AGRICULTURAL.

Yield of Butter Per Cow.

Dairymen who furnish milk to creameries are entitled only to the actual value of the milk furnished. Good butter cows are most profitable. The Holstein-Friesian Association of America has taken another forward step that must commend itself to every one interested in the improvement of dairy cattle. At its annual meeting, held on March 16th, it adopted the following amendment to its advanced registry rules :

"A cow shall also be eligible to this registry on a record of pure butter fat, determined by a composite test of samples of her milk, of equal quantities, taken from the whole milking after it is thoroughly stirred and mixed. The composite test shall be made by the Babcock or other equally accurate apparatus or method, approved by the American association of official agricultural chemists. The total amount of milk produced by the cow during the period of seven consecutive days shall be multiplied by the per cent. of pure butter fat thus found in the milk, and the product shall be the record. The requirement for entry on such a record shall be—per cent. of the present requirement for entry on a record of marketable butter of a cow of the same age at calving. Full particulars shall be reported and affidavits made, as in cases of milk records and marketable butter records."

A committee, consisting of Messrs. S. Hoxie, L. T. Yeomans and David H. Burrill, was appointed to fill the blank in the above amendment. This committee is corresponding with practical butter-makers and with scientific men for the purpose of ascertaining the proper per cent. to be inserted. Letters have been received urging that it be filled with 83⅓. This would make the requirements of a full-age cow 12½ pounds of pure butter fat. A prominent investigator has suggested 13 pounds. These amounts would be equivalent to perhaps from 14 to 16 pounds of marketable butter, as records are usually made, the variation depending on the amount of water and other matter, other than pure butter fat, that butter, as variously made, contains. The requirement for a heifer calving at just two years old, if the blank is filled with 83⅓, would be 7½ pounds of pure butter tat, between this age and full age the requirements would increase in the same ratio as those of marketable butter records. Perhaps I ought to add that a brief report of the care and food is a matter of record at the option of owners in all cases of advanced registry.

This amendment will greatly reduce the trouble and expense of making records, and, if universally adopted, will do away with all injustice between breeders resulting from the varying per cent. of water and other foreign matter that records of marketable butter necessarily contain. Besides these advantages, if other associations of breeders of dairy cattle will adopt a similar record, it will afford a basis of comparison of the different breeds that will go far toward settling their relative merits as butter-producers. Further, we might reasonably hope, in such an event, that the making of "wild-cat" or unsubstantiated records, sometimes so misleading to the public, would be abandoned.

Flowers on Farms.

A lady writes to the American Cultivator that there should be a flower garden at every farmhouse, or at every village home where there is land for it, and while it does not always, or often, return its cost in cash, it recompenses the owner in the pleasure it gives. Every true woman or little child likes flowers, and so do most men, although some of them would consider it a bit of affectation to wear a flower in their buttonhole, or to be seen admiring the blossoms in the garden, or in the pots in the window, but there is no reason except a sentimental one why the farmer should not sport a flower as he goes out to his plowing or mowing with as good a grace as the capitalist wears his to the bank, or the lawyer to the police court. As regards the cost, it might not be easy to get back to the old-fashioned country customs, when our grandmothers and aunts had their flower-beds near the house and swapped peony and dahlia roots and chrysanthemums and geraniums, and saved seeds of marigolds and asters to divide with the neighbors. In those days there were not many "novelties," and if there was a friendly contest between them to see which should make the best display, it was not determined by the cost of roots or seeds, but by the amount of care given and that undefined something which was sometimes called "luck" or "knack," which usually enabled some people to succeed better than others who perhaps were just as painstaking. But in starting the flower bed, the first point is to have good soil or to make good soil. In many cases the land around new houses is built up with the earth thrown out in digging the cellar, and it is very poor material to make a flower-bed from. It needs a liberal application of manure or fertilizer. Many of the fertilizer companies make a fertilizer almost odorless for a lawn dressing, which is also well adapted to growing flowers, and is clean enough for a lady to handle. The seeds and roots of the more common plants are not expensive, even if they must be bought of the seedsman, and usually some flower-loving neighbor will be willing to furnish several kinds. The labor of taking care of a small flower garden is not great, if it is taken by instalments of a half hour or so on pleasant afternoons, and many women would be better in health, and would really feel rested after such a season of out-of-door exercise more than they would if they had spent the half hour in the rocking-chair or lying on the lounge.

Pruning Orchards.

