

Cost of Fertilizing Alfalfa Reduced Many Per Cent

During the last three years the experiment station has been conducting extensive fertilizer experiments on fruit trees and alfalfa in this valley. These experiments have been conducted in various orchards and on various farms in all sections of the valley.

During this time very valuable and interesting results have been obtained from the use of commercial fertilizers on alfalfa. It has been found that on some types of soil the yield of alfalfa can be increased from 25 to 500 per cent by the use of either superphosphate or gypsum. It has also been found that no increase in yield of alfalfa has been obtained on these soils by the use of potash, nitrogen or lime when used as fertilizers.

Since superphosphate and gypsum have such marked increases in the yield of alfalfa the writer decided to determine why this was true. It is well known that superphosphate is a compound of phosphorus, sulphur, calcium, oxygen and hydrogen. Oxygen and hydrogen are worthless in any fertilizer, and for this valley calcium is also worthless in fertilizers, as our soils are naturally so well supplied with lime. Phosphorus is a valuable plant food, and many soils throughout the world are deficient in this element. The beneficial results from the use of superphosphate have always been attributed by chemists to the element phosphorus. Sulphur has generally been regarded as a worthless element in commercial fertilizers.

Gypsum or land plaster contains only calcium, sulphur and oxygen. It has already been stated that calcium in fertilizers is worthless for our soils, and oxygen is of no value in any fertilizer.

We have noted that superphosphate and gypsum produce similar results in increasing the yield of alfalfa, but gypsum contains absolutely no phosphorus, potash or nitrogen—the three chief plant foods contained in commercial fertilizers. Chemists have therefore concluded that gypsum is only of indirect value—serving a chemical function in making avail-

able in the soil supplies of potash and phosphorus already present.

Since the marked increase in the yield of alfalfa here were attributed to the element phosphorus in the superphosphate, the writer determined to purchase phosphorus in the cheapest form. Hence ground phosphate rock, which contains 33 per cent phosphorus, was purchased and used in our fertilizer experiments, by itself and also in combination with stable manure. These alfalfa plots thus treated have shown absolutely no increase in yield over the check plots receiving nothing.

These results indicated that the marked increases obtained from the use of superphosphate were possibly not due to the element phosphorus in the superphosphate. Since ground phosphate rock does not contain sulphur, but superphosphate and gypsum do contain sulphur, the writer concluded that probably these increases in the yield of alfalfa were due to the element sulphur. Experiments were started to determine this point. A portion of a field was selected where the alfalfa had been giving unsatisfactory yields for years. This field was carefully plotted. Two plots were fertilized with ground sulphur, one plot with iron sulphate, one plot with superphosphate, and two plots with ground phosphate rock. Check plots receiving no fertilizer were left alongside the fertilized plots for comparison. The plots receiving the ground phosphate rock gave no increase in yield over the unfertilized plots. The unfertilized plots yielded practically the same amounts as in previous years.

The plots receiving ground sulphur, iron sulphate and superphosphate, at the rate of 300 pounds per acre, produced an increase of more than 100 per cent over the unfertilized plots. It will be noted from this that each of these three plots received in the material applied the element sulphur. The ground sulphur contains practically nothing but sulphur; the iron sulphate contains only sulphur, iron and oxygen, while the superphosphate contains sulphur, phosphorus and lime.

These results show that the element sulphur when applied by itself gave equally as good results as the superphosphate. They also show that a combination of sulphur and iron gave as good results as superphosphate.

It is clear from this that the element sulphur is of considerable importance as a fertilizer for alfalfa on some soils in this valley. It is probable that the marked increases in yield of alfalfa where gypsum has been used is due to the sulphur that it contains. It is possible that this is also true of the superphosphate.

These results indicate that the element sulphur may be of far more importance as a fertilizer on some soils than has been supposed heretofore. For example, sulphur, so far as the writer knows, has never before been recommended as a fertilizer. Because most plants use so little sulphur, and as most soils contain a limited amount of this element, it has never received serious consideration as a fertilizer.

