries this fall. Alfalfa with the pasturage has been a paying crop. In 1894 I let 20 acres for pasturage, which netted me \$20 per acre, a total for 10 months of \$400. In 1895, I cut one crop off of the 20 acres, securing a yield of 1½ tons per acre, and the same season I grew on the same land a crop of seed, which brought \$100 at 4 cents per pound. The same season it was grazed twice at \$1.50 for each head of stock per acre for each grazing, making about the same as four crops of hay. It is my firm conviction, from personal knowledge, observation and experience, that a man with a few hundred dollars cannot find a better location than in the Salt River Valley, where by industry and good management a good living can be secured and a surplus accumulated besides. A better country cannot be found on this continent for wealth, health, pleasure and comfort. FRANK BAUM."

H. C. Buford, a 40-Acre Rancher.

"I have been in Arizona since September, 1892, coming from near Woodland, in the Sacramento Valley, California. In October, 1893, I purchased the 40-acre tract on which I now reside, situated a little west of north, 3½ miles from Phoenix. I paid \$70 an acre for the land, and have improved it considerably since, building a 7-room one-story brick house and making other changes. The entire 40 acres was set in alfalfa when I purchased it. I have been running a butter dairy successfully for two years, and have now about 30 milch cows, starting with 15 or 18, raising the others from these. Most of the cows are good graded Jerseys and Holsteins, with a mixture of Durhams and Devons. The average yield of butter from 30 cows is about 25 pounds per day, which readily sells in Phoenix for 30 cents per pound, and I cannot supply the demand. It requires about 30 acres of alfalfa the year around to supply food for this stock, and besides five acres for pasturage for horses and hogs, and for keeping the young cattle. My cows and helpers number 40 head, and I have 21 hogs, all subsisting on alfalfa. From this 40 acres I also sold last year \$100 worth of hay and \$40 worth of alfalfa seed. In addition I sold turkeys, chickens and eggs to the amount of \$100, and \$150 worth of honey, and the sale of hogs amounted to \$200. I consider this Valley the best in the world for the small farmer with a little capital to start with. I can make good butter—none better in the market—the year round on no other food but alfalfa. All the stock on my ranch has subsisted on alfalfa alone. I have lived in Kentucky, Tennessee, Kansas and California, and I honestly believe this is the best country I ever put my foot in. The climate of the Salt River Valley is not surpassed by any other locality in any portion of the world. The surroundings and conditions considered, there is no place on earth where people can live more contented, happy and prosperous. I consider my ranch worth at the present time \$5,000, and not for sale at that price."

C. S. Kilpatrick, Another 40-Acre Rancher.

"I came from Nobles county, Minnesota, and settled in this Valley in 1891, purchasing 40 acres of raw land, with an old one-story adobe house on it, built

years ago by some stock rancher. The place is two and one-half miles northeast of Phoenix, and cost me \$2,000. Have put the place in a tolerable fair state of cultivation, and have a two-story house of six rooms, built of adobe, plastered inside and out, and penciled to imitate brick on the outside. There is ten acres in wheat and 20 acres in alfalfa. Have about 60 colonies of bees, and sold last year 6,000 pounds of honey at 3½ cents per pound, extracted from 45 colonies. The sale of chickens and eggs amounted to \$300. A little over a year ago my stock of hogs consisted of only one sow and four pigs, having now 18 or 20, all increase, and subsisting on alfalfa alone. I raise the wheat to feed my poultry, finding it profitable to do so. I consider my ranch worth to-day, \$5,000, and don't care to sell at that price. Resided in New York, Michigan, Iowa and Minnesota before I came here, and am satisfied that anyone with limited means, buying a small tract of land in the Salt River Valley, say twenty or forty acres, can, with industry and fair management, secure a good living and a competence in a few years. I do not believe there are better climatic conditions anywhere in the United States and possibly in other countries. This Valley is especially adapted for men of industry who have been wage-earners in large cities and manufacturing centers of the country to become the possessors of small parcels of land and be self-sustaining and independent individual farmers and fruit growers. Taken all in all, I do not think the Salt River Valley can be beat, and it is certainly a poor man's country."

H. C. Mann, Peoria, October 7th, 1893:

I have 35 acres of apricots, 15 acres of peaches and 80 acres of vineyard at Peoria. The trees and vines were two and three years old last spring. The three year old trees were loaded with fruit and the two year old had all it was safe to allow the trees to bear. I have 200 acres of alfalfa—have cut and baled four crops and will have another cutting before the first of November. One field grew 24 inches in 23 days by measurement. I have pastured 100 acres all summer and the other 100 acres in February and March. With plenty of water we can cut six or seven crops every season, and with a crop of a ton per acre at each cutting. In the spring of 1890 I set out 1,000 cottonwood posts from three to six inches in diameter. They have sprouted and grown to trees 30 or 40 feet high and a foot in diameter. I am raising Cleveland bay horses and from good smooth medium sized mares I have colts two years old, 16 hands high. I pasture them on alfalfa; they grow the year round. I have been in the west 25 years, and for growth of vegetation and for profit this is the best country I have ever seen.

A. H. Smith, October 5th, 1893, says:

I have 12 acres of alfalfa, I have cut five crops this season and have another crop which will be ready to cut before October 20th. I have already 100 tons of hay which I have cut from the 12 acres this year, and will get 25 tons more the other cutting. I planted this year 12 acres of melons and have sold \$500 worth. Last year I sold \$250 worth. They have all been raised between rows of trees and about the only expense has been hauling them to town. I have 20 acres each of peaches, pears, apricots and almonds, which will be three years old this coming winter. The trees are growing and look thrifty; they are about 12 feet high. I am expecting a full crop of fruit next year. I have sold some fruit from them already, but not a full crop. A good many of my almond and apricot trees are between five and six inches in diameter. I am more than satisfied with the results of the last two years. Results have proved that we can

grow the fruit in the Salt River Valley. If anybody had told me when I first came here of the results I have actually achieved I would have laughed at them, I wouldn't have believed it. Chickens are a very paying thing in this country. We have 200 hens, and they more than keep us in groceries and provisions. There are always eight or more of us in the family. This year we have sold I think more than \$500 worth of eggs and fowls; at this time I know we are about \$75 ahead. They don't appear to cost anything, as they pick up what would otherwise go to waste.

One thing that pleases me is the general disposition in Arizona to pay whatever is necessary for educational purposes. We had our district set off in September, 1892. Now we have a good school building 24x28 and 13 feet high, all finished, painted and furnished with patent seats and the district is out of debt. We levied a special tax about a year ago and every dollar of it has been paid in except \$13 upon a piece of land, the owner of which is unknown here.

W. L. Osborne, October 7th, 1893:

I had last year an immense return on my alfalfa field; I have 36 acres; cut two crops of hay, amounting to 150 tons, for which I got \$5.25 per ton on the ranch. I let one cutting grow to seed; it yielded 14,480 pounds of alfalfa seed, which I sold at 10 cents a pound on the ranch. I had a fair crop of apricots this year; sold them at 2 cents a pound on the trees, to shippers. My peach orchard did not bear as well this year as heretofore. In my dairy business I have 35 cows; I run separator and churn by machinery; the average price that I get for my butter the year round is about 32½ cents per pound; from the mixed herd fed on alfalfa alone I get a little over a pound of butter to three gallons of milk. I have been on my place now over 15 years, and my added experience still further convinces me of the merits of the Salt River Valley as a home and for money making. I have taken this year 1,500 gallons of extracted honey.

