

U. S. Department Of Agriculture Gives Advice On Working Of Sand-Clay Roads.

Washington, D. C.

There are at present about 35,000 miles of sand clay roads in the United States, mainly in the Southern States, according to the Office of Public Roads, U. S. Department of Agriculture. The time to work the roads is in the spring when the soil is damp. If the working of the roads is deferred until late in summer when they are dry, they are not only much more difficult to put in proper shape but the cost of repair is greater than if they were worked early in the spring.

Previous to 1894 comparatively little, if any, of these roads existed. The popularity of this type of road is due to the facts that it is cheap, comparatively firm and durable, easy to construct and repair, and that the materials out of which it is built are plentiful in many sections of the country.

The sand-clay road is made by mixing the sand and clay in such a way that the grains of sand touch each other, the spaces between the grains being filled with clay which acts as a binder.

The approximate mixture of sand and clay may be determined by filling a vessel with a sample of the sand to be used, and another vessel of the same size with water. The water is poured carefully into the sand until it reaches the point of overflowing. The volume of water removed from the second vessel represents approximately the proportion of clay needed.

The proper proportion of sand and clay can best be determined, however, as the work progresses, as some clay will contain

more sand than others. In fact, clays are very frequently found which already contain about the right proportion of sand.

If the road to be treated is sandy, the surface is first leveled off and crowned with a road machine, the crown being about 1/4 inch to the foot from the center to the sides. The clay is then dumped on the surface and carefully spread, so that it will be from 6 to 8 inches in depth at the center, and gradually decreasing in depth towards the sides. A layer of clean sand is then usually added, which is thoroughly mixed with the clay, either by traffic or by means of plows and disk or tooth harrows.

The best results have been obtained by thoroughly mixing or puddling the materials when wet. For this reason, it is desirable that the mixing be done in wet weather. The mixing can be left to the traffic after the materials have been properly placed, but this involves a whole winter and spring of bad road, and even the mixing is not always satisfactory. In all cases, it is advisable to dress the road with a road machine or split-log drag after the materials have been thoroughly mixed, and to give it a crown of not more than 1 inch or less than 3/4 inch to the foot from the center to the sides. A light coating of sand may then be added. The use of the road machine or drag should be continued at frequent intervals until the surface is smooth and firm.

If the road to be treated is composed of clay, it should first be brought to a rough grade with a road machine. The surface should then be plowed and thoroughly pulverized by harrowing to a depth of about 4 inches after which it is given a crown or slope of about 1-2 in to the foot from the center to the sides. It is then covered with

6 to 8 inches of clean, sharp sand, which is spread thicker in the center than at the sides. The materials should then be mixed with plows and harrows while they are comparatively dry, after which they are finally puddled with a harrow during wet weather. If clay works to the surface and the road becomes sticky, more sand should be added.

The road is then shaped, crowned, and ditched in the usual manner with a road machine. This should be done when the surface is soft, yet stiff enough to pack well under the roller or the traffic. Wide but shallow ditches should be provided on both sides of the road, and culverts or crossdrains should be placed wherever water flows across the road, for it is exceedingly important that the "sand on clay" roads be well drained.

After the clay on sand, or the sand on clay, road is completed, it should be carefully maintained until the surface becomes firm and smooth. The construction of this type of road is by no means a quick operation. If soft, sticky places appear, more sand should be added, and if loose, sandy places are found, more clay is needed. It is just as important to attend to these small details as to any other part of the work, for, if they are neglected, the road is liable to fail.

It requires approximately 1 cubic yard of clay to surface 1 1/2 running yards of road 12 feet in width, or about 1175 cubic yards to the mile. From 3/4 to 1 cubic yard will make a load for two horses on a dry clay road. The cost of the road will therefore depend largely upon the distance the material is hauled, the average being from \$500 to \$1,000 per mile. A road built under the direction of the

Office of Public Roads at Gainesville, Florida, one mile long, 14 feet wide, and having 9 inches of sand-clay surface, cost \$881 per mile, or ten cents per square yard. Another sand-clay road built by the Office at Tallahassee, Florida, 16 feet wide, 7 inches thick, cost \$470 per mile, or about five cents per square yard.

Messrs. John and Wesley Mabe and Walter Lackey, were Danbury visitors today.

Contractor Hollis and subcontractor Swinney, who are building the new Danbury-Meadows road, spent a short while here today.

Mr. Wiley Baker, of German-ton Route 1, was a Danbury visitor today.