The writer must state that he does not know whether the chief value of sulphur as a fertilizer for alfalfa is due to its value as a plant food or whether it is of value indirectly in making available stores of plant food already in the soil. If the latter is true, then it should not be considered as a fertilizer but as a soil stimulant.

These experiments are being repeated in various sections of the valley to determine whether Sulphur will give similar results when applied as a fertilizer to our various types of soil. Experiments are also being conducted to determine the most profitable amount of sulphur to apply per acre.

Our experiments have shown that the total yield of alfalfa in this valley could easily be doubled by the use of superphosphate as a fertilizer. The most marked increases in yield have been obtained from the use of superphosphate on the poorer soils. Some of the very fertile soils have not given any increased yield from its use. On such fertile soils applications of sulphur will probably prove of little value.

The most economical form in which to purchase sulphur at the present time is ground sulphur. When purchased in this form it costs less than 2 cents per pound.

If gypsum is of value in supplying only sulphur, as these experiments strongly indicate, then its use as a fertilizer at present prices is not justifiable.

These experiments are being continued on the original plots near Talent, and the writer will be pleased to show them to anyone vitally interested in the work. At the present time

ONE BED FOR THE COURT.

It Was a Big One, Though, and Held All Its Numerous Members.

The first courthouse of Henry county, Ill., was a frame structure, eight feet by fourteen, set in the midst of an uninhabited prairie. But as little villages began to spring up in the county a lively contention for the honor of being the county seat began. Cambridge finally won, for it was nearest the center of the county.

This was in the forties of the last century. The first session of circuit court was at hand and Cambridge was on its mettle to entertain the court suitably. The difficulties to anything but pioneer courage and resourcefulness would have seemed insuperable. The village consisted of eight or ten little dwellings, a tiny general store, a blacksmith shop and a carpenter shop. The new courthouse was unfinished, but would be used, as the session fortunately fell in the summer.

Now the housewives laid their heads together to contrive how the court—officials, litigants and witnesses—should be lodged and fed. There was almost nothing that could be bought, except sugar, molasses, tea, coffee and flour. But they had an abundant supply of yellow legged chickens, home cured hams, milk, eggs, butter and cream, as well as their vegetable gardens to draw on. There was no fresh fruit, but they brought out their cherished stores of wild plum marmalade and wild crabapple preserves. Both were made with molasses, and after they had sufficient time to season were really delicious. Besides, the hillsides were pink with the beautiful wildwood sorrel, the leaves of which make delicious pies in skillful hands.

The village boasted one group of forest trees, a small grove of sugar maples, half a mile away, and in their shade Mr. Atwater built a long table with sawhorses and boards. With the combined stock of table linen, crockery and cutlery possessed by the housewives the table was laid with sufficient elegance, according to pioneer standards. It was felt that the court would be properly feasted, but about lodging? That was the real difficulty. The tiny houses and their beds were full to overflowing with their proper inmates.

But there was the loft of the carpenter shop. The store had a whole bolt of unbleached muslin. It was torn into lengths equal to the length of the loft and sewed together by hand, of course. Then the loft floor was covered deep with nice clean shavings, the immense sheet laid over them and tacked to the walls all the way round. On this Broddingnagian bed the court lay in two rows. From the extra supply required for winter enough quilts were mustered to cover the sleepers. As for pillows no one gave a thought to those effeminate luxuries. The lawyers might lay their heads on their saddlebags or their rolled up coats and be thankful.

Thus was the circuit court sumptuously fed and sufficiently lodged, thanks to the ingenious women of Henry county.—Youth's Companion.

When there is no good within no good comes.—Dutch Proverb.

the effects of the various applications are very noticeable.
F. C. REIMER,
Southern Oregon Experiment Station,
Talent, Ore.

"Non-Puncture" Auto Tires Guaranteed 7,500 Miles Service

These tires bear the greatest known mileage guarantee, yet are sold at a price even less than tires of ordinary guarantee. This guarantee covers punctures, blow-outs and general wear. Guarantee covers 7,500 miles' service against everything except abuse. These tires are intended for most severe service.

