

MORE SHEEP NEEDED

Industry Not as Attractive Here as in Australia.

Department of Agriculture Just Completed an Investigation, Results of Which Are Published in Recent Bulletin.

Prepared by the United States Department of Agriculture.

More and larger flocks of sheep are necessary to the full development of profitable agriculture in the middle and eastern states. Under present conditions sheep raising in this country has not proved as attractive as in Australia and New Zealand, and in consequence the department of agriculture has recently conducted an investigation, the results of which have just been published in Bulletin 313, into the basic principles of the industry in those countries.

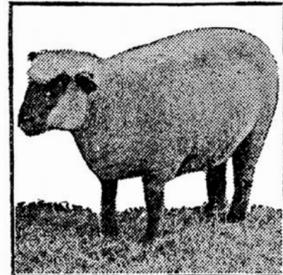
In New Zealand, says this bulletin, sheep raising is conducted on lines midway between those followed in our farming states and those in the range states. In Australia the sheep industry is, in the main, what would be called in America a "range proposition." With a total land area of a little more than the state of Wyoming, New Zealand has about 24,500,000 sheep as against 4,500,000 in Wyoming. The average size of the New Zealand flock is now 1,124 and seven-eighths of the sheep are in flocks of more than 500 head each. In Wyoming the average size of the flock is nearly 3,000 head. From one to eight



Prize-Winning Leicesters.

sheep per acre are maintained in New Zealand on land which has been plowed and sown to artificial grasses. If the land has been surface sown without plowing, this number is reduced to from one-half to two sheep per acre. Land valued as high as \$150 an acre has been profitably kept in grass for grazing alone, and nearly one-half of the occupied area is used mainly for sheep. The important place thus occupied by sheep in New Zealand is declared to be evidence of the possibilities of profit from valuable land devoted to well-managed flocks. The size of these flocks insures for them an interest and care which is not so frequent in the farming states in America.

In Australia conditions more nearly resemble those in the American range states. Much of the Australian land now used for sheep growing is destined to be devoted to farming, and the government is taking an active part in assisting this development. In the meantime, land is plentiful and the flocks have much space in which to run. There is, however, one fundamental and important difference between the management of the range in Australia and in the United States. No Australian sheep owner is permitted to use the public domain without charge. On the other hand, he is in no danger of having his land grazed by other persons' flocks. Un-



Hampshire Down Shearling Ewe.

der the leasing system employed in Australia, the sheep owner secures for long periods of time, at prices varying with its value, absolute control of the land he uses. When the government is ready to resume the land in order to divide it into smaller allotments, the sheep owner is recompensed for whatever improvements he may have made, and is, in addition, permitted to retain his own central homestead. In the opinion of the Australians the additional security and the permanence of the business more than compensate for the rent paid to the state. In America, stockmen themselves are inclined toward this point of view, as some means of controlling and improving the public grazing lands is believed to be urgently needed.

In another important respect, sheep raising in Australia differs from that on the American range. In Australia the flocks are not kept collected and

under the care of herders, but are fenced into "paddocks" which vary from 5,000 to 10,000 acres in size. Here they are left to run at will under practically natural conditions. In many cases they are only rounded up once a year for shearing. Even at lambing time there is little necessity for attention. This plan not only lessens labor—a difficult problem in all parts of Australia—but puts the sheep into better condition than when they are in charge of even the best herders. On the other hand, the fencing of the sheep runs is, of course, an added expense, but this is considered as less important than the advantages already named.

The greatest difference of all, however, between the American and Australian sheep industries is probably to be found in the handling of the wool after it has been shorn. In Australia and New Zealand the wool almost invariably remains the property of the grower until it is sold to the manufacturer. Under this system the cost of actually shearing the sheep is only about one-half of the amount which the grower expends in preparing his wool for market. He himself divides the clip into various lots, and the grading is done with uniformity and exactness. Overclassing, however, is avoided. In one Queensland shed 10,000 two-year-old wethers were shorn and the clip divided into 11 classes. In a New South Wales flock of 7,000 head composed of ewes, yearling ewes and rams, 28 classes were made, but this is probably an instance of overclassing.

