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EDITORIAL COMMENT

Mr. Taft's term of office has phoric acid and nitrogen and if the been a disappointment. People farmer sells all the produce, such as they distrust him officially.

not be vigorously prosecuted. He rep- iveness and lasting fertility, and it will resents all of the people, . . . yet accomplish this result; so a great many spread."

Mr. Taft has disappointed the Bulletin. West in accepting a tariff that is a revision only in name. He has shown himself to be afraid of trusts and moneyed interests. He accepts Mr. Aldrich as his Before timber is subjected to predictator on tariff and finance and servative treatment it is customary to undoubtedly is in sympathy with very thoroughly, however, patches of Cannon. He is now about to the inner bark will remain on the however, is not the addition of more propose a law that will enable wood. Until recently it does not seem of these materials, but the judicious the Standard Oil Company to presented a very effectual hindrance mated that there is enough phosphor of sul avoid the result of recent adverse to the penetration of creasole. The us in the upper seven inches of soil legislation. He has shown him- same thing was discovered by the in the Mississippi valley to raise a self in sympathy with Mr. Bal-soting companies in the south, and every year for sixty years and enough linger and is now assisting in a steps were immediately taken to see plan that will prove that gentle- that every particle of bark was reman to be of unquestionable pur- moved from piling and other timbers. While it is probable that the bark pose, tho' it is well known that of all species is not as resistant as Mr. Ballinger was formerly a that of pine, it is not known how the paid agent of the very combine different species rank in this respect In the creasate treatment of timbers he is now defending.

State Superintendency made by around the untreated interior portion the editor of the Oregon Teach- If this outer zone be broken the value ers' Monthly shows Prof. Alder- lost -- Scientific American. man of Eugene as the teachers favorite for next state superintendent. Mr. Alderman has held various official and professional positions in the state and is in general favor.

Cook seems to have spent a warmth of a friendly smile. But opening six inches deep and five inches high. The clamps are boiled to a then perhaps Perry would be just as chilly if his records had been examined by the wise men from Copenhagen. There is something in having your friends

or early spring and depends largely on the crop for which it is to be used. Heavy clay soil will give the best results by the fresh manure, and light soil, well rotted manure. The soil con THE World's Work states that tains a certain amount of potash, phos

personally like the president but hay, grain, etc., and neglected to save the manure his soil will sooner or later "He attacked the tarriff and yet the be restored and nothing is better than large crops. tarriff barons got the better of him. He barnyard manure, and one of the most One of the important factors influfavors conservation and yet the enemies efficient means at the disposal of the encing fertility is the amount of plant of that policy have got hope that it will farmer to improve his soil to product-

special interests encounter no opposi- farmers have gone into dairying instead tion. This criticism shades down to an of selling the products of the farm feed unexpressed fear in less positive minds. it to the livestock and in that way re-But such a fear is for the moment wide- tain the fertility of the soil .- GEO. M. LAZELLE, in December Pacific Grange

PRESERVING TIMBER.

To Achieve Best Results the Bark Should De Removed.

remove the bark. Unless this is done it is rarely that the entire stick is pen

etrated by the preservative. The value of the treatment consists largely in the The result of a canvas for the creating of an exterior antiseptic zone of the treatment is to a large extent



taining the Arc Desired. The accompanying sketch illustrates a practical method of clamping ice skates to hold them for grinding the small are of a circle so much desired.

says Popular Mechanics. The clamps are made of three-quarchilly Christmas-not even the ter inch soft steel, U shaped, with the





OT all lands need tile drainage, but there are none on which the problem of maintenant but there are none on which fertility is not an important one. Fertility of the land in its broadbecome unproductive and will have to est sense means its ability to produce

food in the soil. Ten elements, carbon, hydrogen, oxygen, calcium, magnesium, iron, sulphur, nitrogen, potassium and phosphorus, are necessary to the growth of plants. From 90 to 95 per cent of the dry matter of plants is made up of carbon, oxygen and hydrogen, which are obtained from air and water Of the others only three, nitrogen, phosphorus and potassium, are used in such large quantities that the supply in the soil is likely to become exhausted. These three are usually spoken of as the essential plant foods.

Amount of Plant Food In Soils.

These plant foods are present in varying amounts in all soils. In many cases it is necessary to increase the supply by the use of commercial fertilizers. The real need of most soils, to have been realized that this bark use of those already there. It is estipotassium to last 600 years at the same rate. Much of this phosphorus and potassium is combined with other materials in such a form that it is unavailable for the use of the plants. One of the principal problems of the farmer, then, is to make this stored fertility available. One of the most effective means of

doing this is by keeping the soil plentifully supplied with humus. Humus is the name given to decaying organic matter in the soil. It is the humus that gives the dark, rich color to solls. It leaves that "brown streak in the furrow" that farmers have long regarded as an indication of fertility. Humus gives the soil a spongy texture and greatly increases its water holding capacity. It also makes the soll lighter and warmer Solls which contain large amounts of humus do not bake or become cloddy easily They are mellow and respond readily to cultivation Humus contains considerable nitrogen and furnishes a home for bacteria. which aid in making plant food available. Certain acids are also formed in the decaying of humus that aid in making the phosphorus and potassium available. It might almost be said that the chief problem of maintaining fertility is the problem of keeping the soil supplied with humus.