Orders have been received for these tires for use in United States Government Service.

As a SPECIAL INTRODUCTORY offer we will allow the following prices for the next ten days.

TIRES—TUBES.		
Tire.	Tube.	
28x3	\$9.20	\$2.00
30x3	10.25	2.30
30x3 1/2	13.50	2.80
32x3 1/2	14.05	3.00
34x3 1/2	15.25	3.20
31x4	17.00	3.25
32x4	18.00	3.30
33x4	19.50	3.40
34x4	20.40	3.60
35x4	21.00	3.80
36x4	22.00	3.90
35x4 1/2	26.00	5.00
36x4 1/2	27.00	5.10
37x4 1/2	27.50	5.15
37x5	32.60	5.40

All other sizes. Non-Skids 20 per cent extra. Five per cent discount if payment in full accompanies order and if two are so ordered, shipping charges will be paid by us. C. O. D. on 15 per cent of amount of order. Our output is limited, so we suggest early ordering. We sell direct only, giving purchaser the advantage of all middlemen's profits.

NON-PUNCTURE RELINERS. Use our famous reliners. They eliminate blow-outs and 90 per cent of punctures, besides giving many thousand more miles service to each tire. When in your tires you ride without worry or tire troubles.

For all 3-inch tires.....\$1.95
For all 3 1/4-inch tires..... 2.20
For all 4-inch tires..... 2.60
For all 4 1/2-inch tires..... 2.75
For all 5-inch tires..... 2.90
For all 5 1/2-inch tires..... 3.00

NON-PUNCTURE TIRE FACTORY,
Dayton, Ohio.

JOHN LEGG'S PLAIN TALK.

Made in an Advertisement He Put in the Paper in 1837.

Advertising in the Sun three-quarters of a century ago was worded more picturesquely than it is now in some respects. No big type was used, but the advertisements hit the mark without its aid. It is to be doubted if some of the advertisements which appeared then could get into print now, for they were outspoken to a degree which would offend modern susceptibilities. For example, here is an advertisement which appeared in the Sun of May 26, 1837:

To Shoemakers—Kackmen Wanted.—The subscriber gives the highest city wages for good work and begs those worthies who would fitch him of his stuffs not to visit him. It would be an agreeable surprise to him if John Kemp, Thomas Pringle, Isaac Morgan and a few others would bring in the work they have so long "forgotten" to return.

JOHN LEGG, 164 8th avenue.

The trade supplied cheap and good.

"Kackmen" seems to have gone out of use completely. It is not given in any of the modern dictionaries, but one of them has "cack, a baby's shoe," which it calls shoemakers' cant.

In the same number of the Sun T. Baxter of 8 Fulton street advertised that he wanted broken bottles, but he did not state his use for them. There are several advertisements for men to go on whaling voyages.—New York Sun.

A Lesson In Curling.

Inexperienced Member to venerable skip—What's a patlid, Mr. Macpherson? Skip—Dae ye no see, ye gowk? Ye ding yer stane cannilly, but nae so fine as the hog it. Nae halfin' leg, nor jinkin' turn, ye ken, but tentilly, that it aye gangs snoovin' an' shoutherin' among the guards, till strauch as an elder's walk, hogye fa' on this verra tee. When ye'ze done that, laddie, ye'ze made patlid, an' ye may bear th' groe.—Toronto Globe.

Even Worse.

"Why do they hate each other so?"
"They are rivals."
"Oh, both trying to marry the same girl, eh? That sort of thing certainly does arouse a man's primal passions."
"In this case it is worse than that. They are both trying to marry the same fortune."—Houston Post.

Barrett's Pun.

Lawrence Barrett, though stern and dignified, could unbend a little occasionally. Once a popular low comedian proposed a combination with him, which he declined.
"It would have been an unhappy illustration," said the tragedian in relating it, "of Grim and Barrett."

