# HOW TO BUILD A SAND-CLAY ROAD Proper Drainage Must Be First Consideration. DITCHES ARE GOOD

Before the Combination of Sand and Clay Has Become Thoroughly Dry It Should Be Dragged Every Mornin : mooth Out the Ruts-Care Should Be Taken to Keep Ditches Clean.

When a sand-clay road is built upon a clay subgrade proper drainage is one of the most essential things, for unless the subgrade of the road is dry and firm the surfacing of sand-ciny is sure to break through, says Professor M. G. Homes of the University of South Carolina. Ordinarily side ditches, which must be large enough to carry off all of the water falling on the road, will be sufficient.

These side ditches should be wide and shallow rather thin parrow and deep, as thus they will not be hard to keep open nor dangerous to travel. uid be from four to five feet They sh wide and from one to one and a buil feet deep, sloping three to one on the side next to the road and down to one on the outer side, and they should have outlets as frequently as possible to carry the water entirely away from the road. When the subgrade is wet or damp most of the time or is through swampy land the subdrains should be laid in order to keep the foundation of the road dry and firm. It must be borne in mind that greater care soust be exercised to keep the cisy subgrade dry and in the majority of cases of a subgrade in sandy soll.

The roadbed should be graded true to the lines and grades established by the engineer. All spongy material. vegetable matter, trees, roots and stimps should be carefully removed from the roudled and the space thus filled in with sound material, and the surface of the roadhed should be dry and the and and cisy should be plowed and harrowed with a disk narrow to a depth of four luches until the clay is completely paiverized, and the clay subgrade should be comparatively dry or it will not pulverize After this has been done the roadbed should be leveled up, and it will then be ready for the sand.

The subgrade is now covered with six to eight inches of clean, sharp and sound sand. When the ciny already



EGAD WITH DRAINAGE STOTEM.

contains much and the amount of made up of either a 2 per cent solution sand stated above should be cut down of copper sulphate or a 15 per cent

BE WISE; STICK TO FARM. It Stands For Everything Attractive, Wholesome and Profitable. For the reatless boy or girl who

wants to go away from the farm and get out into the big world to do some thing, no better bit of carnest reading Rooms 14 and 15 Adamson Building the New York Independent.

"The new farm children." it says. T. E. J. DUFFY began to take hold of the land at least fifty years ago, but there was an off-clearing necessary. The transition period was protracted, mainly because the land was already in possession at a race of farmers that must die off

"The agricultural college applied the Dr. J. Tregelles Fox sciences to tilinge and to crops and to innel life on the farm (wenty-five years ago. It was slow work, not only to awaken the farmer, but to in vestigate, discover, and then to apply. The age is now rapidly failing into the of men who are alive to th great fact that production has never yet approached its maximum. The orchard has all this walls, thouks to moths and caterpillars, become more and more an entomological laboratory. Gradually it has came about that to a thing can be grown on the hand Princeville, without a fight. This has not by any means been a permanent loss, but has wakened a spirit of scientific examination and determination to master con ditions . The microscope and the cru-cible are as necessary today as the plow and the hoe. The farm boy is not without stimulus, not is he withinteresting conditions; rother li will now take the brighter boys to do

the farming. "The development of farm machin ery and the application of new forces on the land have gone on at the same In every department of the time. home. In the house as well as in the barn, machinery takes the pince of men, and the help problem is now driving us to a still more complete age W. A. BELL

of mechanism. "There is no lot on earth so enviable today as that of an American farm boy or girl. They have room, fresh air, beautiful surroundings, while the arts and sciences are involved in their work, and isolation is absolutely about Ished

"Nothing can be gained any longer by quitting the farm. It stands for everything that is attractive, wholesome and profitable; but at the same time it stands for the new and the stimulating. Country life cannot be made dull, unless it wilfully severs Princoille, itself from advantages that are freely offered.

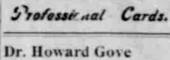
### WILD MUSTARD GREAT PEST.

Not Useful Like Its Estable Cousins.

but an Indefatigable Menace. About as troublesome a weed as the former the world over has to deal with is the chariock or wild mustard. It is prolific in the extreme and, unlike its black and white cousins, is not only worthless, but harmful. About the mly way to control it is to use a spray