Despite the expense that this practice involves, the Australian is firmly convinced that he realizes more for his wool by selling it in such a number of distinct lots that the manufacturer can find exactly the kind of wool he needs for a particular fabric and can buy that wool alone. An additional advantage is the opportunity that this system allows of enabling the grower to determine the profit that he makes from each particular type of sheep and wool.

YOUNG STEERS FOR FEEDING

Two-Year-Olds Make Best Feeders for Average Farmer—Neighbors Ought to Work Together.

It is highly important that the young steers selected for feeding are of the right sort. With the present prices of feedstuffs and labor, economy is necessary to eliminate loss and waste if the feeding operations are to be profitable.

Scrub feeding cattle are rapidly becoming a thing of the past. It is money out of the pocket to put good feed into a "robber" steer. The present demand is for feeds of high quality. A steer with a low, blocky, wide, round body, with short legs and wide back, with a broad muzzle and short head, a large roomy middle, showing ample room for consumption of large quantities of food and with fine thick soft hair has every indication of being a profitable feeder.

Two-year-olds make the best feeders for the average farmer. Such cattle can seldom be beaten when it comes to rapid and economical profits. Three-year-olds, provided they be purchased reasonably, are sometimes used to advantage but as a rule two-year-olds make more rapid gains than do the older ones. In selecting feeding steers it should be kept in mind that a uniform lot of cattle always takes the eye of the buyer and sells at a fancy price. Thus, you see the necessity of feeding steers of like shape, color and breed. To secure this kind of steers purebred beef males should be used. Neighbors in a corn, beef and hog district ought to co-operate and follow similar lines, if best results are to be secured. After selecting the right sort of steers for feeding purposes the next point is, to feed them off as quickly as possible.

TO PURIFY DRINKING WATER

More or Less Danger from Typhoid Fever and Dysentery in Using Water From Ditches.

(By W. G. SOCKETT, Colorado Experiment Station.)

Wherever ditch water is used for drinking purposes its use is always attended with more or less danger from typhoid fever and dysentery. This risk can be considerably reduced by treating the water with hypochlorite of lime or bleaching powder, which can be purchased in one-pound sealed packages from any drug store for about 25 cents per pound. Water in cisterns may be treated as follows:

For 5,000 gallons place one ounce of the bleaching powder (so-called "chloride of lime") in a vessel containing approximately two gallons of water; stir rapidly for about one minute; allow it to stand for five minutes so that the insoluble part of the lime will settle to the bottom; pour the solution into the cistern containing the ditch water, and by means of a long paddle stir vigorously so as to mix the hypochlorite of lime thoroughly with the water. After 30 minutes the water may be used.

Production of Corn.

About one-fifth of the farm land in this country is planted to corn each year and the United States produces twice as much corn as all other countries put together.

Good Milk Strainer.

A good strainer for milk consists of three thicknesses of cheesecloth. Remember, however, that straining moves only the visible and least harmful dirt.

Volcanoes of the Antilles

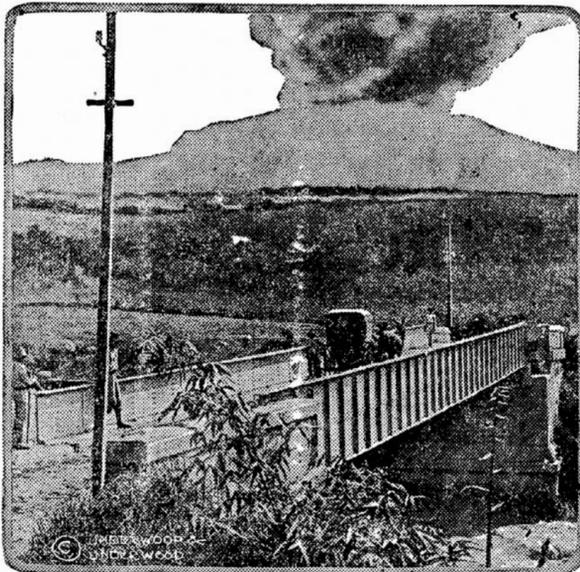
DR EDMUND OTIS HOVEY, curator of the department of geology and invertebrate paleontology of the American Museum of Natural History, has returned from a three months' expedition to the Lesser Antilles. He spent most of his time on the islands of Guadeloupe, Martinique and St. Vincent where he continued the studies of the active volcanoes of the West Indies, which he began in 1902, during the great eruptions of Mt. Pelee, Martinique, and the Soufriere of St. Vincent.