Most orchards need more or less pruning every spring. A writer in the *Cultivator* says, in a recent issue, that one of the most successful orchardists in this country once remarked to me that if I wanted wood in my orchard to prune in the spring, and if I desired fruit to prune in August. I have no doubt he was right, but the most difficult matter in the world is to do the right thing at the right time. There is always something to interfere. Thus, in this, section, almost immediately after the hay harvest comes the grain harvest, and the digging of early potatoes, or the digging of muck, or the breaking up of new land, if moist enough. Again, the trees are often at the season loaded with apples, and not in proper condition to be pruned. I have done some pruning in August, but never to much amount. The pruning I have done, however, was benencial. It must be borne in mind, however, that summer pruning must be light. Heavy pruning in summer lets in too much sun, and is apt to scald some of the branches. If we always planned ahead with our work we might do some pruning in August, but I have generally been obliged to do a large part of my pruning at other seasons. I have pruned old apple trees in the fall or during mild days in the winter with success. With young trees I have been quite successful in pruning early in the spring before the sap starts. June is also a very good month for pruning young trees not in bearing, when the work is done judiciously and carefully. There is no other season of the year when wounds will heal over more rapidly than in the month of June.

Spraying with Paris green is beneficial when properly done. This is the result of my experience, tried in my own orchard last season, on several varieties of apples. Wormy apples were gathered and counted, both from beneath the trees which were sprayed and under those which were not sprayed. The proportion of wormy apples in the former was very small, even less than 10 per cent. In the latter, where trees were not sprayed, the proportion of wormy apples was quite large, rising to nearly 75 per cent. It must not be inferred from this, however, that the same proportion held good on the trees themselves. The wormy apples were also counted on the same trees, and, while less than 5 per cent. of wormy apples were found on trees which had been sprayed, there were from 35 to 40 per cent. of wormy apples on trees not treated with Paris green.

The Care of Pigs.

BY W. A. BAKER.

As to the care of sows at farrowing time, though it seems but a short time since I touched upon this subject in a former article, I give again more fully, if possible, my treatment of Chesters just before, at and after farrowing. Supposing that a proper system of booking has been followed and that the time when each sow is due is known. It is best that each sow should be placed in a quiet apartment by herself at least one week, and better ten days or two weeks before due to farrow. The size of the farrowing pen must be governed many times by the amount of space we have to divide among sows that must at once be separated from the herd. Eight by ten makes an abundant space for full grown sows, and if short of room six by eight will answer well, but often requires a little more care to keep clean and dry than a more liberal space. Many use fenders or poles around the outside of the nest in these pens placed about ten to twelve inches high and about the same distance from the outer wall or partition, but with the average Chester sow these are uncalled for as they are universally good mothers. But if you have a sow that has not done well by her pigs at any time it is a good plan to provide against the danger of her overlaying her pigs or jamming them against the wall. In such cass care should be taken not to provide too much litter, as it will be crowded in under the fenders and they will be of no avail. All preparations for farrowing should be made in the pen before the sow is placed therein, as the unusual noise of pounding and the excitement of such preparation will often make a nervous sow uneasy and they will not quiet down and become accustomed to their quarters properly before the time shall come when it is very important that you should be allowed to enter her pen without causing her any fear whatever. To prepare the sow for this critical period of her history you should begin as soon as the sow is by herself, petting her when she is fed until she begins to enjoy your approach, not only for the sake of the feed you bring her but because of the kind of treatment which will be appreciated surprisingly to you if you have never tried the experiment. As soon as she enjoys your approach you can enter the pen at any convenient time, pet the sow until her fear is overcome then commence rubbing along down her side until you can rub back and forth and across her inflamed bag and she will reciprocate by talking in her pig language as to her young. This repeated for a few times will soon cause her to lay quietly down as soon as her bag is rubbed, which is of incalculable value when the little sucklers put in an appearance.

During this period that the sow is in preparation and for ten to fourteen days after farrowing she should have no corn or little fat producing food of any kind but millstuff in form of slop, and after farrowing until strength and vigor returns, this should be sparing and fed only warm. Some do not feed at all on the day pigs are farrowed, but my manner is to allow the mother to advise as to her necessities. If she remains quiet in her nest all the time, I would not call her forth to feed her, but if, as they usually will if successful at this time, this sow leaves her young and is looking about for something, give her at once a warm bran mash with a little oil cake scalded in and she will at once return to the care of her young, contented and strengthened.