Ask your Dealer for Supreme Sodas

With 12 end labels from "Supreme" baked crackers or cakes of any kind mailed direct to us, a free surprise package containing a complete assortment of "Supreme" Baked Dainties (illustrated below) will be sent at once by parcel post, absolutely free.

F. F. HARADON & SON
PORTLAND, ORE.

"Supreme" Sodas shown below 10c at your dealers. Ask for them by name

Bakes to Perfection

"I had no idea this Oil Cook Stove would bake bread and cook everything just like my steel range. But it does. And best of all my kitchen stays cool these hot days. Besides, there's no coal or wood or ashes to lug. Oh, I'm delighted with it."

New Perfection OIL COOK STOVE

It bakes, broils, roasts and toasts—perfectly. It does all that any wood or coal stove can do—and at less cost. It doesn't smoke; doesn't taint the food. Clean, safe, convenient. Ask to see it at your dealer's.

FOR BEST RESULTS USE PEARL OIL

STANDARD OIL COMPANY
(California)
Portland

Cunningham & Co.

Give These Properties Your Attention

You have often thought how nice it would be to own a country home, at the same time you did not like the idea of giving up those conveniences that you were used to in the city. If you owned the following described property you would miss none of the conveniences of the city, and at the same time you would have a place that will steadily increase in value.

This place consists of 57 acres, 45 acres of which are in alfalfa, 10 acres in eight-year-old Newtown apples, with peach fillers. A five-room modern house; irrigation for the garden; two large barns; a one-room house for help; electric lights. One mile from town.

The price of this place is \$20,000; part cash, easy terms on the balance.

We have a ranch in Siskiyou county, California, of 360 acres, 20 acres of which are watered. This 20 is bottom land. 160 acres of dry cultivated land. There are 10 acres of alfalfa and quite an acreage of wheat. The balance of the place is good pasture. The owner of this place has good reasons for making a change, and we are offering the place for less than \$10 per acre. Now if you have been looking for something cheap in price, you need look no farther.

We have a home, within ten minutes' walk of business center. Consists of about two acres of good land, plenty of full-bearing fruit trees, and other young fruit coming into bearing; different varieties of berries; large garden. A seven-room house, good barn and other outbuildings. For the family that wants a home with plenty of room, where they may have cows, horses, chickens, etc., this is an ideal place. For the man who is looking for an investment it is a good buy, as it is nicely situated for subdivision. We are offering this place at \$4,500. Part cash.

These places will not be on the market very long.

Cunningham & Co.

NOTICE OF REDEMPTION OF BONDS.

Notice is hereby given that improvement bonds numbered 508 and 509 of the city of Ashland, Oregon, are hereby called for cancellation on the first day of June, A. D. 1914. Upon presentation of said bonds to this office the face value thereof and accrued interest to said date will be paid. Interest will cease from and after said date.

C. H. GILLETTE,
101-21-Thurs. Recorder.

\$4.00 per Ton

freight on feed from Portland or Klamath Falls. But you need not pay it on your horse feed. We have a crop of grain grown in this valley which we will steam-roll and sell for \$1.00 per sack. It is a mixture of barley and oats which you know will make a splendid summer feed.

Morton's millfeed for your cow, also \$1.00 per sack. And of course you haven't forgotten our price on wheat.

Morton & Son PHONE 49.

Dennis' Store

Successor to Ashland Feed Store
Hay, Grain and all kinds of Feed
SEEDS SEEDS
Staple and Fancy Groceries of all kinds

Dry Wood, Plaster and Cement
At Right Prices

Dennis' Store, E. Main

NEAREST TO EVERYTHING

Hotel Marko
San Francisco

Powell St. O'Farrell St.

Best located and most popular hotel in the City; circulating ice water in every room.
Special attention to ladies travelling alone.
Excellent, reasonably priced grill. Meet your friends at the Manx.
European Plan Rates \$1.50 up. Take our buses or Coary St. cars.
Management, Chester W. Kelley