



IT PAYS TO KEEP COWS

Cowe as farm animals are useful in more ways than one. They are a necessity. They simplify farming, reduce risk, produce the best food and reduce the loss in marketing bulky form products. Where the feed must be purchased cows are not profitable, but on the farm where the feed is raised they are a paying investment. The farmer that sells such feed as hay, corn, oats, forage, etc., must haul the products to market, take risks and pay for high cost of han-The grower of feed, if he has a dairy cow, may feed it and thus get the advantages without paying the high cost of marketing. He sures a market at home for much of the bulky products, as hay, silage, grain, etc., and the products he mar-kets are not rough, bulky, raw mateplais, but finished products such as milk, butterfat, cream, cheese, butter, etc., food products for which there is likely to be a good demand at a wider margin for profit. The farmer not hampered by bad weather nor the soil as a result in keeping down. caving and applying manure, rotating and nacturing cows may be consider-Poor soils are readily built un to yield large crops and more profitable returns. Raising calves is an added income. The skimmed milk, the grain, hay and eilage that would etimes be a surplue with poor marketing demand may be converted into cowe or feed. Or pigs and lambs may be raised on the grain and okimmed milk with a small pasture.

as much as a fresh one, and should receive as much attention as ever. When the cow is with calf and ceases to give milk in paying quantities, while she is still receiving a full share of feed, it indicates that the development of the embryo has reached such a stage that the cow must give over part of her energy that would othsrwise go toward producing milk, to supplying life-giving blood for the embryo. Some cows are practically dry three months after becoming pregnant. Others may give milk almost up to the time of calving. It depends on many things. It is, however a mietake to milk a cow when the is within a short time of calving.

To-day a dry cow is worth almost

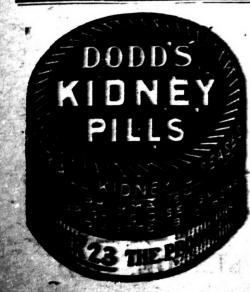
During the first six months of the development of the embryo the cow usually shows little effect of the matter, except that she gets a better appetite, and she apparently puts on a little flesh while her milk-producing capacity is falling. But during the last three months of the period of gestation is the critical stage. During this time two-thirds of the development of the embryo takes place. Thus it is easy to see what the danser is in cutting off her feed at this critical time and putting her on a poor pasture. In fact, the cow needs more feed during the first six months of the period than she needed before. and she will show it by eating many things for which she showed no appetite before.

Of course, it is not necessary to give the cow at this time the same kind of feed she has been getting. High milk production concentrates may be left almost entirely out, but it is essential that she have pasture. If this is not available, it must be made up of a double quantity of good legume hay. If pasturage is available, little or no silage may be fed, but silage may be made to take the place of pasturage.

Plenty of good legume hay should always be fed, and some coarse, hay should be given from time to time to add bulk to the feed and to keep the bowels from being too open. Silage is good to feed to fall pregnant animals that like it just before the young is brought forth, as it is laxative and keeps the bowels in triffi But too much should not be given. As for concentrates for the dry cow, wheat bran is usually best. Other brane are good and various ground grains may be fed in proportion. Laxative feeds like linseed and cottonseed meal are left out.

THE KIND OF COW IS IMPORTANT More attention should be paid to the kind of cow kept and the way they are cared for. In these times of high and scarce feeds, it is a very easy matter to lose money on poor

Milk drawn at night and morning



differs considerably in the percent of fat. This is not due to any material difference between the milk being secreted by night or by day, but because of unequal difference between the periods. When cows lie still there is a larger per cent. of water and a correspondingly less percentage of solids in milk. Generally speak-ing, the milk is richest in butterfat that has been milked after the shortest period. This has been determined where cowe are milked three, four or five times a day.

Cows vary from day to day. Usually this can be accounted for by change of feed, sudden changes in the weather indisposition of animals, etc. There is always a variation between the milk first drawn and the last drawn. The first is very low in fat, while the last or "etrippings" is very rich. Some times this may be as much as I and 10 per cent., respectively. The larger globules of fat, being nearly as large as the small milk ducts, pass along rapidly than the milk fluid.