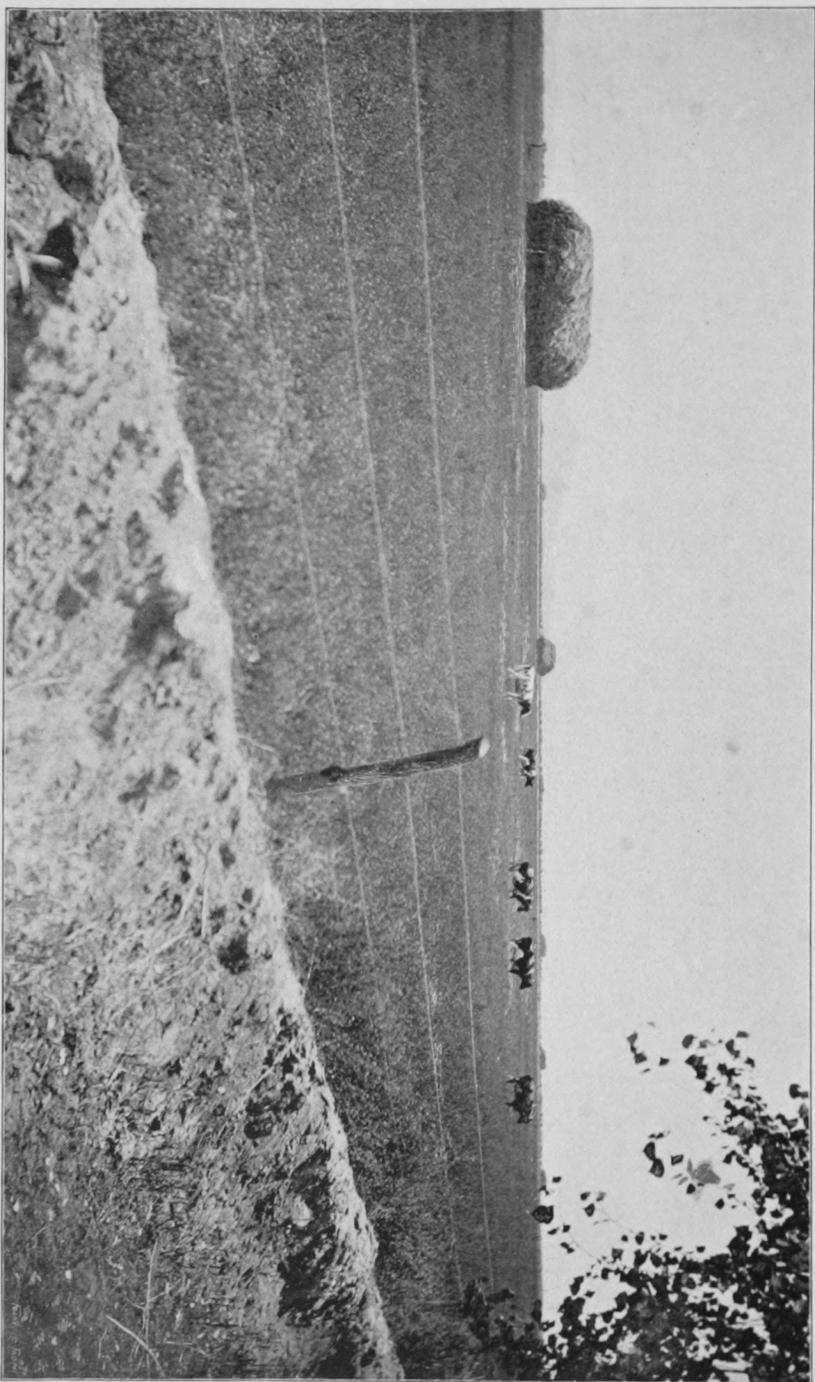
Horace W. Lyon, Phoenix, October 1, 1893:

I came to Phoenix in October, 1891; I worked at carpentering and other work for eight months. I commenced the dairy business in June, 1892—commenced with 25 cows and sold milk. Since that time I have increased my herd to 120 cows, beside the young stock, most of them Holsteins. I am now selling milk and making butter and cheese. The wholesale price of milk is from 15 to 20 cents per gallon, and the retail price is from 5 to 7½ cents per quart. Butter brings from 25 to 35 cents per pound, and cheese about 14 cents per pound. The special advantage over the northwest is in having green feed all the year round and the saving in expense of winter feeding. Some of my cows give seven gallons of milk a day. The average the year through is about three gallons a day apiece, in all cases without any feed but alfalfa and alfalfa hay. In some cases it is almost impossible to dry a cow up before calving. I have one piece of alfalfa of 10 acres which has had no water since the first of March, from which I have cut two crops of hay, amounting to 40 tons, and a crop of alfalfa seed, and it is now coming up again, and will make good pasture for winter. The summer heat here is not to be dreaded. I have worked all summer every day with no more inconvenience from the heat than I feel in Minnesota. One doesn't feel the heat here as he does there. One great advantage in farm work in the Salt River Valley is the certainty that you will have clear weather; your work won't be interfered with by the rain.

Photo by Hartwell, Phoenix.

SALT RIVER VALLEY, ARIZONA.

Published by The Rio Verde Canal Co.



ALFALFA FIELD.

The Greenhut Ranch.

This ranch is at Peoria on the S. F., P. & P. R. R., fourteen miles northwest of Phoenix, and is controlled by Mr. H. C. Mann, who also owns a ranch of 320 acres adjoining, has the following to say of the Salt River Valley:

"I have been in the Salt River Valley since 1889, coming here from Wichita, Kansas. I have about 4,000 acres of land in my charge, and 1,200 acres in cultivation, 320 acres of my own, the remainder belonging to Mr. J. B. Greenhut and other Peorians. There is 500 acres in alfalfa, well set, off of a portion of which two different years since I have been here I have cut five crops in a season, averaging a ton to the acre at each cutting. The alfalfa crop is a safe one and remunerative. I have cleared as high as \$25 per acre from alfalfa in a season, and it is the crop of this country. I am also engaged in the hog business, and think hogs are a profitable investment, the hogs being raised and grown on alfalfa alone. In preparing them for market, they are fed about 100 pounds of barley per head to harden the meat, my hogs averaging 300 pounds at a year old. They are all thoroughbred Poland-China. I have about 50 head of colts, all good grade, sired by an imported Cleveland Bay stallion, and I have colts 3 years old raised on alfalfa—no other feed—the year round, and were never inside of a barn, running out the entire year. Have 40 or 50 head of Shorthorn cattle, that keep fat all the time on alfalfa pasturage. My hay sales have averaged about \$7 per ton for baled, making a sale one year at \$8 per ton, the sale amounting to \$2,000. I have 100 acres in orchard, 35 acres in apricots, in full bearing, and 65 acres of miscellaneous fruits. The climate is the best in the world for health, pleasure and contentment.

H. C. MANN."

The Starting and Subsequent Care of Alfalfa.

By B. F. Shuart, Oberlin, Ohio.

Under proper conditions and skillful management alfalfa is a crop of magnificent possibilities. But the difference in the practical value of the results, between perfection and mediocrity, in growing this wonderful plant, is so great, that no one who contemplates undertaking its culture should rest content with a low ideal of achievement. Let the beginner resolve at the outset that he will rest satisfied only with the highest attainable success, and that he will spare no pains which may prove necessary to its realization. The following suggestions with reference to the management of alfalfa are not offered with any pretense to infallibility, but simply as outlining the methods by which the writer was enabled, after having experienced his full share of failures, to reduce the successful cultivation of alfalfa to a basis of certainty.

SELECTING AND PREPARING THE GROUND.

In starting alfalfa, the first point claiming consideration is the selection and preparation of the soil. Bench land is preferable to bottom land, and sandy loam is more desirable than clay, though some clay soils answer well for alfalfa, but the plants are longer in becoming established. Alfalfa should not be sown on sod, for the reason that so valuable and permanent a crop should never be laid on a surface rough and difficult of irrigation. The plowing should, if possible, be done in the fall. In the spring before seeding, the land should be carefully graded to a surface so even as to obviate the necessity for the irrigator to step into the growing crop to force the water with the shovel. Whoever neglects to do this will, when too late, have

abundant and unceasing cause to repent his folly. The labor and cost of grading land at the outset is infinitesimal, compared with the aggregate labor and loss incurred in irrigating rough, uneven land twice or thrice each season, for an indefinite term of years.

IRRIGATING BEFORE SEEDING.

After grading, and immediately before sowing the seed, the land should be flooded. Irrigation at this stage serves a threefold purpose.

First, it reveals the high spots, if any remain, and these should at once be worked down and irrigated. As soon thereafter as the ground will bear working, the seed should be sown.

Secondly, irrigation before seeding insures the prompt and complete germination of the seed. This is a point of vital importance, for without a dense and uniform stand of plants it is not possible to make a high quality of alfalfa hay. If the stand is thin on the ground the stalks will be coarse, woody and indigestible, and in curing the leaves will dry and fall off before the stems are sufficiently cured. But if the stand is thick the stems will be fine and the foliage will be so abundant that the curing process can be effected evenly and without perceptible loss of leaves.

One who has not had experience in feeding alfalfa, especially to sheep, cannot realize the immense superiority for feeding purposes of a high quality of alfalfa hay, such as I have described, over a coarse, stemmy quality; and the substitution of the one for the other, will produce a marked change in the general appearance of a band of sheep within forty-eight hours.

In starting alfalfa, I am sure that the almost universal practice is to trust to the fickle and scanty showers for moisture, or in the absence of these, to sheer luck. Doubtless, now and then, a fairly satisfactory stand is secured in this way. I followed this system myself during the earlier years of my experience as an alfalfa grower in Montana, with the result that fully one-half of my efforts resulted in flat failures, while I never, in a single instance, attained to a degree of success comparable with that which I realized uniformly after I began to irrigate before seeding. Judging from an observation of alfalfa fields in several of the Arid States, I am forced to believe that the great majority of alfalfa growers are practically ignorant of what constitutes a strictly first-class stand of alfalfa. And this because the system of seeding in vogue is one which depends for its success upon a combination of favoring conditions which rarely happens. The danger is, when rain is depended upon, that the sun and wind will dry out the soil to the depth of the seed before it can take sufficient root to survive. I have had whole fields perish in this way after the seed was well sprouted. But irrigation immediately before seeding completely obviates this danger by supplying the soil with a fund of moisture compared with which a copious shower is a trifle and which causes the seed to spring with a rapidity and completeness scarcely attainable otherwise.

A third advantage secured by irrigation before seeding is that it supplies the earth with a reservoir of moisture sufficient to sustain the plants in unchecked and vigorous growth until they are strong enough to bear irrigation without injury. The critical time with alfalfa is the first six weeks of its growth. Flooding during this period is quite certain to give the plants a setback, from which they seldom fully recover before the second and sometimes not until the third year. And it is not often that, in the Arid States, the rain falls with sufficient frequency to dispense with the necessity of irrigating the plants during this period. By soaking the earth before seeding, however, the plants will make vigorous growth until they are ten or twelve inches high, after which they may be irrigated with safety.

