

The Delaware Farm and Home,

Published Every Thursday

-AT-

Wilmington, Delaware

Publication Office.

110 and 112 French Street.

Subscription Price 50 cents a year in advance.

FERTILIZERS FOR WHEAT.

There seems to be a popular idea that a fertilizer for wheat should consist chiefly of phosphoric acid. Commercial fertilizers for this crop contain on an average, from 2 to 3 per cent. of ammonia; 8 to 10 per cent. of available phosphoric acid and about 2 per cent. potash. That this proportion of the fertilizing principles is absurd becomes clear upon a little reflection.

While the analysis of plants is not an invariable indicator of fertilizing proportions, it is more nearly so than any other single item of cultural data. There can be no question but that the plant must have these principles, and in approximately the proportions found by chemical analysis. There are soils so rich in some particular element of plant food that some may be largely omitted from the fertilizing material used. This condition, however, is almost wholly confined to ammonia alone. Leguminous crops, by the usual rotation for wheat, supply largely the necessary ammonia, but there is no way of getting potash and phosphoric acid for nothing, so to speak. Whatever may be the allowance for soil nitrogen, under the average condition of farm land in the United States, the potash and phosphoric acid, removed by cropping, must be uniformly returned to the soil. It therefore, becomes an important matter to know what the demand of an ordinary crop of wheat upon the soil is in pounds as well as per centages.

In computing the demand of the soil, of any crop, the whole plant must be taken into consideration. A careful analysis of the whole plant, grain, straw, chaff, stubble and roots shows the following requirement of potash and phosphoric acid, for each 100 pounds of grain:

Potash, 14 lbs.

Available phosphoric acid 13 lbs.

This may seem like a small quantity of fertilizer to produce a 1,000 pounds of grain, and it is all that would be necessary if the whole amount could be so managed as to be applied to actual vegetable growth. This is plainly impossible in field operations; the data is more useful in showing the relation between the different elements of fertility. Instead of a wheat fertilizer, requiring an excess of phosphoric acid, it plainly required more potash than any other mineral. A fertilizer for wheat should contain phosphoric acid and potash in approximately equal quantities.

There is one more point to consider: What is the particular effect of a deficiency of each individual element? Of the ammonia in the wheat plant taken as a whole, 63-6 per cent. is found in the grain and the remainder about equally distributed through the straw and roots etc. The effect of a deficiency of nitrogen, the other elements being present in ample quantities, would be to produce straw at the expense of the grain. Of the phosphoric acid in the whole wheat plant, 71 per cent. is in the grain, 8 per cent. in the straw and chaff, and 21 per cent. in the roots and stubble. It is evident that a deficiency of this element, the others being in full supply, would first diminish the grain

produced and then restrict further growth by checking root development. Under the same conditions as given above, potash is distributed as follows:

Grain, 37 per cent.

Straw and chaff, 34 per cent.

Stubble and roots, 29 per cent.

This is, equally throughout the whole plant. There may be ammonia and phosphoric acid present for 1,000 pounds of grain, but if only enough potash for 100, it will be impossible to get more than the latter amount. In fact, the production of grain is measured directly by the potash; the value of a fertilizer is no greater than its potash efficiency. This is, however, almost equally true of the other elements, except that to a limited extent, a deficiency produces profitless plants.

Society Printing.

We have a full assortment of cuts for the use of the various secret societies, and are always willing to estimate on any Printing you may want done.....

A Pointer.

You will always find our prices right, and our work delivered when promised. Correspond with us.....

Diamond Printing Co., 110 112 French Street, Phone. 650. Wilmington, Del.

\$1800.00

GIVEN AWAY TO INVENTORS.

\$150.00 every month given away to any one who applies through us for the most meritorious patent during the month preceding. We secure the best patents for our clients, and the object of this offer is to encourage inventors to keep track of their best ideas. At the same time we wish to impress upon the public the fact that

IT'S THE SIMPLE, TRIVIAL INVENTIONS THAT YIELD FORTUNES.

such as the "car-window" which can be easily slid up and down without breaking the passenger's back, "sauce-pan," "collar-button," "nut-lock," "bottle-stopper," and a thousand other like things that most any one can find a way of improving; and these simple inventions are the ones that bring largest returns to the author. Try to think of something to invent.

IT IS NOT SO HARD AS IT SEEMS.


Patents taken out through us receive special notice in the "National Recorder," published at Washington, D. C., which is the post newspaper published in America in the interests of inventors. We furnish a year's subscription to this journal, free of cost, to all our clients. We also advertise, free of cost, the invention each month which wins our \$150 prize, and a hundred of thousands of copies of the "National Recorder," containing a sketch of the winner, and a description of his invention, will be scattered throughout the United States among capitalists and manufacturers, thus bringing to their attention the merits of the invention. All communications regarded strictly confidential. Address

JOHN WEDDERBURN & CO., Solicitors of American and Foreign Patents, 618 F Street, N. W.,

Box 385, Washington, D. C.

Reference - Editor of this paper. Write for our \$1000.00 Prize, FREE.