The amount and the character of food have a considerable influence upon the quantity of the milk. But the quantity is more easily efectfed by changes in the character of the food than the quantity. Cows kept under favorable conditions, with an abundant supply of food, it is hardly possible to increase the proportion of fate to other solids by a change in the food. But while the amount of the various constituents of the milk is not easily affected by the food, the quality of the constituents themselves may be considerably influenced, especially the fat. For instance, linseed meal, giuten meal and certain other foods make soft, oily fat, while cottonseed meal, certain legumes and wheat bran make

FARM NEWS AND VIEWS.

The dairy farmer, the producer of milk and cream, controls the quality and price of butter. If he furnishes cream of good quality he makes possible the manufacture of good butter. which will command the highest price on the market. If he supplies cream of inferior quality of low-grade butter is bound to be made from it, which means small returns for the product. The dairy farmer, is the controlling power which determines the destiny with cowe has a regular income daily, of the dairy industry. The care he weekly or monthly. This income is gives the cream on the farm determines the financial returns from the drouth. The increased fertility to butter determine the prospericy of the dairy farmer, because the price the creamery pays for butterfat is necessaryily largely regulated by the price the butter brings on the market.

The application of barnyard manure has built up many poor soils and enabled farmers to prosper. More manure ought to be produced and more used. Poor soils mean poor farmers; rich soil is likely to mean prosperous farmers.

It matters very little how much land one farms, provided he farms well what he has.

Winter cover crops are of much benefit to worn lands, because roots of plants hold the soil particles, utilize the readily available plant foods that might be lost and return vegetable matter when turned under.

Calves are Caually fed whole milk ly changed to skim milk. About the of the United States of America." time of changing begin to feel a little The activities of Lincoln, Grant, grain, but do not think that it is necessary to use oilmeal or any other high-priced feed, high in protein or fat or both. Experiments at the Missouri experiment station show that a mixture of two parts of corn and one part of oats, by weight, gives as good results as oilmest and ready-mixed calf meals often purchased at higher prices. Bran is not especially good for the young calf, because it is too laxative. The grain mixture should be fed immediately after the milk and neither should be fed too liberally or scours may result.

Dirt carries had flavors. If the barn or its surroundings and cows are dirty it will result in poor milk; poor milk results in poor cream; poor cream results in poor butter.

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If So, It's Time You Got Wise to Catarrhozone, the One Certain Cure

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A TRUE PROPHET

Prince's Grandfather and American Unity.

(N. Y. Sunday Sun.) The eldest son of England's democratic King has crossed the Atlantic and his presence on this side of the ocean will evoke, from the harpstrings of both our national history and personal memory, not a few delightful chords. In a word, because of the initial visit of a Prince of Wales in 1860, American patriotism is to-day more of a reality. The "indissoluble union of indestructible States" resembles much more that adamantine rock, which Lincoln believed it to be, and not at all the "rope of sand" which President Buchanan feared and talked about.

It was in those dark days when the fifteenth President, "the Sage of Wheatland," called for a day of fastFACTORY DISTRIBUTORS SALE OF

READY ROOFING E E E E

sile and hip covery for laging. Every roll will cover at least 100 guers fast, ofter lagging. There are not more that four pieces to a sil, and very many of the rolls are in one piece, but may be defective appearance. Customer find these "Mill Ends" to be good for all appealines. Customers find these man areas or or great and extend purposes. Mostly used as a Roof Covering, but hundreds equates now applied on entitle walls of buildings to protect from wind and dampasse. "Mil Ends" are usually mapped up by customers living mar the Roofing Mile, but we have secured enough to be able to mitte a will special effer. We must, however, reserve the refere orders when case our present stock is sold. Order at ad if its dealet as to how much you need, send the size of your g and we will ship the right amount of Roofing to cover.

All Rootings offered in this sale are "Mill Ends" of our highest We particularly recommend the "Mill Ends" of Slate Sur-Kindly Order by Number and for convenience clip this adver-

D.32. "Mill Ends" of Three Ply Mica Surface Roofing, weighing about 55 pounds per square. Our regular price \$3.65. 2.45 Mill End" price only

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NOTE.—If intending to lay Slate Surface Roofing over ald wood shingles, allow 10 cents per square for extra long, large head nails.