Under this system I never failed to take two crops the first season, aggregating, perhaps, a ton and a half to the acre in two cuttings, provided the seeding was done not later than the 20th of May. From the first crop of the second season onward the yield was full fledged, consisting of three cuttings annually, and aggregating from five to six tons of choicest hay per acre.

TIME AND MANNER OF SOWING.

Alfalfa should not be sown until the danger of hard frost is past. I have seen very young alfalfa survive frost, and I have seen it completely destroyed by it. It is not prudent to take the risk.

A point scarcely second in importance to that of irrigating before seeding is that of burying the seed to a sufficient and uniform depth. For this purpose I know of nothing equal to the press drills. Any grain drill will answer, however, which can be closed sufficiently to properly control the flow of the seed. The seed should be put in the grain box and run down the spouts. But with the drill great care must be taken not to bury the seed too deep, for too deep seeding is quite as fatal to success as too shallow. A depth of two inches is about right. Whatever implement may be used for covering the seed, it should be followed by the plank drag to smooth and compact the surface. When the drill is used twenty pounds of seed should be used per acre but if broadcasted, thirty pounds should be used. Great care should be exercised in the selection of seed to see that the grains are plump and healthy, and that it is scrupulously clean. If it contains many shrunken seeds reject it, for if they spring at all they will produce only puny, worthless plants. If the alfalfa is to be grown for the seed, sow but fifteen pounds of seed to the acre. We preferred to sow the seed unmixed with grain of any sort.

After alfalfa has become established a single copious irrigation after each cutting will ordinarily be found sufficient. Irrigation before cutting is undesirable, because it leaves the earth so soft as to interfere with the movement of loads.

MAKING ALFALFA HAY.

The conversion of a heavy mass of green alfalfa into a choice quality of hay is an operation calling for no small degree of skill and experience. But the process is one to be learned by intelligent observation and practice, rather than from written description. The first and second crops of each season need to be cured with special care, or they will certainly mold in the stack. Beginners need to beware on this point. The knack to be acquired is that of curing the hay sufficiently to insure its keeping sweet in the stack, without becoming so dry as to shed its leaves in the handling. This cannot possibly be accomplished by curing fully in the swath. A method much practiced is to rake the alfalfa while still quite green into windrows, where it is allowed to cure somewhat more, and finally to make it into moderate sized cocks, in which it is allowed to stand until ready for the stack. This process makes very nice hay, but where a large acreage is to be taken care of it is too slow and expensive. Alfalfa may be cured with entire success in the windrow, but it is important, when cured in this way, that there be ample facilities for putting it into stack very rapidly when ready, otherwise it will become too dry, and much of it will be lost in the handling, especially if it has to be carried from the field on wagons. Alfalfa should be cut on the first appearance of bloom, as experiments have proved its nutritive ratio to be considerably higher at that stage than later on.

After trying a variety of appliances for stacking alfalfa I found the so-called table rakes (which are simply an improved form of the old "go devil"), and the ricker which supplements them, the best suited to my conditions. By means of these rakes the hay was taken from the windrow by horse power,

and was conveyed to the stack in masses weighing from 200 to 400 pounds; was there delivered to the ricker, and was by the ricker landed into the middle of the stack. The only hand power required was for the distribution of the hay after it was placed upon the stack. Five men and five horses with two rakes and the ricker easily put thirty tons of hay per day into stack, at a cost, as wages were, of about thirty-five cents per ton.

The great drawback to these rakes is that they can be used to advantage only on short hauls. The plan on which I had laid out my farm happened to be one, however, perfectly adapted to their use. The special feature referred to was a system of parallel roads running through the farm about thirty rods apart. These roads were protected from the irrigation water by ditches on either side, and the fields consisted of the long and comparatively narrow belts lying between the roads. The alfalfa was cut in blocks of about ten acres, and was stacked on the road immediately adjacent. The stacks were thus distributed on the roads all over the farm, but as the hay was used for feeding stock, this arrangement was not objectionable, while it reduced the cost of moving the hay during the most busy season to the minimum.

I have received many requests from men who are bringing new lands under alfalfa for helpful suggestions as to how to proceed. Were I to attempt to condense my advice into a brief paragraph, I should say: First, subdue your land by one or more grain crops, then carefully lay off your farm by a system of fields and of roads, having special reference to convenience and economy in handling the crop. Next, grade your fields so perfectly that, in irrigating, when you shall turn your water from the ditch, gravity will do the rest. Then irrigate your land and sow your seed. And, finally, let there be one man on the place who shall make it his business to master the details of irrigating, curing and stacking alfalfa and who shall exercise personal oversight of these processes; and let this man, if possible, be the proprietor himself.—Irrigation Age for September, 1894.

Here is a brief sermon on diversified farming, and it comes from Kansas: If we had paid more attention to the cows, pigs and chickens and farmed on a smaller scale, says a writer in the Kansas Farmer, no one would have had to leave this country. If we had done more chores and not run ourselves so much in debt trying to farm the whole country, so many would not feel to-day that life is not worth living in Western Kansas. Farming is well enough in the right year, but don't neglect the cows, the pigs and the chickens, and you are sure of a good living and the pleasure of enjoying life.

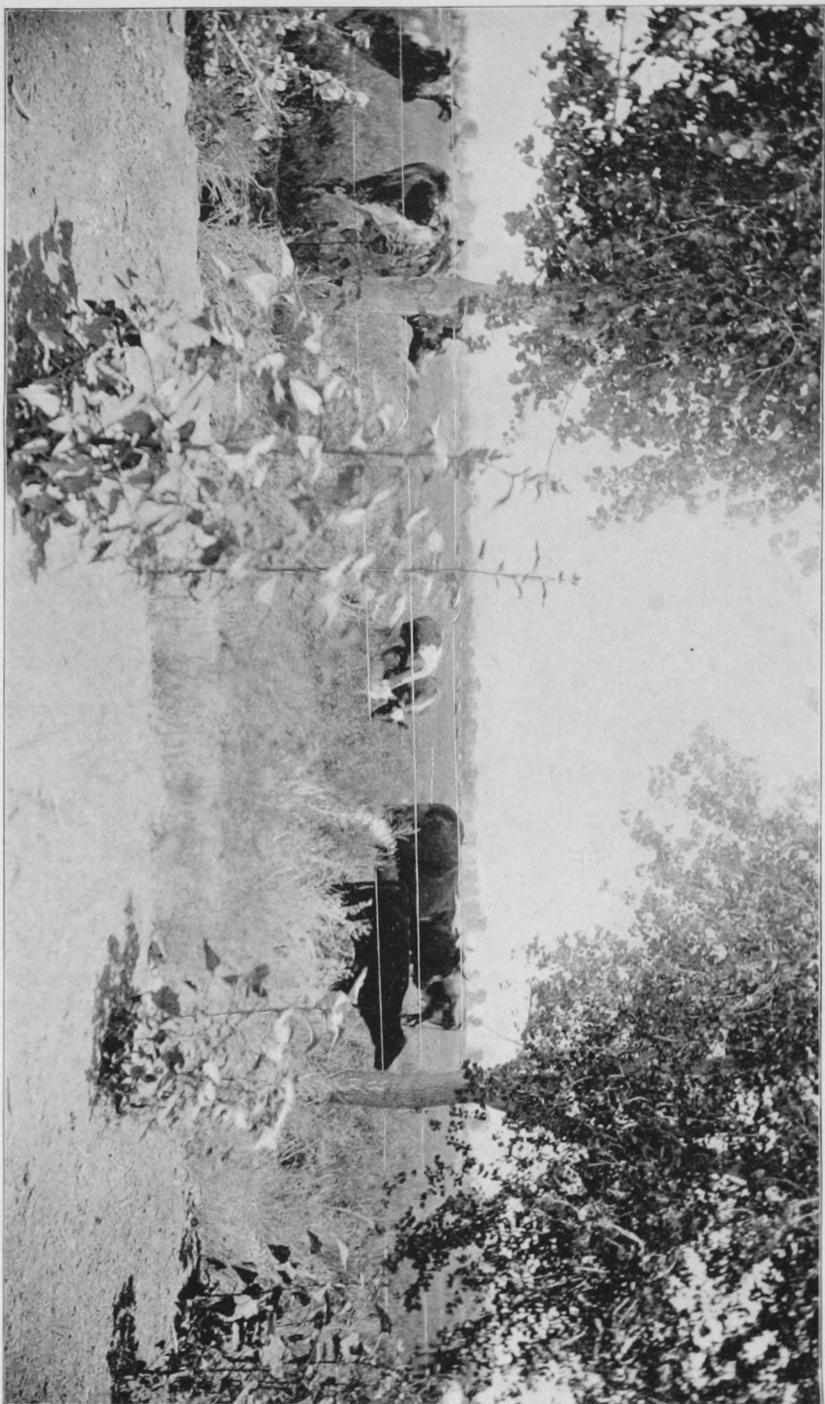
Profit in Alfalfa.