Doctor Hovey spent 16 days on the island of Guadeloupe, three of which were spent on the summit of the Soufriere, where temperature observations on the fumaroles were made and samples of escaping gases collected. These fumaroles have been active, with varying degrees of strength, during all the historic period of the volcano. A marked increase of discharge of sulphurated steam took place at the time of the eruptions of Martinique and St. Vincent, and an area several acres in extent was then added to the active region. The vents maintain the force of their discharge, but the temperature does not in any case exceed 100 degrees C. (212 degrees F.). The eastern member of the twin islands forming Guadeloupe is sedimentary in origin. Doctor Hovey spent much of his time studying its geological relations with reference to their bearing on the general history of the Antilles.

On Martinique he devoted most of his time to Mt. Pelee itself, and the ruined city of St. Pierre, and spent

the route traversed by hundreds or perhaps thousands of destructive eruption clouds, still lie drear and desolate, because the soil was completely swept away by the blasts, and the material left behind as well as that added by the eruption is too porous for the retention of the water necessary to restore it to fertility. Furthermore, the rainfall of the west side of the island is much less than on the east side, and the region is dried by the rays of the afternoon sun.

From Martinique Doctor Hovey proceeded to the island of St. Vincent, where more than three weeks were devoted to the study of Soufriere, twelve days of the time being spent in camp on the volcano. Here, as in Martinique, the vegetation has re-established itself more thoroughly on the windward than on the leeward side of the mountain, the windward side being that which receives the greater rainfall, and the leeward side not only receiving less rainfall but also suffering from the heat of the afternoon sun. Considerable portions of the Soufriere received immense deposits of gravelly ash from the recent eruptions, and these are largely barren at the present time. Other areas received a finely comminuted ash which retains water better than the coarse material, and suffers more rapid decomposition. This fine ash is now coated more or less thickly with moss and lichens, and often bears, in addition, bushes, trees, and tree ferns. The outer limits of the original zone of annihilation showed merely a destruction of the vegetation then coat-



MT. PELEE, MARTINIQUE

several days in camp on the old summit plateau of the volcano, which is 450 feet above the sea, and which formerly bordered the pool of fresh water known as Lac des Palmistes. The new cone, which stands as the enduring monument of the great eruption, nearly fills the old crater adjoining the plateau, rising some 600 feet above it. The famous spine, or obelisk, which rose some hundreds of feet further into the air, disappeared entirely nearly ten years ago through disintegration, and the cone, as viewed from the sea, presents a flat top, whose apparent smoothness does not prepare a visitor for the actual ruggedness of surface which he finds on climbing the mountain.

Mt. Pelee Quietening Down.

At the time of Doctor Hovey's last previous visit in 1908 the new cone was seamed with fissures which discharged great volumes of steam and gave temperatures as high as 500 degrees C. (900 degrees F.). The present expedition found considerable steam still issuing from these vents, but no temperatures exceeding 100 degrees C. (212 degrees F.) could be found.

On the east or windward side of the volcano the vegetation has re-established itself to the summit of the mountain, and even the forest is beginning to reassert itself. The whole aspect of this side of the volcano is verdant and peaceful and gives no indication of the devastation of thirteen years ago; even the rocks of the new cone are more or less thickly coated with moss, while the side and top of the old cone are covered with grass, ferns and bushes, in addition to the moss and lichens. On the summit plateau the campers found an abundance of red raspberry bushes bearing flowers and green and ripe fruit.