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GAMADA

do while the United States Govern + stand? The future Edward VII. was ment, with an empty treasury, had to beg for money at 12 per cent. interest, when the American commonwealth and sisterhood was menaced with disruption, that the Prince of Wales, afterward King Edward VII. and peacemaker par excellence, visited us. Still, it is simple fact to recall that the great historian, Edward A. Freeman, believing that the Union was at an end, planned his great book, in four volumes, on the "History of and on British soil without slaughter. Federal Government, from the Am- the same struggle began. phyctionic Council to the Disruption the bloodshed Sherman, Thomas and a million or more of American patriots, however, compelled a change in Mr. Freeman's views and plans. Only one vol-

On the other hand, it was an even grander voice that laid emphasis on the creative and unifying forces in American history. He proved the true prophet. It was no less a personage than the Prince of Wales. England's future King, who in 1860, as Lord Renfrew, visited us almost incognito. and certainly without ostentation or a trace of snobbishness. He came unexpectedly tuto the State House at Philadelphia and was mightily inter-

ume appeared and the work remains

ested in Independence Hall. But, oh, what did he see in the hallway and underneath the grand staircase? Listen, ye Daughters of the American Revolution of 1919, to whose mothers we owe much, while some there be yet who remember and can confirm what we tell. Literally, they took up the bell, which the men had put down. What did the Prince. to his disgust, see but an eating stand and materials of quick lunch, whose steaming odors filled the place? We, with our juvenile Keystone State appetite, voted these vians as ambrosial and fit, for the gods. There we took our Philadelphia pepperpot, waffles, hominy, scrapple, smearcase, cheesecakes and "dump noodles and snits' for Manhattaners, we translate. wheat flour doughballs, dried apples and ham boiled together and served

with morasses. To crown the vision, beheld as joyfully by the Quaker City small boy. who concealed a mammoth cave under his diaphragm, as it was sorrowfully looked upon by the surprised Prince, there sat a goddess of liberty. in the form of a fat lady, who might have tipped the scales at a quarter of a thousand pounds. Red faced and beaming with motherly good nature, amid appetizing clouds of vapors, she presided over the steaming pots and pans, kept calorically high over live charcoal in sheet iron bases. lady bountiful dispensed soup, beans, pretzels and pickled tripe with especial joy when candidates for her pine benches began to multiply, at 12:05 post meridian, and she soon had a waiting list. The more, the merrier, seemed to be the motto of herself and her maids. There was the Liberty Bell, which, then set on rough timbers under the stairway, furnished on its platform a dresser for dishes. But, oh, what a debacle from au-

gust historic memories! Was the treasury of Penn's city so poor and even as low as that of the Buchanan Government in 1861 that the city fathers must rent out the sacred edifice for the mean revenue of an eating

Wood's Phosphodine. The Great English Remaind Tones and invigorates the whosevous system, makes new Blo

horrified. Then and there he, the Prince, spoke out strongly, in his mother's English, which we give in paraphrase. He intimated that it was the duty of the Philadelphia municipality to end such base usage of an edifice consecrated by noble memories.

For, let it be recalled to-day, none more than Edward knew the true inwardness of the Revolution. In 1775, on American soil with blood, Without tory was won in 1830 that he won in 1781, with French air, and in 1787 consolidated here, namely, that of true representative government. We made sure of our victory against a German King, who, with a corrupt Parliament, misrepresented British tradition and spirit, in our Constitution, our union and our stable government, in 1787. Across the water the reform of 1830 meant a Parliament representing men and not land, as in 1775.

The Prince, later King Edward VII. recommended that not only should the refreshment tables and benches be removed, but that the whole building should be restored to its original simplicity and use.