Irrigated alfalfa fields in all parts of the arid west last season paid net profits of upward of \$30 per acre. At least such are the figures, upheld by the statements of dozens of as good, reputable, reliable men as can be found anywhere, and they stand ready to back up their statements by sworn testimony. This was on land which was not worth more than \$15 per acre as raw land, and would not have been worth one-tenth that amount but for the value given by good location. Alfalfa can be set at an average expense, in some localities at least, of not more than \$6 per acre, and in many instances a good stand has been obtained at less than \$5 per acre from the sod. Given \$15-land, and add \$5 per acre to seed it to alfalfa, making a total of \$20 per acre, and it is small wonder that with such results as above mentioned there should be a rapid increase in the acreage of alfalfa in many sections.—Irrigation Age.

Photo by Hartwell, Phoenix.

SALT RIVER VALLEY, ARIZONA.

Published by The Rio Verde Canal Co.



CATTLE IN ALFALFA.

Alfalfa a King.

Years ago, when the positive and persistent statement by the Southern planter that "Cotton is king," had almost been accepted as an axiom, a quiet farmer with a copy of the United States census demonstrated that the crop of grass and hay produced annually one hundred times the value of the cotton crop in the United States, and he suggested, very properly, that if there was any king among farm products, it was grass.

So to-day, when we come to analyze the farm products of any part of our country, we find grass holding a very prominent place. In the entire Southwest there is an absence of native grasses suited to cultivation, but the foreign clover, which is called alfalfa, has proven an entire success and completely fills this native want. It holds its place, first—because of its enormous root-development, striking deep and running long distances in search of moisture. For this reason it will stand long drouths and an amount of neglect that would destroy more shallow feeding grasses. We have seen a field that had received no irrigation for more than two years, where there was a fair stand of alfalfa, which upon being irrigated, produced a fair crop at once. The roots must have gone down to the underlying water of the valley, a distance, doubtless, of 15 to 20 feet.

The next feature of adaptation is its love of sunshine. In the hottest summer days, with the ardent rays of the sun beaming upon it, the alfalfa, if supplied with moisture at the root, grows with wonderful rapidity, and its deep, rich green shows that it is in its element.

Another quality which adds greatly to its value is its quick growth. From the stubble of one cutting to the matured crop, ready again for the mower, is a matter of from 35 to 42 days, in the summer months, so that four crops can always be depended on. Five can usually be gotten in a season by diligence, and frequently six cuttings have been reached. This, with winter pasture, makes an alfalfa field an all-the-year-round crop, and with its certain, steady return, often pays a better dividend than bonanza gold mines.

"When you have grown it, what will eat it?" pertinently asks the new comer. Horses, cattle, sheep, hogs and fowls find it an ideal food.

Those of us who have lived on the northern plains and have seen cattle fatten on real buffalo grass, feel that there is no forage upon the earth to be compared to it. But a season in the Salt River Valley will convince the most skeptical Dakotan that alfalfa makes fat beef all the year round as rapidly as buffalo grass in October. Horses make a wonderful growth upon it and are as large at two years old as northern horses at three. Hogs need no other diet except some grain at the last to harden up their flesh. All kinds of fowls live and fatten on it and have fewer diseases than when fed more artificially.

In the form of hay alfalfa is quite as acceptable to stock. It contains so much sugar that horses and cattle eat it with great avidity and will lick up the dust of the broken leaves in their mangers.

One other source of profit from alfalfa is the seed. This brings a good return and has a steady demand. Alfalfa is a greedy plant for water. With five successive crops it needs ten irrigations and under canals where the supply of water is irregular it is quite common to be compelled to miss one or two cuttings for want of water at the critical period. This fact emphasizes the necessity of the storage of water for irrigation, so that this most important crop may have its full share of the vital fluid.

Phenomenal Hay Growing.

Much has been written and said about the wonderful growth of alfalfa clover under irrigation, and another reference to this may seem superfluous. Still facts are always acceptable to those interested in a new country, and a few facts which recently came under my notice may be of interest. Apropos of the small farm, Mr. W. R. Reid, of Casa Grande, Arizona, has fenced off from his farm three and a quarter acres of alfalfa. This small field has received intelligent, thorough care and plenty of water, and the owner recently told me he had cut 36 tons of hay from it this year, or an average of nearly 12 tons per acre, and nearly two tons per acre for each of the six cuttings. Besides the hay cut the land had some light pasture. The adjoining land on Mr. Reid's place is a beautiful example of intensive farming. Young fruit trees and vines of many and choice varieties, are all kept as clean and thrifty as they well can be.

Mr. S. R. Cooley, of Arizola, three miles distant from the above named ranch, has six acres of alfalfa from which he has cut an average of 10½ tons of hay per acre this year. Another gentleman, recently from farther east, is putting in 40 acres of alfalfa and wheat, and the smooth, level, land with high straight borders and good ditches, give promise that the "Tenderfoot Ranch" of Mr. P. M. Smith will soon be the model ranch of the Casa Grande valley.

HENRY ADELBERT THOMPSON.

Peoria, Dec. 25th, 1894.

An Instance of What May be Accomplished by a Man with Energy and Perseverance, Although Without Capital on which to Start.

Mr. W. S. Hatcher resides on a quarter section five miles west of Phoenix. The farm is all in alfalfa, except a small family orchard. Mr. Hatcher says:

"I came to Phoenix in 1888. I was entirely without money, and during the year 1889, depended on odd jobs at manual labor. The following year I worked as a farm hand. In 1891 I became a farmer on my own responsibility, by renting the 160 acres of alfalfa on which I still reside. The following is a short statement of my principal operations for the years 1892, 1893 and 1894, viz:

1892.	
Bought 88 head of range cattle	\$640
Expenses aside from my own work	400
Paid rent of land and water	720

Total \$1,760

RECEIPTS.

Sold 200 tons of alfalfa hay	\$1,200
Sold 88 head of cattle	2,515
My profit on year's work	1,965

1893.

EXPENSES.

Bought 145 head of range cattle.....	\$1,220
Paid rent of land water	720
Expenses aside from my own work	75

Total \$2,015

RECEIPTS.

Sold 35 head of cattle	\$450
Sold 110 head of cattle	3,160
My profit on year's work	1,795

1894.

EXPENSES.

Bought 180 head of cattle	\$1,908
Rent of land and water	720
Expenses aside from my own work	400
Total	<u>\$3,028</u>

RECEIPTS.

Sold 180 head of cattle (to be delivered January 15th, 1895).....	4,770
Sold 110 tons of alfalfa hay (loose on ranch).....	401
My profit on the year's work	2,142

I have omitted the smaller details for the reason that the proceeds from my milk cows, hogs, chickens, turkeys, ducks, etc., paid all of my incidental expenses, as they occurred from time to time.

I now have 15 head of horses, 10 cows, 20 hogs, 200 chickens, 25 ducks and 20 turkeys. The feed for my cattle and this minor stock has all been derived from the alfalfa produced on this ranch. Out of my net profits I have paid \$3,000 on land which I have recently purchased in the vicinity of Glendale.—W. S. Hatcher in Arizona Improvement Journal.

A Nitrogen Collector.

Alfalfa belongs to that class of plants which are known as nitrogen collectors. The legumes, to which family alfalfa and all the clovers and their families belong, are able to draw nitrogen directly from the air. The roots of the plant, if examined, will be found to be covered with a great many small swellings or tubercles, and if sections of these tubercles are examined under a very high-power microscope the tissues will be found to contain great numbers of bacteria. It is through the action of these minute organisms that the plant is enabled to take nitrogen directly from the air. Other families of plants, for instance, the true grasses, which do not have these tubercles on the roots, are unable to take up any nitrogen, except such as may be in soluble form in the soil. Hence, alfalfa and its relatives are the best plants that can be grown by the farmer, for they manufacture large quantities of this most valuable and expensive fertilizing element.

By raising alfalfa the farmer not only provides an excellent quality, as well as a large quantity of forage for his domestic stock, but he is at the same time enriching his fields, and doing it with a fertilizer which, if purchased in the market, would cost a great deal of money. When this crop is plowed under, or is fed to stock and the manure returned to the ground, it supplies a large quantity of nitrogen, which is especially valuable for small grains, grasses and root crops, and which the latter are unable to acquire for themselves.

The percentage of nitrogen compounds found in the plant varies considerably, the maximum being in the earlier stages of its growth and the minimum about the time the seed commences to ripen. Hence, hay cut early, especially before the plant begins to bloom, is more nutritious, though much smaller in quantity, than that cut after the plant has begun to bloom.

There is a constant decrease of albuminoid nitrogen and a constant increase of crude fiber from the time the buds first form until the seed is ripe and all growth has ceased. The albuminoids are the most valuable part of the forage, and the crude fiber the least. It is very easy to see why hay cut before flowering is better than that cut when in full bloom, if in the meantime it loses nearly 3 per cent of its valuable and commercially expensive albuminoids and gains 2 per cent by weight of indigestible fiber. Hay made from alfalfa about the time the blossoms appear is sufficiently superior in quality to hay cut when the plant is in full bloom, or has begun to ripen its seed, to more than make up for the difference in bulk and weight. Analyses of alfalfa have been made at experiment stations and agricultural colleges in all parts of the country, and the chemical composition is found to vary according to the time at which the sample is cut. No two samples cut from different fields, or from different parts of the same field where the soils are different, will have exactly the same chemical composition, though the ratio of one constituent to another may be fairly constant over wide ranges of territory. —Argus.

What The Arizonian Says.