Sugar plantations on the west side of Mt. Pelee have been reinstated as far as the Roxelane river, within the border of the original zone of annihilation, while the ruined city of St. Pierre now contains about thirty new buildings of durable construction and a resident population of between two and three hundred people.

One Side Still Desolate.

The zones stretching down the southwest side of the volcano lying between the Seche and Blanche rivers, which

ing the mountain slopes and did not suffer destruction or deep burying of the soil.

Palms and tree ferns have regained their pristine development and beauty in this region, and forest trees are growing. On the east side of the mountain the sugar cane plantations which flourished before the eruptions are now largely restored to cultivation and present a heavier growth of cane than before, while on the west side the peasant proprietors are already taking up "provision ground" on the lower slopes of the volcano itself.

Soufriere Crater Is Beautiful.

The great crater of the Soufriere is beautiful enough to repay the lover of scenery for a special trip to the island. It is about nine-tenths of a mile across from east to west and three-quarters of a mile wide from north to south, and a lake approximately half a mile in diameter now occupies its lower portions as its predecessor did in the days before the eruptions which changed the whole appearance of the mountain. In 1902-3 there was a little pool of muddy water in the bottom of the bowl through which disturbing columns or puffs of steam were continually rising. In 1908 the pool was much larger, was yellowish green in color, and was not disturbed by any eruptive discharges, but did not fill the bottom of the crater.

Now the lake is apparently some hundreds of feet deeper than it was then, and occupies the entire bottom of the crater, rising well up on the vertical walls in most places. Doctor Hovey was able to make careful measurements with the theodolite which established the surface of the lake as being 760 feet below the point where the trail from the western side of the island reaches the rim of the crater, or approximately 2,140 feet above the level of the sea.

The interior walls of the crater are coated with moss and tufts of grass wherever there are slopes of volcanic ash, and tree ferns and bushes are re-establishing themselves in the ravines cut by the rains while the vertical faces of the old lava beds making up a large part of the mountain add tones of reddish and yellowish gray to the color

PICTURESQUE AND NEW

PARISIAN HEAD-DRESS THAT WILL BE WELCOMED.

Has All Fashion's Distinguishing Marks and Other Points That Will Make It Popular in This Country.

Some of the ultra-smart Parisiennes have revived genuine "picture" head-dresses. Now that evening dresses, in France, are of the simplest possible order it has been found necessary to pay special attention to the head-dress, and some of the latest styles are really fascinating. For example, the head-dress illustrated, here there are loose curls, but these fall at the back, behind the ears. In this case the hair, quite free from artificial waves, is drawn softly back from the face and arranged in a chignon at the back.

Set waves are a thing of the past. No one thinks of adopting them now. The hair is made as soft and fluffy as possible and then it is simply drawn back and fastened with ornamental pins or handsome combs.

And in this connection I may mention that pale brown hair is all the rage. The red and red-brown shades have quite gone out. Very fair hair is in great favor, but it is not easy to obtain, by natural means. Nut-brown hair is considered "very chic," and indeed all the soft brown shades are in favor.

The idea that red-brown hair, produced by henna, made a woman look specially youthful is exploded. Nowadays everyone realizes that these red-brown shades are specially trying for anyone except a young woman or girl. On the other hand, the soft brown shades are flattering to the complexion.

I do not think that powdered hair is so fashionable as it was. A great many women are beginning to regret having gone in for "white hair," even when it was so much the fashion. They are beginning to realize that white hair, unless powdered and worn by a very young woman, gives an impression of age at first sight. Powdered hair is becoming to many women, but it does not make for youth.

Many young girls in England are



Old-Fashioned Coiffure Revived to Go With the New "Picture" Frocks.

going in for the "Castle crop." It seems rather a pity to cut off one's hair, when it is long and thick, but the "Castle crop" is undoubtedly rather fascinating. It makes a young and pretty girl look like a little angel.—Idalia de Villiers in the Boston Globe.

Striped Stockings.

Stripes still play an important part in stockings. Sometimes the stripes are at the top of the stockings, running round and round, and sometimes it is the ankles that are striped.

BATH ROBES AND NEGLIGES

Ideas for Cold Weather That Are Well Worthy of Having a Place in the Memory.