Maintaining the Humus Supply. Probably the best way of maintain-

ng this humus supply is by the liberal

the three essential elements. Threefourths of the air is made up of nitrogen. Clover and other leguminous crops are able to get nitrogen from this source by means of bacteria which live on their roots. These bacteria change the nitrogen of the air into nitrates, a form in which it can be used

by the plants. Fully one-third of the nitrogen collected by the clover plant is left in the soil in the roots and stubble. One crop of clover in a four year rotation will furnish nearly enough ultrogen for the remaining three crops in the rotation.

This is a much cheaper form of obtaining nitrogen than by purchasing it In commercial fertilizers at 10 to 15 cents a pound. It is much more profit able to keep the ultrogen supply fairly constant by the continued use of a rotation with legumes than to add a large amount at one time. Nitrogen in the form of nitrates is readily soluble. and every rain washes some of it out of the soll. This is not true of the other essential elements to any marked extent. Too liberal a supply of nitrogen at one time tends also to promote too rapid leaf growth at the expense of fruit or grain.

The stubble and roots of the clover, together with the cornstalks and other rubbish, will do a great deal to keep up the humus supply. In addition to



this, if no manure at all is available. some humus may have to be supplied from some other source. This is especially true if the soil is naturally poor in humus. One of the simplest ways to supply this is by green manuring This means the turning under of a green crop, such as clover, cowpeas or some other legume. This supplies both humus and nitrogen. The best time to plow under such a crop is in the fall, to that it will have this to decay be fore spring A large mass of undecayed material plowed under in the spring checks the upward movement of moisture and is liable to make the land sour.

Another method of adding to the humus supply is by mowing a crop of clover about haying time and letting it lle on the ground. The second crop can be cut in the same way or used for fall feed or for seed.

"Clover Sick" Soil.

After clover has been grown for a considerable length of time, especially if much has been plowed under for green manure, the land is liable to be come "clover sick." This is caused by an excess of acid in the soil. This acid can be neutralized by the application of ground limestone. Caustic or quicklime is not so good as limestone. since it burns up large quantities of humus and in general is too violent in its action. Lime has another advantage on clay solls in that it causes the particles to adhere together in larger masses, thus making the soll more porous. The usual rate of application is from twenty to forty bushels to the s acre. With the application of lime, as in well as with the adoption of any other st new method, it is best to try it on a es small scale first. Then if it proves profitable its use can be extended.

DAIRYING IN CHINA.

The Water Buffalo Leads the Cow as a Milk Producer.

Raises the dough and complies with all pure food laws.

The buffalo is China's best dairy animal. The Chinese cow is bred as worker rather than for milk and be youd feeding her calf has almost los her claim to being a duiry animal. A cow in China is seldom milked with out the help of the calf. In Fuchau, a city the size of St. Louis, the few who would have pure cow's milk are supplied by a walking dairy.

The milkman leads his cow to the front door of the customer's house and in the customer's presence there milks the required measure. The ordinary customer takes no more than about a third of a pint. After one is supplied the cowman leads his cow and calf to the next customer and thus supplie his customers until his dairy's limited supply is exhausted. There are probably no more than half a dozen such dairles in Fuchau.

The water buffalo is used primarily for farm purposes, but it is milked to a limited extent and is China's best milk producing animal, with a milk fairly rich in fats. The Amoy foreign communities' demand for fresh milk is only partly supplied by several native so called dairies, each of which has two or three cows and several water buffaloes. The black goat probably furnishes the largest amount of fresh milk for the Chinese. White goats are scarcer in China than black sheep in America.-Chicago Tribune.

On Beauty's Crown.

In bitseful seasons now gone by, Of modest size and dat. Ghe samely perched upon her head A hat.

By imperceptible degrees It flourinied and grew fat. But still we quaked not when we saw A h a t.

Last summer great it grew in girth. Squeezed those by whom she sat. Squeezed those by whom she sat. With fear and dread we saw her sport

This fail still huger things she wears Which men are moved to drat. She dons-we cannot show it all--New York Bun.

Read the Want Ads. on page 8.





The Government pays Railway Mail Clerks \$800 to \$1,200, and othe employes up to \$2,500 annually. other .

Uncle Sam will hold spring examinations throughout the country for Railway Mail Clerks, Custom House Clerks, Stenographers, Bookkeepers, Departmental Clerks and other Gor ernmental positions. Thousands of appointments will be made. Any man or woman in city or country can get in-



deliver anywhere Straug Lumber Co.

verify your proofs.

The Rural Spirit issued an exceedingly fine holiday edition. This popular weekly is coming to be a general farm paper. The Pacific Homestead also deserves commendation for its special block of wood two inches thick, six edition.

of Fertility.