As when we describe the comforts of a country we seldom think to mention the fact that air and sunlight are abundant and important factors in promoting life, health and pleasure, so when we write of the products of the Salt River Valley we dwell on fruit culture, raisin growing and curing, bee farming, cattle raising and ostrich propagation, but scarcely give a thought to its greatest and readiest crop alfalfa, because it is so common.

All that has been said in our paper about fruit raising is true and does not convey to the reader one-half of the facts upon that part of the products of the valley.

But while one is raising fruit trees he lives on alfalfa; when he goes into cattle, horse, hog or poultry raising the first requisite for his work is alfalfa, and when one begins at the bottom on new land with no surplus of ready cash his earliest friends are barley and alfalfa.

Another most important factor is the fact that alfalfa has always had a home market at good figures, and with new railroad extensions the market will be a greatly increasing one within a year.

Some of our readers will ask, what is alfalfa?

It is a species of clover called Lucerne, Châli clover and German clover. It has a coarser stem than red clover, smaller and less numerous leaves, and a small cluster of purple blossoms similar to the red clover in structure, but not making so large or so regular shaped tufts as our familiar red clover bloom.

The arid countries are almost destitute of grass. No kind of grass which has been introduced to fill this great vacancy has been acclimated without great care and attention except this one kind of clover. It takes to the country naturally and has come to stay. It is rapidly becoming the forage plant of the Pacific slope.

It fills the bill in every particular. It is a rich fattening grass. The stock fed upon either the growing plant or the cured hay get and keep just rolling fat.

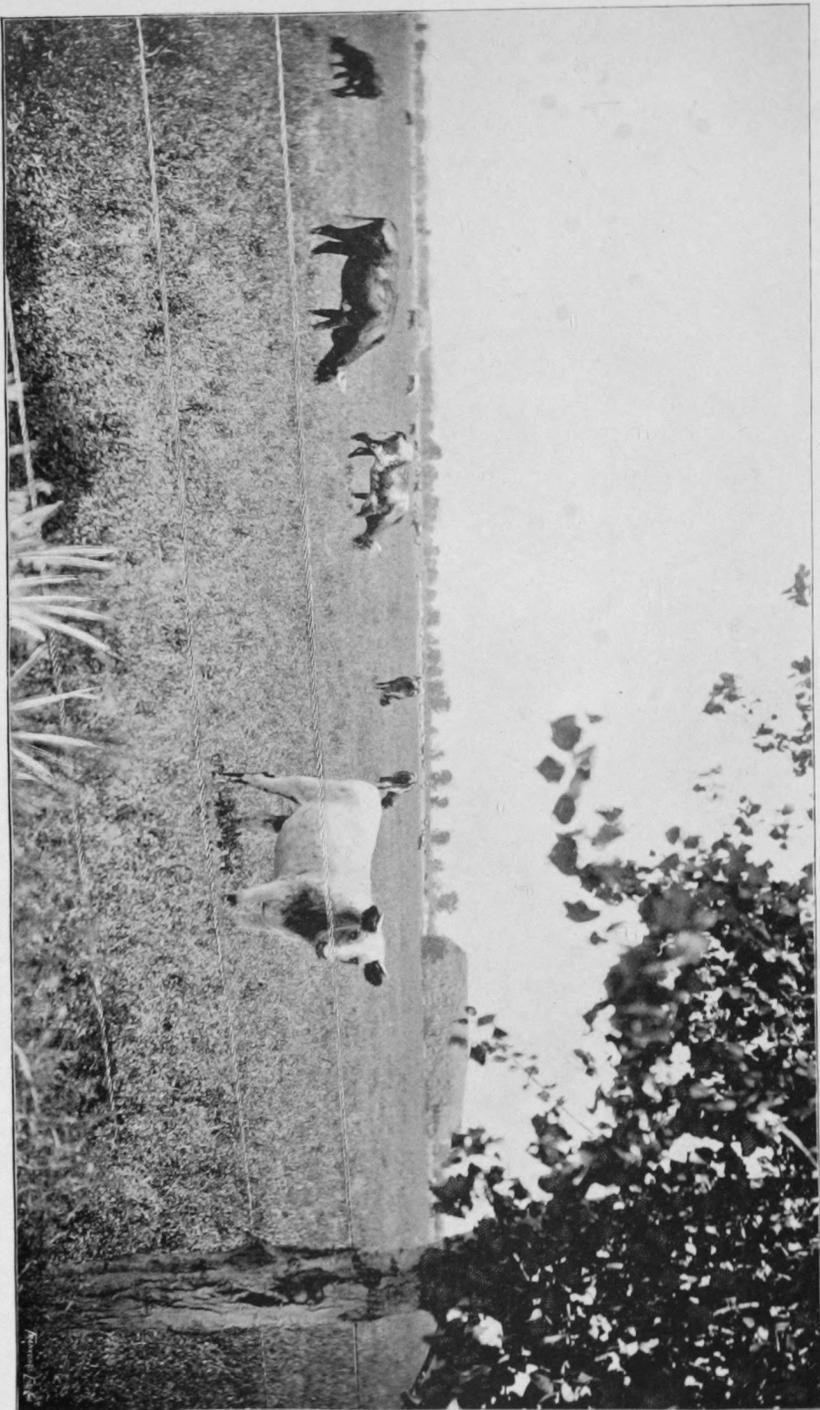
It is a quick grower. In six weeks from the stubble of one mowing it will stand knee high and cut from one to two tons per acre. This can be repeated from March to December with plenty of water to irrigate, and it can be pastured three months of the winter besides.

It is a rich green, covers the ground perfectly and keeps down the dust. It is perennial, once sown it will continue for many years. It has immense roots, going deep into the soil and is hard to kill.

Photo by Hartwell, Phoenix.

SALT RIVER VALLEY, ARIZONA.

Published by The Rio Verde Canal Co.

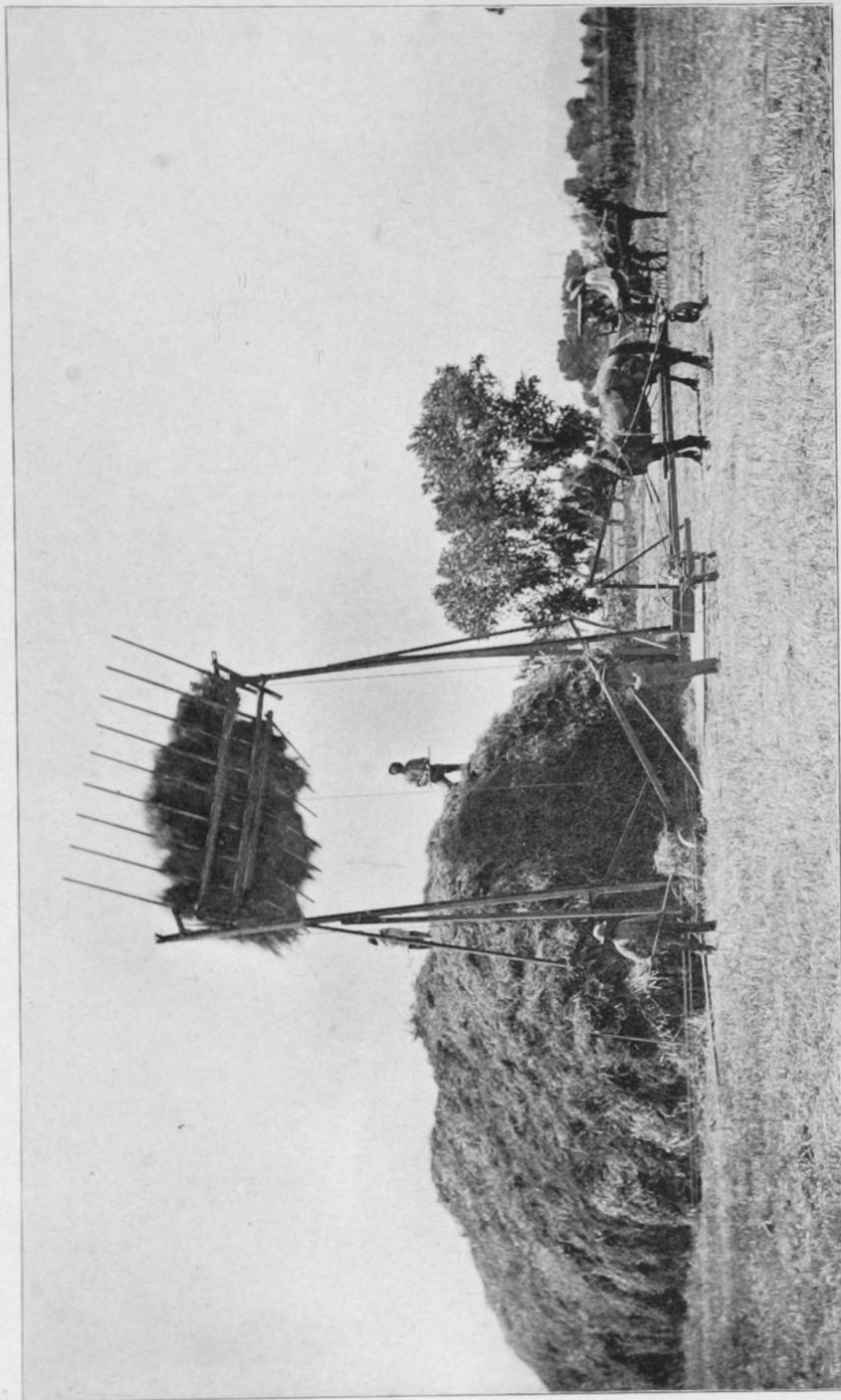


ALFALFA PASTURE

SALT RIVER VALLEY, ARIZONA.

