

Standard is nine years old. He was bred by Sir N. W. Throckmorton, of Farningdon, Eng. Representatives of the flock of Sir Throckmorton, H. R. H. The Prince of Wales and Mr. Edwin Ellis won all the first prizes at the Bath and West of England Society's Shows in 1887.

He is the property of Col. C. P. Mills, secretary of the Illinois State Board of Agriculture, Springfield, Ill. Since 1879 Standard has made a record as a prize winner not excelled if equaled in the United States. In 1879 he won first prize at Fort Wayne, and at St. Louis, Mo., and first and sweepstakes at the Illinois State Fair.

As a two-year-old, in 1880, he took first at Jacksonville, Ill.; second at LaFayette, Ind.; second at Lawrence, Kan.; first and sweepstakes, and first as ram with three lambs; and first at St. Louis, Mo., and at Jerseyville, Ill. In 1881 he won first at Jacksonville, Ill., and at Minneapolis as ram and ten ewes; second at Chicago in 1881, second and first as ram with five lambs at Illinois State Fair, and second at St. Louis. In 1882 first as ram with nine ewes at Jacksonville, Ill. second at LaFayette, Ind., as ram with four ewes. At Crawfordville, Ind., second; Wenona, Ill., first; and at Illinois State Fair, second, and first as ram with five of his get, and at St. Louis, Mo., second.

The Downs are more than holding their own against all varieties upon their native heath, and still retain the reputation among old flock masters as the sheep able to live where other breeds will starve, and in America they stand high among consumers who appreciate choice wool, and plump neat, and handy carcasses. (1)

The Short-Horn bull Mario 51713, whose portrait appeared last month, has taken many honors in Scotland, and this year gained first prizes at the Norfolk and Essex county shows, and the first and champion prize as best bull at the Royal Show at Nottingham. Mario is described in the London Live-Stock Journal (from which the picture is re-engraved for us) as a roan, - got by Field Marshal 47870 out of Mina 3d by Border Chief 37874, bred by Mr. Duthie, Collynie, Tarves, shown by A. M. Gordon, Newton, Aberdeenshire, and afterwards sold to C. W. Brierley, Rosedale, Tenbury.

Twenty years' experience with ashes and bone.

T. H. HOSKINS, M. D.

Character of the land; enriching the first crops; heavy manuring; experiments with fertilizers; present condition of the farm.

The Rural asks my experience with ashes as affecting the mechanical condition of the soil, quoting Prof. Storer's remarks that the effect of some potash manures is to make a sandy soil more compact. My soil would rank as "light," yet it is not what could be described as sandy. The farm is part of a plain upon the east shore of the Lake Memphremagog, spreading out a mile or more from the hills, and from 40 to 60 feet above the water. As the old beaches along the hillsides show, it was once a hundred feet or more under water. It is in fact an alluvial plain, and boring strikes on rock. We find water only in a quicksand, which is reached at about the lake. It is precisely such land as the city of Louisville, Ky., stands on, which is a plain extending several miles back to hills, in the same way, and which was also once under water, before the limestone reef which makes the Falls of the Ohio, was worn down enough to drain it. There is a considerable variety in such a deposit, some spots being quite sandy others gravelly, and there being occasionally a streak of sandy clay, or a little "hardpan," i. e., gravel cemented by

oxid of iron. Generally it is fine garden land, but mine, which originally bore a heavy growth of Sugar Maple, had been "potatoed to death" in the 20 years it had been cultivated, so that it was considered entirely worn out. But I had seen just such old fields, in the rear of Louisville, brought up by German gardeners in a few years to high productiveness. This was done by stable manure from the city. I could not get much manure, but I could get ashes, and the first thing I did was to turn over the "bound-out" sod, sow on the furrows 60 bushels of ashes to the acre, and with an ammoniated superphosphate in the hill plant nearly all of it to corn. The crop was remarkably good, and a small piece of potatoes bore also a good crop. I kept a couple of cows and a horse, and bought what manure I could pick up in a little village of 300 people. I bought ground raw bone liberally, and composted it with ashes, wetting the mixture, and letting it stand some time before using. I may say that I never had a poor crop of anything, and the fifth year I had an acre of Breze's Prolific Potatoes that gave me 460 bushels. On the same piece, where I had dug off an early crop of Early Rose, I got nearly, at the rate of 1,000 bushels of flat English turnips per acre. I have kept on this way, growing anything I could find a market for—nursery stock, strawberries and other small fruits, seeds, etc., etc., gradually working most of the place into an apple orchard. There is no question but that the soil has grown more compact with this treatment, approaching more nearly to clay in its nature, so that now, though not at first, attention must be paid to its condition as regards moisture before plowing, otherwise it will be somewhat lumpy. In the 20 years I have put on not less (upon 12 acres) than 3,000 bushels of ashes, 40 tons of bone, in various forms, and all the manure I could make or buy, which perhaps would amount to an average of 20 cords a year. I have also used about half a ton yearly of a good commercial fertilizer, at first in the hill, but later broadcasted on such crops as I want to push early. I have also experimented moderately with sulphate of ammonia and S. C. "floats," but never with potash salts, except so far as they may have been a constituent of purchased fertilizers. The present condition of my soil is very good, being capable of growing good cabbages anywhere, and all of it except where the fruit trees have obtained full possession, is run as market garden, the neighboring villages having grown to have largely a manufacturing population. I am satisfied that this kind of farming can be carried on successfully without dung, yet better with it.

LIQUID MANURE.

"It has been suggested that as liquid manure is weak in phosphoric acid, the addition of "floats" or other phosphatic material would greatly help it. The addition of "floats" or bone meal to sawdust or some other good absorbent for use in the gutters is suggested. What is needed to fix the ammonia formed by fermenting manure, is either some strongly absorbent substance like vegetable mould (or humus) or some acid substance or salt capable of combining with the ammonia. The "floats" are neither absorbent nor acid, and while they would even up the deficiency as regards phosphorics, they would have little retentive power. If you could get your floats into form of acid phosphate by cheap sulphuric acid, the material would do just what you want. Sulphuric acid (chamber acid) does not cost to the manufacturer more than \$5 a ton, and could be sold with profit for \$7.50 a ton. If you could induce some manufacturer to make a simple acid phosphate and sell it for a low price, it would meet your case. Why not use sulphate of iron to fix your ammonia, and then add your floats to bring up the phosphates? The copras would cost not more than \$20 a ton, and a few pounds

(1) Crowded out last month.