But, women, sisters, let us reveal the secret. Men balked at the cost. They pleaded the same argument, of loss of revenue, which has been so into dustriously and with as much fallacious reasoning and pseudo-eloquence urged in favor of retaining strong beverages. One glorious male exception was seen in that gentleman of strong individuality, who wrote one of the most honest autobiographies in modern days, Samuel Whittaker Pennypacker. He turned the engines of his unique erudition to the reenforcement of the D. A. R. With women's tenacity and an importunity as invincible as that of their Biblical exemplar and precedent, the Daughters of the Revolution persisted and won. Independence Hall, restored to its' chaste simplicity and pristine grandeur of style, is now an American mecca. What a tremendous agent for national unity! What an investmert in nation wide loyalty to the

ideal of the fathers! Within a year from Edward's visit at the greatest of shrines of America, the greatest of her sons, Abraham Lincoln, sat in the Hall of the Fathers .who looked down upon him from their speaking effigies on canvas. Later, outside in the front space where stood once in the flesh and now stands in bronze the Father of his Country, and where in 1824 the cannon of old at Valley Forge and Barren Hill thundered welcome to our

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visiting Lafayette, we saw Lincoln raise the Stars and Stripes. He hoisted to the top with the halliards the sailor's knot and ball, and then, with a jerk, set it open, and set rippling high in the air to the breeze the emblem of a Federal republic. Here again in 1865 we saw the form of the dead President lying in state amid the spirits of the fathers, while millions mourned, and at midnight women entered to lay flowers upon his pulseless heart, the memorial emblem of the greatest of sacrifices on the world's most famous mountain. And in that hall in 1918, here under the

erican flag and around the Liberty ed the creation of the central Euro-

Like the diamond polisher's finish of the final facet on a uniquely rare diamond, a Kohinoor or Cullinan, the greatness of which throws the workman in shadow, we cut our story short here. Let the Prince of Wales, grandson of the cosmopolitan patriot of 1861, come among us. Let him see the splendor of a union of forty-eight States, which his grandfather helped to cement. We, too, have a jewel room, not a Norman Tower shadowed by sinister memories, but in a temple of colonial architecture, honored by all the nation. Let the grandson see how well we have listened to his grandfather's words. Has "England always been our enemy?" Well, some of us do not interpret history's leading facts with prejudices. With the a planet can exist intact within 2.44 memories of 1861 vividly recalled and reading the nation's story in the light of principles, as well as events, we find that British love for the great republic between the oceans and American affection for the two islands set in the sea may exist together. On neither the British nor the American flag does the sun ever set.

TORONTO FAT STOCK SHOW

The Toronto Fat Stock Show will be held at the Union Stock Yards, West Toronto on Thursday and Friday, December 11th and 12th. Stock raisers should get the highest market price as well as some of the big prize money by entering their well finished stock at once. Write, Secretary, Box 635 Union Stock Yards, West Toronto, for Premium List and Entry Blank.

Foraminifera Aid Science.

The little jellylike animals which the scientist calls Foraminifera. ewarm so abundantly in the sea that their tiny cast off shells in some places make up a considerable part of the sediment which are laid down on the sea bottom and which in time may become beds of rock in a land area. The small size and the compactness of these shells protect them from some of the accidents that befall the remains of larger animals, so that in many samples of well borings the Foraminifera are the only shells that have survived in recognizable form the vicissitudes of drilling.

In the hands of specialists trained to identify fossile the Foraminifera may furnish the only available cine to the age of the rock enclosing them and consequently to the existence of strata or structure favorable or unfavorable to the accumulation of oil. gas or water. Thus the "spectacled scientist." who may really look like an alert business man, becomes the helpful adviser of the "practical" oil geologist or the well driller.

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Deep dyed. Lots of black. Rolled edges, please. They call 'em suit hankien. No more handspun linen for "best." Fine Swiss embroidery imitates And there is a revival of fine lace

trimming.

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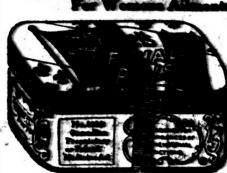
RINGS OF SATURN.

Mysterious Circles Seem to Be Made of Flimsy Stuff.

Nearly everyone, with the exception of a few unusually earthbound individuals, has felt at some time or other a strong desire to gaze at some of the beauties and wonders of the heavens through a telescope and the one object that all of us wish to see, If, perchance, this desire is to be gratified, is Saturn, whose unusual ring system has so far as we know no counterpart in the sky, writes Isabel M. Lewis, in the Electrical Experimenter.