Photo by Hartwell, Phoenix.

Published by The Rio Verde Cattle Co.



STACKING ALFALFA.

The cost is very small. The first crop can be sowed in barley. It requires about 15 pounds of seed for an acre, and after that water and cut, cut and water is all you have to do.

It is quite conservative to say that one can count positively on four to six crops of hay every year and two to three months' pasture. Thus with very moderate yield, say six tons per acre, worth at least \$4.50 per ton in the stack and \$1 per month per head for pasture, each acre will produce \$30 per acre in alfalfa.

One man, one boy and two horses will do all the work, and deliver the baled hay to market besides, from forty acres of alfalfa.—Arizonian.

What California Thinks of Alfalfa.

Alfalfa, variously known as lucerne and as Chilian clover, is a species of clover which appears to have had its origin in Chile, though different opinions have been expressed upon this point. But whatever its far-distant origin, it has been cultivated in that country since the Spanish conquest and has always been a favorite in all Spanish-American countries. It was brought to California by the Spaniards and was by them also introduced into New Mexico and Arizona. The American settlers of Utah and Colorado adopted it, and now there are hundreds of thousands of acres devoted to its growth in all the states and territories of the arid region. Experiments have likewise been made in many of the Eastern states and with a uniform degree of success wherever proper methods have been followed. As the young plants, however, are more or less susceptible to the effects of frost, it is doubtful whether alfalfa will ever become the favorite in other than the arid regions of the Southwest that it is there.

HOW TO GROW IT

To produce alfalfa in quantity and to enable it to put forth its best efforts, irrigation is essential, and the plant is a greedy drinker, requiring more water than any other crop that is grown.

Given an abundance of water it is not easy to make a mistake in planting alfalfa. So far as California is concerned it appears to grow almost anywhere. Good crops may be seen on red and black adobe, on almost pure sand, and upon all the intermediate varieties of soil. The best, however, is a moderately sandy loam, easily worked and without hardpan to prevent the roots from penetrating to great depths. Alfalfa is a taprooted plant and has been known to send its roots from thirty to forty feet in search of moisture. The importance of selecting a light, friable soil is thus apparent.

The first essential being quality for irrigation, the land selected for alfalfa growing should be as nearly level as possible, and all uneven portions should be leveled, so as to allow the water to reach every portion of it. Otherwise the plants not supplied with abundant moisture will quickly die and the field will present unsightly, barren spots in every direction.

Before planting the field should be plowed as deeply as can be done, and if the soil be not thoroughly pulverized then corn-plow it so that there may be a perfect seed bed. There must be no lumps or clods, as alfalfa seed is most minute and needs to be covered but lightly.

SEED TO PLANT.

Upon the best manner of sowing the seed there is a difference of opinion. Some advocate mixing it with barley and some believe in sowing it unmixed. If the soil have no weed seed in it alfalfa will grow without the aid of barley.

But if it be well provided with these enemies of the farmer—and what soil is not?—then the barley should be used.

A mixture of 15 to 20 pounds of alfalfa seed with about 30 pounds of barley will make enough for one acre. This should be scattered by hand if the field be not too large, and then covered with a brush harrow—simply a bunch of heavy brush dragged by hand or a single horse to and fro over the field. The reason for using barley is this: The young alfalfa plant is tender and delicate, and where there are weeds it is easily choked out and must be replanted.

But when barley is planted it grows quickly and soon overshadows everything else—alfalfa as well as weeds. When it is fit for hay it is cut, along with the weeds and the alfalfa. The water is at once turned on and now the wonderful qualities of alfalfa become at once apparent. It commences its second growth before the weeds can get a fresh start, and if enough seed has been planted the weeds do not get a ghost of a chance from this time on, and the alfalfa has the field to itself.

TIME FOR HARVESTING.

The proper time to cut alfalfa is just as soon as it blossoms. The instant the flowers are well open the mower should be put to work. Any delay beyond that period will be fatal to the desirability of the hay for food. The stalks become woody, the leaves drop away readily, and the hay has little value for forage or for any other purpose.

An experienced farmer gives this as his system of cutting alfalfa: "In very hot weather if cut early in the morning, I rake it into light winrows in the afternoon or as soon as it gets thoroughly wilted. This will generally be in a few hours, unless the crop is very heavy. The next day as soon as the dew is off I put it into small cocks, not over 100 pounds each, and shake it up well while cocking, making the cock as light and as high as possible. In this way the hot air circulates through it, and it very gradually settles as well as cures in the best manner, being almost as green when dry as before being cut. If cut very early in the spring or late in the fall much more time is required in curing, but never cock it when it feels heavy, even in hot weather, as some of the bottom of the cocks will be sure to be mouldy. Haul it to your barn, or stack, three or four days after being cocked, especially in hot weather.

The number of crops of alfalfa that may be cut in a single season varies according to locality and manner of treatment. In good locations where care is used as many as eight or nine cuttings have been made in a single season. In others only three to five. The latter perhaps is the average for the entire state.

In Kern county, where are the largest alfalfa fields in the state—60,000 acres being cultivated by a single owner, the Kern County Land company—only three crops a year are cut. This, however, is owing to the fact that the fields are all pastured the remainder of the time, and hence this example is not a criterion. In these immense fields the hay is put up in great stacks by machine power, and is allowed to stand unprotected through one or two years and even more, until needed for feeding stock. It does not deteriorate in quality, only a thin outside layer being injured from the exposure.

PROFITS OF THE CROP.

In the same county, however, some of the best results ever recorded have been obtained. A typical case recently published is that of a farmer near Delano in that county, who planted an alfalfa patch three years ago, and cut from it eight crops this year averaging over two tons to the acre at each cutting. Most of it was sold for \$8 per ton, which will give a pretty fair idea of the profits of alfalfa culture under favorable circumstances.

Alfalfa is an admirable feed for all kinds of stock. Many of the finest horses in California were raised on this grass alone until they were put in training for tests of speed. Such well known horses as Stamboul, Alcazar, Urby, Mascot and many others never knew other food than this during the earlier years of their life. Nearly all the best known of the Haggin horses were raised on alfalfa, and every horse breeder who has had experience in this direction indorses it as one of the best grasses for colts and growing horses that is known.

It is true, when horses are to be hard worked they need rations of grain or a mixture of grain and hay, to harden them up; but for all ordinary uses an alfalfa-fed horse will answer the purpose.

AS A FORAGE PLANT.

It is in the dairy, however, that alfalfa is most useful. With it cows may be kept in full milk the season through, and the amount of butter and milk they will produce is something remarkable. In the San Joaquin valley, where creameries are run with alfalfa-fed cows, the animals average \$50 each for the season in gross returns, and one acre of alfalfa will keep three cows. Deducting all possible cost, and there will be a profit of something like \$100 an acre annually. A single cow fed on alfalfa and beets has been known to produce \$120 worth of butter in one year, besides furnishing the family with milk and cream.

So far as the exact amount of alfalfa necessary to keep a cow in good condition is concerned, or the yield of butter and milk from a given quantity, agriculture has not yet reached a stage in California where any close or accurate records are kept of such matters. But it is a well-demonstrated fact that two to three head of cows and as many horses may be kept to each acre of alfalfa.

Twenty head of hogs and as many sheep may be maintained on the same area. The hogs may be reared to a fattening point on this grass but must be removed and given other food. The sheep, however, will be fattened and put in the best possible condition of the market. Alfalfa-fed mutton and beef bears a high reputation, and is the choicest found in the market.

Alfalfa is a valuable adjunct in poultry raising and little other food is needed for chickens, turkeys or ducks, where there is an abundance of this grass. It is best to divide the patch off into a number of small lots, and let the poultry run alternately on each, allowing the remainder an opportunity to grow up again after being fed down.

Wherever alfalfa has been tried it has sprung at once into favor, and the area is constantly increasing. There is no other grass that approaches it either in rapidity of growth or the amount of hay produced, and no mistake can be made in planting it.

An Apostrophe to Alfalfa.

Alfalfa is better than a bank account, for it never fails or goes into the hands of a receiver. It is weather proof, for the cold does not injure and heat makes it grow all the better. A winter flood will not drown it and a fire will not kill it. As a borer it is equal to an artesian well; it loves water and bores to reach it. When growing there is no stopping it. For filling a milk can an alfalfa-fed cow is equal to a handy pump. Cattle love it, hogs fatten upon it and a hungry horse wants nothing else. If your land will grow alfalfa you have the drop on dry weather. Once started on your land, alfalfa will stay by you like Canada thistles or a first-class mortgage, but only to make you wealthier and happy. Evidences of this profitableness of alfalfa on irrigated land in the semi-arid regions multiply from year to year.—Rural Californian.

How to Kill out Alfalfa.