The winter negligee may be as diaphanous as chiffon and lace can make it, but the winter bath robe, to be right, must be warm and downy. Nothing is more uncomfortable than to emerge from a refreshing bath to find the world grown cold. A thick bath robe is sure to make the world seem warm and cozy.

A blanket robe is durable and comfortable and can be made quite becoming. It should be rather full in cut, and not long enough to touch the floor. The color and design should be carefully chosen. There are some lovely grays, if a dark robe is desired, and for a light one there is lavender, and there is blue and there is pink.

Sometimes a satin hem and satin bindings are put on blanket robes, but these are rather fragile. They soil very quickly, and they are sure to wear thin and shabby before the blanket part wears at all.

A pocket for the handkerchief is a useful addition to any bath robe. A big rubber-lined pocket is also desirable if one lives in a boarding house or a big family and has to use a bathroom in common with many others, for the various toilet articles, brushes, soap and tooth paste, can be carried in this pocket.

A deep collar or hood adds much to the becomingness of a bath robe of this sort. And a scallop crocheted around the edge of collar and cuffs is an attractive finish. A cord, too,

GRENADIER HAT



The model designed by Lewis of Paris suggests nothing so much as the "grenadier's" hat. It is practically brimless and close-fitting, and its height is increased considerably by its drapery. A wreath of white flowers sewn on a silver ribbon trim the hat effectively. The cape scarf is of fox, as is the huge barrel muff

IF IN DOUBT, CHOOSE BLUE

Color That is Always Popular, and It Shades Are Practically Innumerable.

If you are in a quandary as to which color to choose for your winter tailored suit, you will be safe in making it blue. This color is represented by the popular tones known as corbeau—raven's wing—soldat, Russian, Belgium, China, midnight, navy, marine and Nattier. All tones of gray, from the palest dove to the deepest tone of dreadsnaught, are to be very smart for street or house wear.

Field mouse, metal, stone and mist will be familiar names before the season has advanced much further. The lighter tones of tan will be frowned upon, and to replace them loam, chestnut and leather browns will be used. Sage, cypress and moss are to be prominent among the greens, and sulphur yellow has also appeared again. There will be much purple worn and many smart street suits of tete de Negre or beige.

Velvet Afternoon Gowns.

According to the Dry Goods Economist, rich afternoon gowns of velvet are featured in black, brown, rose, white and blue. Green is also shown to some extent, but has not proved as popular as the colors named. Fur trimmings finish off many of these gowns. The furs most in use are skunk, raccoon, kolinsky, fox, krimmer, mole, beaver and caracul. In many instances the furs harmonize in color with that of the dress, mole being used on gray, skunk and beaver on brown, beaver on beige and white fox on white and similar combinations. Some of the more striking effects in afternoon gowns are brought out by the use of beaver on white broadcloth or on chifon velvet, or the black fox on white or on tan.

should be fastened at the waist, or else a wide belt of the blanketing should be used, with a frog fastening. A quilted robe is almost as warm as a blanket robe. But it is not so durable. The blanket can be washed time and again. The quilted robe, if it be of silk, must be carefully cleaned in gasoline.

Like a blanket robe, a quilted one should be made on rather generous lines. One that is quite flat and tight is unbecoming. And, again, the color must be chosen with an eye to be becomingness.

Veils Have Maidenhair Designs.

A new face veil for winter days has a maidenhair pattern, wrought in delicate thread design in a fine hexagon mesh. The lattice patterns, with a very open, crossed mesh, is also a favorite and is becoming to women with a good deal of color. As a rule fine patterned veils best become women of pale complexion. A new veil for the motor car has an artfully placed beauty spot, which comes over the cheek or at one side of the mouth, the long veil floating in graceful folds around the figure to the waist line.

White Crepe With Fur.

A charming frock is made of white Georgette crepe. The skirt is edged with a wide hem of white fox, and there is a high choker collar of the fur and cuffs of it, with big fur buttons for trimming. The charm of the frock consists in the almost startling combination of the sheer crepe and the very heavy bands of fur.