One of the best indications of a of the barnyard manure and how he the runner true and uniform. makes use of it. It is hard to make many of the Oregon farmers understand the value of the waste material which in a cupola quicker on a cold day is accumulates on the farm and to aban- because the draft from the blower don the old practice of storing the barn- usually comes from the outside, where yard manure under the eves of the the moisture has been frozen out of barn. It should be preserved from un- the air, says Castings. When cold the necessary waste as any other product of air is more dense, and with each revothe farm. The most valuable manure lution of the blower the cupola gets an is the liquid portion and it should be increased number of pounds of oxysaved, but little attention is paid to gen with less than the usual amount this portion.

Straw or dry earth makes a good ab- form working. sorbant for this liquid portion and can be used for moisture for which well rotted manure requires, and prevent firefangs of which it would depreciate in part of finely pulverized gum arabic value. In France a pit made of cement is generally used and in this way everyfarmers are not quite so economical.but resort to the same practice as they do solidifying immediately after mixing, in the old countries.

The opinion of chemists, as well as hours. practical men, is that it is best to apply manure to the soil in the freshest state. But sometimes this is not convenient so a suitable place should be prepared to store it until ready to spread on the fields.

uncertainty as to how to apply fertil- to be increased, because the authorities izer, but it is generally sown broadcast are engaged in putting in a new plant. and cultivated in the soil. It may be It is estimated that at least \$6,000 a applied any time during the fall, winter year might be derived.

HOLLOW GRINDING SEATES.

inches wide and twelve inches long. The skate runner is adjusted to the proper height by one-half inch set and thumb screws. The block of wood Barnyard Compost and Maintenance holding the clamp and skate can be pushed along on the emery wheel table in front of the revolving wheel.

If properly adjusted a slight concave thrifty farmer is the way he takes care or hollow can be made full length of

> Why Metal Melts Quick on a Cold Day. The reason why metal can be melted of moisture, conditions which tend to produce a hotter fire and more uni-

Universal Cement.

Four parts alabaster plaster and one mixed with a cold saturated borax solution into a thick paste make an unthing is saved. But in Oregon the equaled all around cement for stone, glass, bone, horn, porcelain and wood, which becomes hard as marble and as our soil wears out we will have to possesses the agreeable quality of not but only after twenty-four to thirty

Wealth In Old Tin Cans.

Old tin cans which find their way to the domestic rubbish heap have been turned to good account by the Liverpool corporation. Last year from this source the health committee realized Among the farmers there is much \$1,500. In future the revenue is likely

use of barnyard manure. The surplus straw should be used for bedding, so as to save all the liquid portion and add to the bulk of the manure. Shredded fodder is also good for this pur-The manure should be hauled pose.

FIG. III-ACCUMULATION OF MANURE. to the land as fast as formed. When it is allowed to decay in the barnyard much of the nitrogen is lost, and rains falling upon it also wash out other elements. The manure spreader is an implement that should be found in every barnyard. The manure can be loaded direct from the stables to the spreader at almost all seasons of the year and spread in an even layer upon the field. With a spreader the manure can be made to cover twice as much ground, so that the whole farm can be gone over oftener.

While barnyard manure is undoubtedly one of the best means of maintaining fertility, it cannot always be had. Many farmers, because of their location near markets which demand rertain crops, find it more profitable to supply those crops than to raise live stock. Others prefer grain farming because it is less confining. Such farmers must have some method of maintaining fertility which does not depend primarily upon manure.

The Value of Clover.

clover. Clover supplies an abundance pensive. Potassium is usually bought of nitrogen, the most rapidly used of in the form of muriate or sulphate.

The judicious use of clover or some other legume will effectively solve the humus and nitrogen problems. There remains the question of the potassium and phosphorus supply. Clover also alds with these. The humus formed from it helps to dissolve the unavailable materials and prepare them for the use of the plant. As stated before, there is enough potassium in the upper seven inches of the average prairie soil to last 600 years under the most intensive culture and enough phosphorus for fifty years. Clover changes this seven inches into twice as many feet. Clover roots go down ten or a dozen feet or farther. Alfalfa roots go down twenty feet or more. These deep roots bring up minerals from the lower layers of soll and leave them where the shallower rooted grain crops can get them.

Making Fertility Available.

Gypsum, or land plaster, has a considerable effect in making potassium and phosphorus available. Applied at the rate of 500 or 600 pounds per acre. it will often increase crop yields considerably. It also has a beneficial effect on alkall soils. Use one or two bushels to the acre.

Probably the most effective way of making phosphorus, potassium or other plant foods available is by tillage. Frequent and thorough cultivation, keeping the soll fine and mellow, favors the chemical processes by which locked up plant food is made available. It must be remembered, however, that the faster these materials are liberated the sooner will the supply become exhausted. When rotation with legumes, tillage and the application of lime and gypsum no longer produce satisfactory results it is a sign that there is a lack of potassium or phosphorus, or both, in the soil. Phosphorus is more liable to become scanty In amount since the supply is smaller. Bonemeal and ground phosphate rock are the best forms in which to apply this material. The former is quicker The best substitute for manure is in its action, but considerably more ex-

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