No amount of plowing and harrowing will ever kill out old alfalfa. The more the ground is stirred the stronger it will grow. If it be desired to plant fruit trees on land occupied by alfalfa, the only way to clear the land is to make up high borders and flood it a long time 12 to 15 inches deep in the hot days of July and August. The sun on the standing water will kill the alfalfa and the roots will quickly rot, making after a time a most unpleasant stench. Of course if there are any trees on the land they too will be killed out. It is useless to think of planting fruit trees on alfalfa land, until the alfalfa has been killed in this way. Alfalfa and fruit trees never thrive together. The former is deeper and stronger rooted than the trees, which will remain stunted and make no growth after the alfalfa has once made a good start.—Farm and Orchard.

A Hog Speculation.

Last November A. B. Kellogg concluded that he would raise a few pigs. He started by purchasing for \$22 a pair of Poland China sows, from the herds of the Fowler company. Kellogg took stock the other day. Besides the original pair, he now has 18 good-sized porkers ready for market and well worth \$8 a head at prevailing prices. Then he has just 22 neat little curly-tailed pigs that will be ready for the smoke house before many months have flown. The cost of keeping has been almost nothing, and Kellogg has concluded "there is money in hogs."—Arizona Gazette.

Alfalfa Dairying.

The alfalfa crop of the Salt River valley is very productive and when properly cultivated and irrigated is a prolific source of revenue to the intelligent and thrifty farmer. The dairy business in this valley, contiguous to Phoenix, when judiciously and intelligently conducted is also a lucrative occupation. Mr. John McGuire, a successful dairyman, who has been in the valley five years, gives below his impressions of the productiveness of the soil and success in the dairying, as follows:

April 3, 1896.

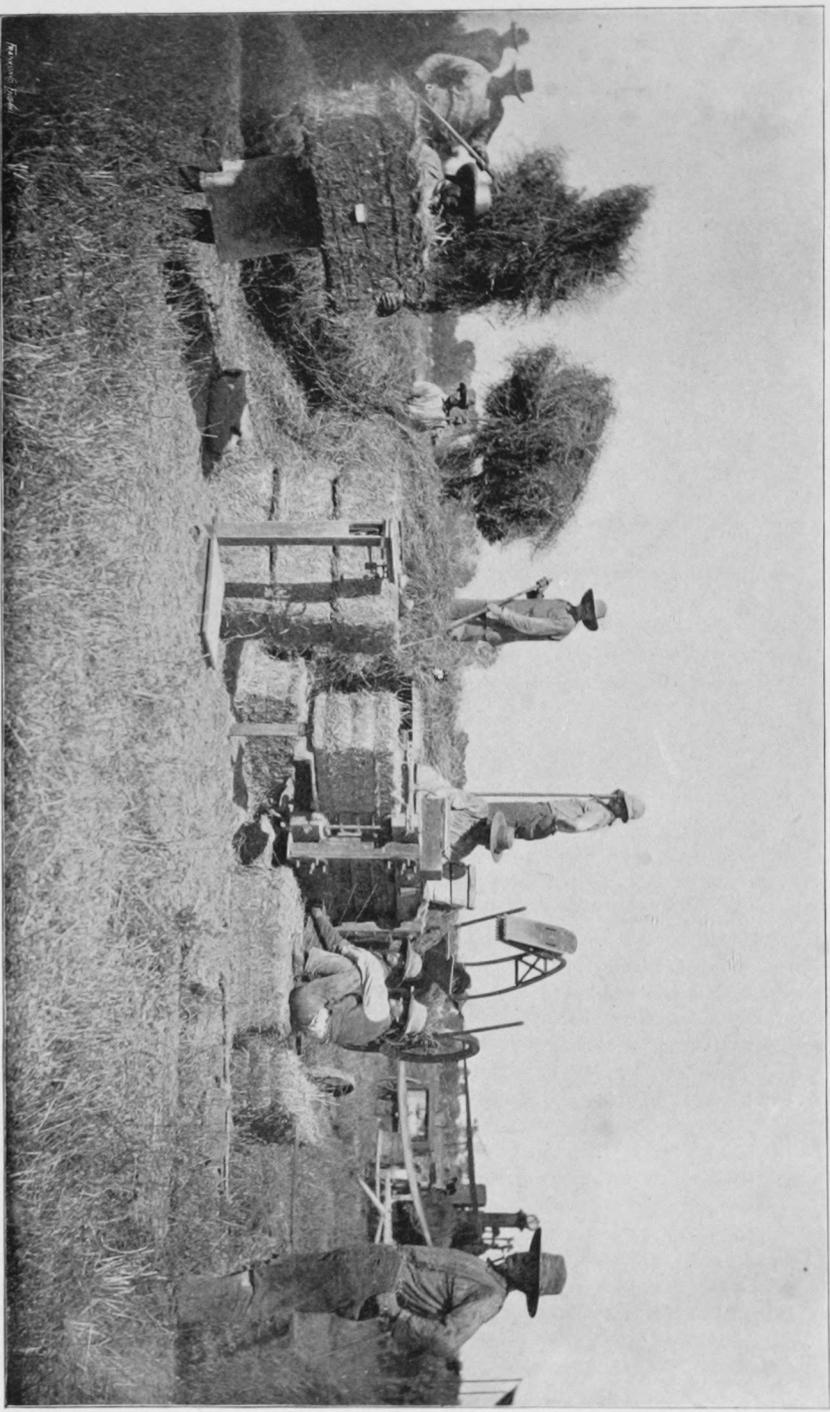
"I left Central Ohio for California in 1887, and came from Sacramento to the Salt River valley in 1891, and for 3 years had charge of an alfalfa ranch of 160 acres, 2½ miles north of Phoenix. Beside furnishing feed for 20 head of stock and with sales of winter pasturage the proceeds amounted to about \$5,000 per year, and this product was secured without sufficient water for proper irrigation. One hundred acres of choice land well set to alfalfa, and plenty of water at command to irrigate when needed, can be made to produce 10 tons per acre, a total of 1,000 tons per year, which at \$5 per ton bailed would amount to \$5,000 revenue per annum. Five dollars per ton is the lowest price that alfalfa has been sold for in the valley since I have lived here. In December, 1894, I embarked in the dairy business, and have been running a dairy continuously since, with an average of seven-five cows, the yield of milk being about one hundred and sixty gallons per day, which finds a ready sale at remunerative prices. It requires about 100 acres of alfalfa pasturage to keep these cows during the year, and conducted on business principles, dairying is one among the many other lucrative propositions of this valley. As far as climate is concerned it suits me better than any country I have ever lived in, and the weather all the year round is a little better than anywhere else."

JOHN MCGUIRE.

Photo by Hartwell, Phoenix.

SALT RIVER VALLEY, ARIZONA.

Published by The Rio Verde Canal Co.



BALING ALFALFA.

Hogs.

One of the good stories dating back to the years of experiment in the Salt River Valley is about hogs.

The legend goes that a young lawyer from the east had a desert land filing—as who did not in those days—and casting about how to utilize it, he decided to raise hogs.

He put up the necessary pig-tight wire fence around one hundred and sixty acres already seeded to alfalfa and bought a hundred sows with the proper complement of males and turned them in. They were then left to the care of a trusty man and the lawyer pursued business and pleasure in other lines.

After an absence of several months he returned to his ranch and took a look at his hog crop. He was amazed. The land seemed literally covered with swine of all sizes and ages.

Somewhat elated with his success he announced in Phoenix on his next visit that he had a *million hogs*; and anybody that doubted the fact could come out and count.

Although this statement of the increase was considerably inflated, yet the facts are surprising to those who have never seen hog raising where all the conditions are favorable.

The industry has become one of the large interests of the Valley and several men count their annual "crop" by the hundreds, if not by thousands.

THE ARIZONIAN does not attempt to give figures of profit because these depend on management and market, but where the animals get all their increase from alfalfa alone and only require a short feed of barley to harden them for shipment and market it is very evident that the pork can be produced at a very low figure per pound. The amount of labor required is very small and the profit very satisfactory.

An Interview With a Veteran Cattle Man.

Mr. O. H. Christy says:

Steers 2 and 3 years old brought in from the range, say in June or July off from short feed, weighing 600 to 700 pounds apiece and fed upon alfalfa pasture from 3 to 6 months will average at the end of that time from 1000 to 1100 pounds. These range cattle are usually sold to the farmers of the Valley delivered at about 1½ cents a pound. At selling time from December to March the usual price paid for such cattle by buyers from California is from 2½ to 3 cents per pound live weight delivered at the railroad stockyards, making a clean profit to the feeder for his 3 to 6 months feeding of from 18 to 20 dollars per head. If the pasturage to fatten them were hired, it would cost about one dollar per month per head with perhaps an extra dollar per head if fed hay through January and February during the time that the green alfalfa is soft. Of course this pasture charge is at least one-half clear profit to the owner of the pasture. If the feeder uses his own pasture he makes this profit extra. As the result of my experience I am thoroughly satisfied that a herd of fine Shorthorn cattle fully matured, purchased in Iowa or Illinois and brought to the Salt River Valley, will grow and increase fully 200 pounds each after a year or two of pasture on our alfalfa fields, in fact they seem to grow from the very day they are planted here. There is a strong tendency to produce a larger animal and this tendency seems to be imparted also to the progeny. I can only account for this increase in one way and that is our cattle never go hungry or cold from the day they are dropped until shipped to the market.