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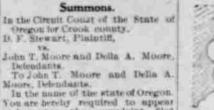
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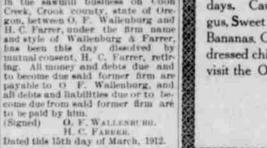
Dr. John Huback, Hamilton Stables Lawyer Notice for Publication. The Dalles Oregon Notice for Publication. benaring of the Interior, U. S. Land Office at The Dales, Oregoin, Foldmary 2016, 1912. Notice is hereby given that Walter Rithoft, Pauline, Keegon, which, on Marcel 21th, 1906, nuls housestead. No. 06056, for the nuls and in et., section 26, township Washer, range rant, Wilaamstic Meridian, has field and/or interthon to make Bial governutation roof, to establish stain for the initi alaxyse marthed, before Warren Houses, county letk, at his office, at Princeville, Oragoni, on leth day of April, 2112. Tathari names as withouser Joseph L. Steir, of Paulina, Oragon, 21, Tarior, and being Env, Oragin, Marton T. Tarior, and being Env, Oragon, Marton T. Tarior, and being Env, Oragon, Marton T. Tarior, and being Env, Oragon, 20, W. MOORE, Register. Chas. S. Edwards H. P. Bolknap OCCULISTS. Belknap & Edwards Physicians and Surgeons. (County Physician.) Oregen M. R. Gillott, Notice to Creditors. Notice is hereby given, by the undersigned, be execution of the state of lemme 5. McMerry forward, to all errofilters of said demand as of persons having dialine against said entails to develot them with the concert workard is the indensigned at the office of M. E. Elloot is "inter of the first publication of their metrice. Texted this 2nd day of perh, 1922. Texted this 2nd day of perh, 1922. Exact McMerry. Exect McMerry. Attorney-at- Law Prix ville, Oregen. Fred A. Rice, C. E. J. B. Neville, Jr., E. M :Count Rice & Neville I.O.O.F. Baturday sight Civil Engineers. Strangers welcome, G. P. Reams, N. G.; L. Sbattock, V. G.; Burt Barnes, Sec.; a General Engineering. PRINEVILLE, CORRIGON, C. R. Dinwiddle, Treas. M. C. Brink Lawyor The Brosius Bar A street, Prinoville, Oregon. Dr. Charles MacFadden Osteopathic Physician Finest Brands of Wines, Hygenic Distelle and Natoral Therapeutics Employed. Chronic Discusses a Specialty



Minore, Delendants, In the name of the state of Oregon. You are hereby required to appear and answer the complaint filed against you in the above enthied will on or before the inst day of the time prescribed in the order for the codduction of this source one to will time presidenced in the order for the publication of this summons, to will on or before the 2nd day of May, felz, and if you fail so to appear and answer, for want thereof, the plaintif will apply to the court for the relief demanded in his complaint, to with for judgment against you for \$425, with interest thereon at the rate of isn per cent per annum from May lith, 1908, for \$68,00 attorney's tess and for the coarts and dishum-ments of this suit. For a decree for the scale of the lands described in that certain mortgage executed by row and in two of plaintiff, dated May 14 1908, and for the foreloaure of sold mortgage.

of sold mortgage. This summons is published by order of the Honorable W. L. Bradshaw, Judge of the above entitled court, which order was made and entered on the lith day of March, 1912, and the day of the first publiration of this summons is the 21st day of March, 1912. M. R. ELLIOTT, Attorney for Plaintiff.

Nutice of Dissolution of Partnership Notice is hereby given to all per-sons concerned that the copartner-ship formerly existing and engaged



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The and should be spread evenly and be of a uniform thickness. To get the best results the road bed should be dry when the sand is added, and especially should it be dry when the sand and ciny are mixed. as it is very difficult to mix the sand evenly with the clay when the latter is wet and atteky.

The mixing is now carried on with a spike or spring tooth harrow until the sand and clay are thoroughly in corporated and the mixture is brought to a state of fine subdivision. The roadway is now shaped up with road A split log drag may be muchine. used. From now until the surface becomes thoroughly consolidated the greatest care should be exercised to keep the surface smooth and proper ly crowned, and for at least a week the surface of the roadway should be reshaped every morning with the road machine, for if the roadway is worn into ruts at first it is a hord matter to ever get a smooth surface.

As soon on it has dried out sufficient ly the surface should be smoothed with the road machine and given the proper crown. And just before it be comes entirely dry it should be rolled until it becomes hard and censes to show the tracks of ordinary loaded veticies. The roller should weigh from six to ten tons, never more, and may be either horse power or a steam rolier.

The side ditches should be given a general cleaning and repaired at least once in the early spring and once in the early fall. All truth and other obstructions should be thrown out on the sides opposite from the roadway and all scoured places and holes in the dirches should be filled up with firmly packed rock and clay.

Salt Water For Dust Problem. Sait water taken from the mendow streams will be used by the officials of Atlantic City to rid the county roads of the dust nulsaties. The efficacy of salt water was discovered after they had expended thousands of dollars in experiments with oily concoctions.

solution of iron sulphate. The quantity needed is from fifteen to twenty gallons to the acre, and American grain growers go after it with a sort of watering cart

It is particularly obnoxious in wheat fields, not only choking growth, but making the harvesting of the crop : matter of great difficulty.

Creek an Ideal Farm Hand. A wideawake farmer noticed that his creek, if dammed at a certain place. would produce a six foot waterfall He built a dam and put in a water wheel-a \$300 turbine that yielded twenty-five horsepower. Over the water wheel he built a powerhouse in which he placed a dynamo for the water wheel to run. The electricity was wired 1.700 feet to the farm buildings

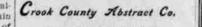
Then he put his electricity to work in every possible place about the prem-ises. He heated and lighted the house did the cooking and the washing and ironing, did the sweeping and dusting, beat eggs-and at three different speeds too-turned the ice cream freez er und in summer ventilated the house with fans.

Now with a vacuum milking me chine he milks twenty cows, two at a time; drives the cream separator churns, pumps water into every room in the house and into the stall of each horse and cow, drives lathes and drills in a workshop, drives a circular saw to cut cordwood and drives an enslinge cutter. It pays to be up to date.

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that age on make a profit over and above his feed and expense bill in the value of his labor and at the same time be growing more valuable until four or five years old, at which age he will command the top of the market in his age class.

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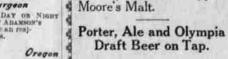
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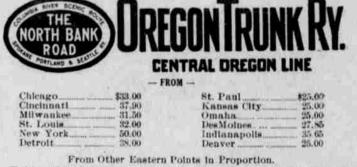


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