A good feed for just before and after farrowing when no corn is fed, is equal parts of bran and shorts with an eighth ground oil cake soaked twelve to twenty-four hours previous to feeding, in milk, if it can be had, if not, in slop from the kitchen or clear water with a little salt added as you would to suit your own taste, but never when a sow is weak allow her to eat buttermilk unless greatly diluted and mixed with other food, as many a man has killed a promising mother, litter and all by a clear feed of rich buttermilk while sow was still weak and pigs tender.

Much has been written and still will be given over and over again before the average breeder will observe proper cleanliness in the farrowing pen and the pig nursery, but the man who has an eye to business and is bound to succeed even at the expense of a little trouble or lack of ease, will see to it that no bedding under the sow or little pigs becomes damp or foul. Pens should be thoroughly cleaned at least every second day and bedding shaken out and slightly renewed every day. My custom is, in small apartments to clean as thoroughly as possible and throw out the bedding that is partially soiled onto the damp floor, replacing with that thoroughly dry. Changing in this way every day the soiled bedding on the watering places prevents much of the liquid spreading about and running into the nest where the family should be kept as warm and dry as possible always with proper ventilation provided.

I believe I have before given my method of caring for the young litter until all were straightened up and ready for food, but as I believe our journals should be to us like a text book to the pupil, I will again give my plan in the midst of this chilly month whereby some new reader may save from chill and death a few choice litters that might otherwise be lost. In cold weather, when confident that a sow will farrow before morning I never feel at liberty to go to bed until I know the coming litter is comfortable beside the mother. When the time is at hand that care is needed, providing myself with an old horse blanket with which sow and pigs may be covered and a few old rags of a woolen nature if at hand, I repair to the private bed room alone with the sow. As soon as a pig is welcomed the navel cord is pinched off with the thumb nail and the little fellow rubbed dry and placed under the blanket beside his mother where, if a strong, well-developed pig, he will almost instantly collar a teat and henceforth look out for No. 1. Thus caring for each until labor is over they will then stand, after once dry, a very low temperature. If artificial heat for drying these pigs and keeping them from chilling is required, it can best be provided in an outdoor pen by filling a suitable jug with hot water or a couple of fruit cans which can be placed under the blanket alongside the row. By this treatment nearly every pig may be saved even under otherwise unfavorable circumstances.

To some who never saw a sow trained and properly handled, all this may seem an impossibility, but if you will follow this plan throughout you will fully demonstrate to your own satisfaction that this is not theory alone but is a practical method. I have had many a sow farrow under my management, litters of ten to fourteen pigs without once raising to their feet. If a pig squeals and the sow rolls up as if to arise, rub her bag a little and if she is properly trained she will at once lay over on her side; or if too much excitement causes her to rise, as soon as the excitement subsides she can be coaxed to lie down again as before mentioned.

ANIMALS ON THE TRACK.

Sheep Bother the Engineer More Than Any Other Kind of Stock.

"Sheep," said Engineer Willard, "cause more trouble than any other stock. An engineer always tries to guard against killing stock, but if I had my choice I would rather run into cattle, horses, hogs, or any other animals, rather than sheep. Many thousands of sheep are in the great flocks that sometimes cross the tracks of Western railroads. Where there are no fences a quick turn in the road through a cut may find the locomotive mowing right through them. It is well known how sheep follow their leader. Notwithstanding the moving train they continue to rush under the cars, and sometimes many are killed that the locomotive never touched. They really commit suicide, crowding under the wheels before the train can be stopped. Sometimes over 200 or 300 sheep have been killed. But the wool gets into the running gear of the engine, and this causes the engineer more trouble than the killing of other stock. Sometimes the engineer is compelled to stop and clean out the wool that works its way into the more delicate machinery. At the end of the trip a search is also made for the wool that may have escaped the attention of the engineer in his examination.

"Yes we have a good deal of experience with wild animals," he continued, "but not so thrilling as that of the engineers on Western roads when the buffalo was common on the plains. But there is enough still left of wild animal life to make it interesting. The eyes of the wolf, coyote, wildcat, jackrabbit, polecat and other animals look like a red light when facing the headlight. Did not these animals quickly undeceive us by turning their heads, an engineer might think his train was being flagged and stop his engine. There are plenty of wildcats between Wellfleet and Elwood, Neb. On Medicine Creek they trap for beaver. It seems to be a favorite fishing-place for beaver and coons. Yes, coons will fish. They have little paths down to the edge of the stream, and there secreting themselves, catch fish with their paws.