Big lot of shoes at half price. Boyles Mercantile Co.

Deafness Cannot Be Cured
by local applications, as the 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 is 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, Ohio.
Sold by Druggists, 75c.
Take Hall's Family Pills for constipation.

Help Stop Fires.

The fire waste in this country has become alarming in its proportions. Among the efforts being put forth for a conservation of our resources, no one is more worthy of your assistance than the one to stop or decrease our annual fires. In no direction is the necessity greater or the prospects of success more hopeful.

The annual fire loss in this country is about \$250,000,000, or \$500 each minute. In our own State it is estimated that the loss by fire is \$1,500,000, or over \$4,000 each day. Students of this subject tell us that the bulk of these fires are the result of ignorance, carelessness, or criminality, and that with ordinary care two-thirds should be prevented.

In order to stop this annual loss, that is a disgrace to our Nation and State, it is necessary to educate our people and awaken an interest along this line.

NOTICE!

85 acres of land for sale in Virginia near the railroad, with fine orchard at a bargain, one good sawmill outfit, three head of cattle, one fine milk cow, two wagons, one grab cart, two horses, household and kitchen furniture. See me at once if you want to buy.

W. T. MOREFIELD, Campbell, N. C.

Our reduction sale attracts attention. Boyles Mercantile Co.

LIBERTY-PIEDMONT INSTITUTE

Several Stokes Boys and Girls in School There—Recital Given.

Wallburg, N. C., Jan. 20.—Misses Brooksie and Rilla Morefield and Effie Smith, of Stokes county, have returned to school at Liberty-Piedmont Institute. We have lots of new students since Christmas.

Mr. Roy Fowler, of Stokes county, is among the new students.

A recital was given in the school here Friday night. The program was as follows:

Chorus—"Fleeting Days," by the girls.

Talk on the benefits of the Y. W. C. A., by Rev. Mr. Bray.

Violin solo—"Roses," by Miss Rilla Morefield.

Recitation, by Clara Wall.

Piano solo—"Meditation," by Miss Effie Smith.

Chorus—"Kentucky Babe," by the girls.

Trio Brooksie Morefield, Evelyn Mason and Gladys Wall.

Vocal solo, by Miss Cates.

Messrs. Lonnie Rutledge, Chalmers Neal and Ambrose Chaplin took a flying trip to High Point Saturday.

TWO CHUMS.

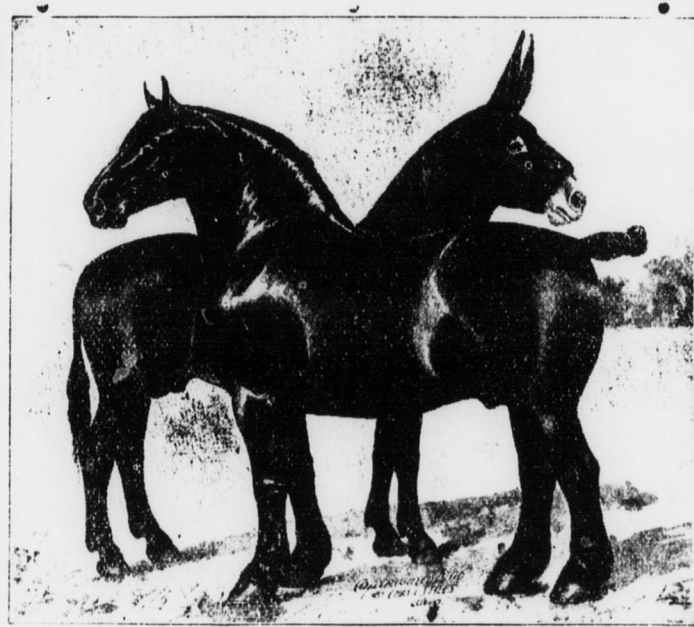
Mr. W. Y. Gordon, of German-ton Route 1, was a Danbury visitor today.

Mr. Walter G. Petree is spent several days in the north-western part of the county on business the past week.

Big values at the reduction sale. Boyles Mercantile Co.

Fine Lot Stock Coming

Will be at Stables of J. Spot Taylor in Danbury and at Walnut Cove



ON THE FIRST MONDAY IN FEBRUARY

We will have another very fine lot of horses and mules both at Danbury and Walnut Cove on the first Monday in February. These stock will be kept at both places.

Don't fail to see us at Danbury or Walnut Cove if you are in need of good stock.

SMOAK & McCREARY AND J. S. TAYLOR