The leading industry of the Salt River Valley of Arizona is the rearing and fattening of beef cattle.

This may appear to be a return to first principles—and admission that the days of the cowboy are not yet gone and may appear strange to those who believe that the production of oranges and apricots led all other employments of the rural population. But of the orange orchards are but 1,300 acres, most of them as yet unproductive, while of alfalfa fields, green and fresh, fully 60,000 acres stretch away almost contiguous from Peoria on the west to far beyond Mesa on the east. Alfalfa means beef. The haystacks are put on legs and thus moved to market. Every acre is capable of supporting and fattening two prime steers, though less than half the acreage is given up as yet to the industry. Every year the advantages of the valley in this respect are becoming more fully known and alfalfa in the stack or on the ground is ever most salable.

The cattle this season, to the number of about 50,000 head, come from all over the southwest. Several train loads came from Sonora, thousands came from Tonto Basin and the rest from all over Arizona. Now not a third of the number remains, for at least a cattle train a day has gone out loaded with beeves for eastern and Pacific markets. In about six weeks the roundups or "rodeos" will be in progress all over southern and central Arizona and from the hills will come long droves of wild range cattle gathered at the branding time, driven here to be fattened for the use of man. Just now the alfalfa is getting low, but grazing on the great fields of volunteer green ekes out the supply of feed most satisfactorily.

Perhaps a score of cattle buyers are now in the valley, for here is now the best field on the coast for securing good meat. For two months Los Angeles has drawn her entire beef supply from Tempe and Phoenix and alfalfa fed beef has attained high renown for flavor and tenderness.

This is due especially to the rapidity with which flesh is formed, four months on alfalfa being all that are necessary to transform the range "long-horn" into a sleek well-larded beeper.

Prices for fat cattle are rising rapidly. From 2 cents beef on foot has risen to \$2.50, with \$2.75 asked, and with a prospect of \$3 before the summer is here. A raise of 40 cents per hundred has occurred in Chicago within the past two weeks. At present prices this means about \$625 left in the valley for every carload shipped.

The local market for beef is not by any means a small one. About 20 head a day of prime cattle are killed, averaging about 550 pounds net on the block, or about a pound of beef per diem to every individual of population. Thus something like \$8,000 a month is retained at home to the profit of the farmer and local business man. To this also should be added a daily consumption of 40 head of sheep, averaging 50 pounds net, and 25 head of hogs (including packing houses) averaging 225 pounds. The killing is done at five slaughter houses and ten butcher shops supply the populace.

Prescott, Tucson, Yuma and all the other larger towns of the territory are supplied with Salt River Valley beef. Denver is also this year a very considerable customer, one shipment of 45 carloads going out about two weeks ago for that point.

In the matter of sheep, it is practically impossible to estimate the number. Thousands upon thousands are now being herded on the slopes of the foothills, near to water in the northern part of the Salt River Valley and there they will be kept till lambing and shearing are past, when they will be moved northward into the mountain ranges, to return again next winter. Only a few thousand are kept up on alfalfa, and those are mainly for local consumption. Much in the same category

with the sheep are about 5,000 head of goats that are said to oftentimes eke out the supply of "mutton," though in no wise unsatisfactorily.

The valley is full of hogs, which are marketed, however, only in the fall and early winter. They grow and mature on alfalfa, but about August are penned, when destined for the winter market, and fed on barley, or are quietly and compactly herded on the stubble fields.

This article has quoted few figures. Let him who is interested take up his pencil and calculate for a while and his judgment will assuredly coincide with that of the writer hereof—that the stock feeding industry is the main reliance of the Salt River Valley.

Facts From a Farmer's Experience.

Phoenix, Ariz., March 26, 1896.

Rev. H. A. Thompson, Peoria, Ariz.:

Dear Sir—In reply to your favor I may say that I have been farming in this valley three years. I have 55 acres of alfalfa and 10 of wheat each year. The wheat produced from 25 to 27½ bushels per acre, and has brought from \$12 to \$14 per acre clear of all expenses.

Of the alfalfa I have cut three crops, and fed off two that were matured and ready to cut each year.

The crops that I cut make from 1¼ to 2 tons per acre per cutting.

Each crop fed brings about \$100. Besides this I have winter pasture worth about \$75.

I have on this place apricots, peaches, pears, pomegranates, plums, almonds, figs and grapes. All of these do well; also berries, garden stuff and melons.

The climate suits me much better than that of Nebraska or Ohio.

Respectfully,

ANDERSON ROOT, Box 242.

The Honey Crop.

AN ASTONISHING SHOWING OF THE PRODUCT OF THIS VALLEY.

The Salt River Valley honey producers shipped out over the Maricopa & Phoenix railway, Thursday night, three cars loaded with honey to the following places in the East: One car to Boston, one to New York and one to Chicago. This makes six cars this season that have been shipped that invoiced 150,000 pounds of honey. There will be four more that will be loaded with not less than 96,000 pounds, which will make a honey crop of at least 246,000 pounds or 123 tons. How does this strike you kickers against the valley? Alfalfa? Why, alfalfa is monarch! A perfect Plutus of wealth. It fattens the beef, it nourishes the cow that gives the milk that makes the butter and cheese that we delight to eat. While doing that the busy bee is buzzing and sipping from the bloom the native sweet that makes the honey. Surely this is the land of milk and honey.—Gazette.

Success in the Hog Business.

NO EXCUSE FOR FURTHER IMPORTS OF PORK PRODUCTS.

Hogs have been raised in a limited way in the vicinity of Phoenix since the first settlement of the country, but it is only within a few years that enough have been grown to warrant shipping to outside markets.

The swine grown in this county are principally Poland-China and Berkshire, from original stock brought here from the eastern states and California. The latter importations of fancy stock for breeding purposes include car lots by the Fowler company, Hirst & Co., and H. C. Maure, as well as numerous smaller shipments. Nearly all breeders here prefer the black hog as best suited to this climate.

Hogs have been uniformly healthy here, probably on account of the superior quality of our alfalfa pasturage which is available for use at all times, thus avoiding the necessity of pen-feeding stock hogs part of the year. No outbreak of hog cholera has occurred since the settlement of the country. For the growth of young pigs great results are obtained very economically from alfalfa, and it is not too much to say that \$25 net income per annum is often exceeded. For fattening matured stock for the market, barley, wheat and sorghum of various kinds are profitably used.

Many farmers devote part of their barley and wheat crops to the growth and fattening of swine, without cutting—something possible here, owing to the absence of rainfall sufficient to interfere. As outlined above, pork can be produced at an estimate cost of less than 2 cents per pound gross. At present the great need of the valley is a home packing house for hog and beef products, which would greatly stimulate production, and be very beneficial to home trade. This is a fine opening for investment for anyone having capital. The increasing number of swine has built up a thriving trade with dealers in Mexico. El Paso, Southern California, New Mexico and Arizona points. The Kay Bros. raised on a half section over \$7,000 worth of hogs last year, besides keeping over one hundred head of cattle and horses, and having left several hundred pigs to carry over.

J. K. Smith raised in one year, from five sows, 65 pigs, and C. T. Hirst, in one season, from 30 sows raised 375-head.

Miller & Co. sold six months old pigs that weighed 240 pounds, and it is not uncommon for spring pigs, in large numbers, to sell for \$10 per head in the following fall and winter. There will be room for all those likely to engage in swine-growing for some years to come, as scarcely any of the hog products handled by our merchants are of local production, and the trade averages about \$2,000 per week, mostly coming from Kansas City. Woven wire netting fence is used by swine-growers, which costs about \$175 per mile, or 55 cents per rod, and is a successful and economical fence.—Phoenix Herald.

A Grand Country.

WHAT A PARTY OF VISITORS THOUGHT OF THE SALT RIVER VALLEY.

The party of tourists from this city, who went to Arizona on a prospecting tour, returned last week and speak in the highest terms of praise about the country they visited. In fact, they were fairly captivated with the Salt River Valley, in the vicinity of Phoenix, Arizona, and one and all claim it has no equal on this continent. During their stay the thermometer averaged 85 degrees, the weather was always bright and clear, though the heat was by no means oppressive, owing to the rare atmosphere. It is said that there are on an average 355 perfectly clear days each year in this remarkable country.

The principal industries are fruit and stock raising, but the land has to be irrigated before any crop can be raised. Wherever irrigation is feasible the land can be brought to a high state of cultivation and all kinds of fruit and hay can be raised in abundance. As an illustration a piece of land was shown where six crops of hay had been cut in one year, and each cutting averaged 1½ tons per acre. The present price of this hay is \$6 per ton in Phoenix. As a fruit growing country it is said to be unexcelled. Improved land sells at from \$100 to \$300 per acre. The Río Verde canal, which is now in course of construction, will furnish means of irrigation for 250,000 acres of land in the Salt River Valley. This canal will be about 100 miles long and will be completed in course of a year. A great deal of the land along the line of the canal is already taken up and the prospects are that it will all be taken before the canal is completed.

Photo by Hartwell, Phoenix.

SALT RIVER VALLEY, ARIZONA.

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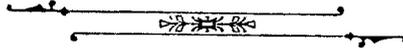
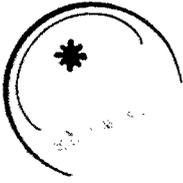
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