"Wolves and coyotes are numerous, but are rarely struck by an engine. Near the Herbert ranch, east of Cheyenne, I have seen a coyote on a wire fence, which seems to have been thrown there by an engine. The wolf of the plains is either caught in traps or by sportsmen closing in on a pack in a drive. Sometimes they are killed by ranchmen putting poison on the carcasses of cattle and sheep. Wolves hamstring and then kill stock. The wolf-drive is a fine sport on the plains. The wolf, wildcat and coyote are quick and jump from the track. But the jack-rabbit is less fortunate. The headlight has a strange fascination for this animal, and often it is killed."

A story was told of how a wolf, caught in a steel trap, had escaped with the trap, but was again caught by the chain becoming entangled in a wire fence. The engineer stopped the train, and the express messenger and mail clerk tried to kill it, but failed. The engineer called "time," rang the bell and the live wolf was left, still tangled in the wire fence.

The antelope still wanders sometimes down into the section of wire fences. Being unable to escape, this fleet animal runs from the train, making one of the prettiest races in the West. One engineer told a story of how in Eastern Wyoming a pet antelope was kept on the ranch of a stockman. The owner had two fine deerhounds, but they and the antelope were great friends. Often from his cab window the engineer had seen the antelope and the hounds playing together.

Incidents were related by some of the party of the slaughter of the birds. In the spring time prairie chickens on a wet morning, often sit on the rails and are sometimes killed by the engine. Quail also meet a similar fate. Thousands of snowbirds are also killed. An engineer related an interesting incident of a meadow lark that was pursued by a mouse hawk. The frightened lark took refuge on the running-board, having less fear of the engineer and fireman than its enemy. It remained with the engine till safe from the hawk, and then left its perch on the running-board. Owls and mouse hawks are sometimes killed by breaking through the glass windows of the cab.

As the railroads on the plain begin to near the Rocky Mountains the light atmosphere extends the vision and you can see further than in the murky, moist weather of the East. An engineer from an Eastern road is at first greatly deceived as to distances. At one section of the Burlington, in Eastern Colorado, a headlight can be seen forty miles. A tenderfoot would think it was not more than two or three miles away. "In this clear atmosphere," said an engineer, "when it seems that I am close to a headlight, I look to see if the reflection of the opposite light is on the rails."

At Stonhan, Col., a station on the Cheyenne branch of the Burlington, there is a straight track of eight miles, where trains meet half-way for the side track. It took some new engineers a long time to get used to it, for at first they would slow up their trains long before they were near the oncoming trains, which at first seemed so near.

Stories have been told of hownew engineers have whistled down brakes on the plains in mistaking the morning star for a headlight. There may be more truth than romance in it.

Navigating Under Water.

A Detroit despatch says:—The electric battery had already been charged when the three of us stepped down through the conning tower and closed over us the watertight cover.

The inside of the boat, as lighted by the incandescent light, was much larger than would seem from above. At first we went along the surface toward the Detroit River. Then the requisite amount of water was let into the bulkheads, the lever of the paddles was turned, and we began as it were to drop.

The sensation was peculiar, there being a feeling like that which comes to a novice on a toboggan slide, but this soon passed away, and there was almost a delight in the novelty.

The lookout from the conning tower was interesting as the boat sped through the icy water. We went slow at first, but soon increased the speed to ten miles an hour. The boat having the same specific gravity as the water, and being constructed on the lines of least resistance, could go ahead, down or up, as easily as a fish, being able to go faster under the water than on the surface. The tests were continued to some length, and the boat was submerged several times under different circumstances.

The experiments showed that the peculiarly constructed wheels were admirably adapted for submerging and elevating, the boat responding instantly to the pilot's touch. It was also shown that in sinking or rising the hull of the boat was kept in a horizontal position.

Being fully satisfied, the boat was steered back to the dock. Though the boat contained sufficient air for three men, for five hours, the fresh air seemed especially pure and invigorating. It was with a feeling of pride that those on board stepped out on the deck, for they, as well as the mythical Capt. Nemo, had navigated under the waters.

The Cattle Trade.

