

## THE IMPROVEMENT OF MERINO SHEEP.

The time is approaching when the wool-grower's mind turns naturally toward the increase of his flock. The improved wool prices have brought new life to the industry, and this should furnish ground for adopting measures of improvement.

We have it in mind to emphasize this point by showing, both by illustration and text, the gratifying results which have been attained by careful and persevering effort toward producing a higher type of a wool-yielding animal. The lesson which we would enforce could be well learned by anyone who would take the pains to compare the ordinary grade Merinos of the State with the thoroughbred Merinos on our leading sheep-breeding farms, and we hope all who are interested in the subject will apply this test for themselves. But for accurate data of the steps in the development of the wool qualities in the Merino, we can best go to the National sheepfold, of Rambouillet, where for nearly 100 years systematic effort for improvement of sheep has been put forth under the supervision of the French government. The enterprise at Rambouillet was begun in 1786, and the stock was procured from ten of the best Spanish flocks, selected under the authority of the King of Spain. The style of ram which was then secured in Spain is shown in the engraving, Fig. 1. The engraving, as also its companion, Fig. 2, was made from drawings executed by the order of the French government to enable the managers of the sheepfold to have constantly in mind the forms and characteristics gained in the successive steps of their breeding. We reproduce them from the Report of the U. S. Department of Agriculture. Fig. 2 shows the style of ram attained in 1873, and as one views the two engravings in contrast, it is clear that a most wonderful development of wool-yielding surface has been secured. Not only has the form been well expanded, and the length of wool increased, but the nearly bare belly, legs and face of the old sheep has been turned into productive territory in its remote offspring. These are the chief traits in the improvement of the Merino, whether gained by the French or by the breeders in our own country, and added to them is the not less valuable triumph in the securing of a quality of wool far superior to ancient styles. Much better wool and much more of it: more pounds to the sheep and more money to the pound—these are the practical results of Merino improvement.

The latest information concerning the achievements in sheep breeding at Rambouillet is published in the *Bulletin of the National Association of Wool Manufacturers*, Boston, 1880. It was secured by W. J. Markham, President of the New York State Wool Growers' Association, who has just returned from a tour around the world and a visit to the famous flocks abroad. Mr. Markham obtained from the Director of the National French Sheepfold an accurate statement drawn from the well-preserved records of the establishment. From this we shall draw points by which to measure the improvement which may be seen at a glance in the engravings upon this page.

The weight of the rams in 1787, being of the style shown in Fig. 1, was 50 to 55 kilograms\*, with the wool on. The weight of the ewes at that time was 30 to 40 kilograms. In 1878, the weight of the rams was 72 kilograms; that of the ewes, 52 kilograms. Reducing to pounds avoirdupois, it is seen that the rams had gained nearly 50 pounds, and the ewes about 35 pounds in weight.

The fleece of the rams in 1787 weighed about four kilograms; the ewes three and one-half kilograms. In 1878, the rams' fleeces averaged seven and one-half kilograms; the ewes five kilograms. Reducing again to pounds we find that the ram fleeces had gained seven pounds and the ewes more than three pounds.

Concerning the length and waviness of the wool there is also data for comparison. In 1787, the wool of the rams was 53.9 milli-

meter† in length; in 1878 it was 66.23 millimeters. Reducing to inches, we find the rams' wool was 2.3 inches long in 1787 and 2.7 inches in 1878. Account was also taken of the undulations or waves in the fiber. In 1787, there were 15.35 undulations to the centimeter; in 1878, 15.73 in the same length.

TO TEST MILK FOR WATER.—A German

HEATING CITIES BY STEAM.—The *Boston Journal of Commerce* is in favor of steam heating, and for these among many other reasons: "The cost of it, as compared with the present so-called system, is insignificant, being anywhere from one-twelfth to one-quarter. For power, it has been proved that it can furnish it from 25% to 50%—anything up to 20 or 30-horse—for what a man can keep his own engineer and



FIG. 1. RAMBOUILLET RAM OF 1787.

chemist furnishes a very simple procedure for testing the amount of water in milk, which can be applied by anyone. All that is required is a small quantity of gypsum (plaster of Paris), say one ounce. This is mixed with the milk to a stiff paste, and then allowed to stand. With a milk of 1.030 specific gravity, and a temperature of 60° Fahr., it will harden in 10 hours; if 25%

furnish his own fuel for, and the steam is always ready, night or day. The gas companies, horse railroads, and the property owners—some of them—are always found to be ready to fight any innovation on their 'rights'; yet we presume the people of Boston, as well as of many other cities, will sooner or later come to this common-sense way of doing business. Baltimore is already

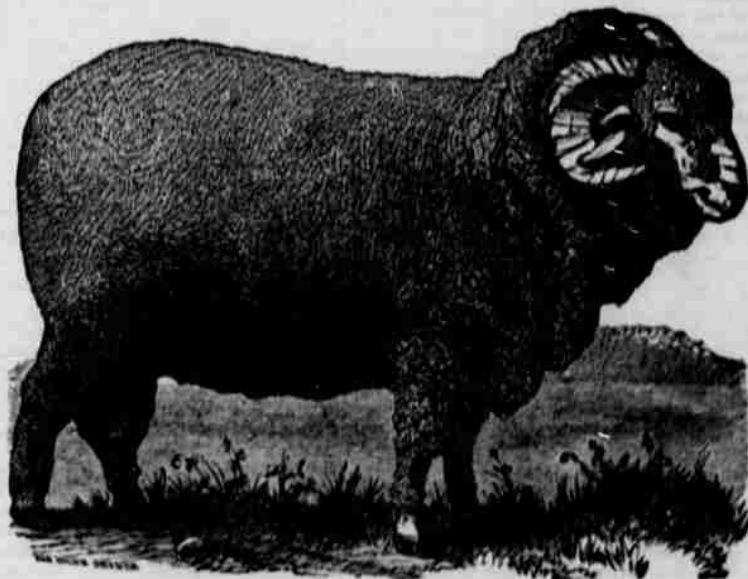


FIG. 2. RAMBOUILLET RAM OF 1873.

of water is present already, in two hours; if 50%, in one and a half hours; and with 75%, in 30 minutes. Skimmed milk which has been standing for 24 hours, and is of 1.033 specific gravity, sets in four hours; with 50% of water, in one hour; and with 75%, in 30 minutes. Heat should not be applied, as then the use of the thermometer would be required. This test is certainly very simple and not costly.

putting in these works, and estimates and specifications are made for two other cities which we are aware of, and we hope sooner or later to see the conservative men of Boston take the matter up and make a business of it."

THE new breed of whales reported to have made their appearance in the Arctic seas are larger and tamer than the old whales.

\* A kilogram is two and one-fifth pounds avoirdupois.  
† One millimeter is .0393 inch.