ONE GIVES RELIEF
The modern standard and Family Medicine cures the common every-day ills of humanity.



R-I-P-V-A-N-S

9 CORDS IN 10 HOURS



By ONE MAN. Send for free illustrated catalogue, showing testimonials from thousands who have saved from 6 to 9 cords daily. First order secure agency. FOLDING SAWING MACHINE CO., Chicago, Ill. Box to 649 B. of Carson St.


Deafness Cannot be Cured by local applications, as they cannot reach the diseased portion of the ear. There is only one way to cure Deafness, and that is by constitutional remedies. Deafness is caused by an inflamed condition of the mucous lining of the Eustachian Tube. When this tube gets inflamed you have a rumbling sound or imperfect hearing, and when it is entirely closed Deafness is the result, and unless the inflammation can be taken out and this tube restored to its normal condition, hearing will be destroyed forever: nine cases out of ten are caused by catarrh, which is nothing but an inflamed condition of the mucous surfaces.

We will give One Hundred Dollars for any case of Deafness (caused by catarrh) that cannot be cured by Hall's Catarrh Cure. Send for circulars, free.

F. J. CHENEY & CO., Toledo, O. Sold by Druggists, 75c.

Make Cows Pay.

What is the use of keeping cows unless you can make money with them? No other business would stand a waste of from 25 to 50 per cent, and the dairy business will not. You waste that much butter by pan skimming. Get a SAFETY HAND SEPARATOR and save it.



Send for Circulars. P. M. SHARPLES, West Chester, Pa. Rutland, Vt.

PATENTS
CAVEATS, TRADE MARKS
COPYRIGHTS.

CAN I OBTAIN A PATENT? For a prompt answer and an honest opinion, write to MUNN & CO., who have had nearly fifty years' experience in the patent business. A communication strictly confidential. A Handbook of Information concerning Patents and how to obtain them sent free. Also a catalogue of mechanical and scientific books sent free.

Patents taken through Munn & Co. receive special notice in the Scientific American, and thus are brought widely before the public without cost to the inventor. This splendid paper, issued weekly, elegantly illustrated, has by far the largest circulation of any scientific work in the world, \$3 a year. Sample copies sent free. Building Edition, monthly, \$3.50 a year. Single copies, 25 cents. Every number contains beautiful plates, in colors, and photographs of new houses, with plans, enabling builders to show the latest designs and secure contracts. Address MUNN & CO., NEW YORK, 361 BROADWAY

ARTISTICALLY RANGED
GRICULTURAL ADVERTISING
ALWAYS ATTRACTS ATTENTION



KNOW MORE ABOUT IT—Rates, Estimates, etc write FRANK B. WHITE CO., SPECIAL ADVERTISING, 91 Times Building, New York.

PEIRCE COLLEGE OF BUSINESS AND SHORTHAND



(Second Building, second, third and fourth floors) 517-519 CH. ST. NUT ST., PHILADELPHIA Morning, Afternoon and Night Sessions.

A high class Commercial School which sells complete equipment for business life, with all the facilities and enthusiasm of a large school. Also, gives instruction for Travel as well as for Business. Geography has been added to the course because of instruction, and a special feature of ventilation has been introduced, with new furniture, etc. Additional rooms have been rented, so that for this year at least no one will be refused for want of accommodations. Ladies are successfully assisted to positions. Also, College Annual, Philadelphia. An announcement sheet report of Granting Excesses, call or address, THOMAS HAY PEIRCE, Ph. D., Principal and Founder.

NEW YORK CLOTHING HOUSE.

NEW YORK Clothing House,

316 Market St., Wilmington.

\$8, \$10 and \$12 MEN'S SUITS. for \$5.00.

The more you think of this offer the more ridiculous it will appear, but if you will come to our store and examine the excellent goods we are selling at \$5 for a full suit, which in each instance is worth from \$8 to \$12, you will readily see why so many people are taking advantage of this offer, which cannot possibly last much longer.

Store closed evenings after 6 o'clock except Saturdays.

N. Y. Clothing House. 316 Market St. MAX EPHRAIM, Prop.

Strictly one price and if dissatisfied with your purchase we will return your money. We will deliver your purchase free to any part of the city.

\$100.00 Given Away Every Month

to the person submitting the most meritorious invention during the preceding month. WE SECURE PATENTS FOR INVENTORS, and the object of this offer is to encourage persons of an inventive turn of mind. At the same time we wish to impress the fact that

It's the Simple, Trivial Inventions That Yield Fortunes

—such as De Long's Hook and Eye, "See that Hump," "Safety Pin," "Pigs in Clover," "Air Brake," etc. Almost every one conceives a bright idea at some time or other. Why not put it in practical use? YOUR talents may lie in this direction. May make your fortune. Why not try?

Write for further information and mention this paper. THE PRESS CLAIMS CO. Philip W. Avirett, Gen. Mgr., 618 F Street, Northwest, WASHINGTON, D. C.

The responsibility of this company may be judged by the fact that its stock is held by over one thousand of the leading newspapers in the United States.