Canadian cattle feeders are beginning to realize the gravity of the situation in England and Scotland, and are showing more anxiety to dispose of their cattle than they were a week ago. Instead of improving the prospects are getting worse every day, and now there is not an open market left in England or Scotland, Stanley market being the last to go under. The salesmen are sending daily cablegrams to their agents here advising the utmost caution. They say that they are in an awfully mixed-up state, and that while the home supplies are light they are in excess of the demand, owing to the heavy offerings of the States. In fact, they admit that they are completely at the mercy of the buyers. If this state of affairs continues we will have to compete directly with the Americans in the dead meat trade, and the Canadian farmer is shrewd enough to know that competition of this kind means ruin to the Canadian trade. Hence his anxiety to sell out. Of course matters may right themselves in the course of the next month, but the indications are not that way. Shippers in Montreal are daily expecting to hear that Mr. Chaplin has prohibited the importation of live stock altogether. Great pressure is being brought to bear on him, and it seems to be only a question as to who have the greatest pull—the British agriculturists or the Canadian Government. When it is remembered that the farmer controls a big vote, the chances appear to be in his favor, but our Government are watching things very closely, and matters may turn out all right. In the meantime Sir Charles Tupper recommends that only the best cattle, that is, those whose value would not be materially affected by compulsory slaughter, be shipped. Dairy cows, he says, had better not be shipped while the outbreak asts.

Deaf and Dumb.

Deaf and dumb beggar (unexpectedly receiving a quarter)—"Oh, thankee, thankee!"

Benevolent Passer—"Eh? What does this mean, sir? You can talk!"

Beggar (in confusion)—"Y-e-s, sir. Ye see, sir, I'm only holdin' this corner for th' poor deaf and dumb man wot belong here."

Benevolent Passer (quickly)—"Where is he?"

Beggar (in worse confusion)—"He's—he's gone to th' park t' hear th' music."

Heat and Cold.

The use of the hands, as in washing in hot water, then exposing them to extreme cold, is prolific of a very common misery. Mrs. Robert Simpson, 71 Berkeley St., Toronto, Ont., writes, Oct. 2, 1891, as follows:—"St. Jacobs Oil cured me of rheumatic cramps of the hands after all other treatment failed me. My hands were much swollen and painful, and for a time I was nearly helpless; however, thanks to the magic touch of St. Jacobs Oil, shortly after its use I was relieved, and ultimately, entirely cured. I now always keep a bottle of St. Jacobs Oil in the house."

Social Progress in England.

Within the past year England has made rapid advances in social progress, and that, be it marked, under the rule of a Tory government. This reform tendency, which is partly the reflex action from centuries of aristocratic conservatism, is showing itself in various ways. The House of Commons has passed a bill shortening the hours of labor for shop clerks, and another requiring all employers to shorten working hours when two-thirds of their number petition therefor. Many cities are moving to assume control of their own gas, water and street-car interests, thus destroying monopolies that have existed for hundreds of years. But the most sweeping and radical measure to which the House of Commons has as yet committed itself is a bill introduced by the Minister of Agriculture empowering the rural county councils to borrow $50,000,000, to be again loaned out to agricultural laborers to enable them to own their own farms. The bill provides that the laborer shall pay one-fourth down and the remainder within fifty years. This has been amended to read one-tenth down. The bill will undoubtedly pass, as both parties favor it. The Liberals advocate it on principle while the Tories see that with all the land of the kingdom in the hands of 4000 men they have erected an inverted pyramid which is standing on its point and unless propped up will topple over, carrying with it ruin to the whole nobility and gentry of the land. They hope that by some such conciliatory measures England may be saved from a social upheaval. So between the progressive spirit of both parties England bids fair to give the world some splendid examples of true reform in government.

A genuine scare exists in England over the extensive importation of foot and mouth disease from the continent. No less serious is the situation in the New England states. Tuberculosis must be destroying the herds of Maine, Massachusetts, New Hampshire and Rhode Island. Quarantine regulations have been established in these states, one against the other, with the transparent purpose all round of shirking responsibility. Proceedings of this character are foolish. The cattle commissioners, who should have risen to the emergency, are only endeavoring to shield themselves behind audacious statements and reports. The press is calling for an investigation, but it is doubtful whether this will be granted, and whether the truth will be allowed revelation. In the meantime it is well that the Canadian authorities are vigilant in seeing that native herds are kept exempt from disease. Eternal vigilance in this case is the price of soundness. It is to a temporary relaxation in England that the results already claimed by the foot and mouth disease are due.