All the planets in the solar system with the exception of the two innermost. Mercury and Venus, are attended by satelites but Saturn, alone. has in addition to a large and imposing family nine moons, three distinct rings of great dimensions which form a total mass composed of ments. swarms of minute particles revolving it would be a cheap liniment. around the planet.

Why Saturn should be the only planet to possess such a system of rings has not yet been explained in an ntirely satisfactory manner, depending as it does upon the manner of the origin of the entire solar system which it is now agreed could not have followed the course outlined by the Nebular Hypothesis of Le Place. The theory of the origin of the solar system and every theory advanced to explain the manner in which the soar system came into existence must satisfactorily explain the cause of this peculiar appendage of Saturn. There is an interesting law known as "Roche's Law," however, named from its investigator, that states that no satellite of



times the radius of the planet. This limit is spoken of as "Roche's Limit." and applying it to the plane. Saturn fall within this limit. It does not necessarily follow from this that the minute particles of which the rings are composed are the shattered remains of one small satellite but rather that they are the material from which a satellite might have been formed were it not so close to the planet. Within "Roche's Limit" the mutual attraction of the various particles for each other that would tend eventually to gather them into one body is overcome by tidal forces that arise from such close proximity to the huge planet. The stress and strain of such forces is so great that no grouping of particulars can take place. This explains possibly, why the rings continue to exist in their preesnt condition. The total mass of the rings is known to be very small, for they do not disturb the motions of any of the nearer and smaller satellites, though tiny Mimas, six hundred miles in diameter is only thrrty-one thousand miles beyond the outer edge of the outer ring.

An interesting observation was made a year or so ago of the passage of the rings of the planet between us and a star. Though the light of the star was diminished to one-fourth of its normal brightness when the rings passed before it, at no time was its light entirely eclipsed by any of the particles. It was computed that if the diameters of one of the ndividual particles had amounted to as much as three or four miles the star would have been temporarily eclipsed. An upper limit for the size of the moonlets was thus obtained. The average diameter of the particles is probably much less than three miles.

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Easy to remove lumps by applying Putnam's Corn and Wart Extractor. This purely vegetable remedy acts plainlessly and is guaranteed. Insist on "Putnam's" only, 25e per bot-

BAD EGG. GOOD MONEY.

"Thar ain't nothin' in the world our is good fer somethin' is one of the favorite sayings of Slim Buckley, of Bear Lake

Buckley is a thrifty soul. He farms in summer and traps in winer and between wheat and furs he is growing rich. One morning his wife was cooking breakfast. She broke a rotten egg into a skillet and was starting toward the door to throw it away when Buckley stopped

"Woman, don't throw that egg away," said Buckley.

"But it's rotten," protested his "Makes no difference," declared the

philosopher. "Thar ain't nothin' in the world but-" "James Buckley," exclaimed his wife, "I've heard that a thousand

times. The wolf never sniffs at the doors of the prosperous farmers of the Peace river country. But foxes are different animals—here is something you don't know-rotten eggs are rated as an epicureau tidbit in vulpine

That night Buckley set a trap in a poplar grove near his home and buited it with the rotten egg. He hoved to catch a red fox or perhaps a coyote. But when he went out to his trap next morning, what do you think he found? The biggest silver for Buckley ever had clapped eves on. He sold the pelt in Peace River the other day for \$346.

"A right nice lot o' money to hatch from a rotten egg," remarked Bucklev, as he stuffed the money in his pocket. "I've allers allowed that thar ain't nothin' in the world but is good fer somethin'."-Chicago Post.

Time Has Tested It .- Dr. Thomas' Eclectric Oil has been on the Larket upwards of thirty years and in that time it has proved a blessing to thousands. It is in high favor throughout Canada and its excellence has arried its fame beyond the seas. has no equal in the whole list of lini-If it were double the price

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Challis frocks. Bright red coats. Eiderdown embroidery Lots of plaid, real or sham. Plenty of leather and buckle trimming. Whole coats of seal, squirre, or

white rabbit.

Newness as to Candlesticks.

A new idea : that of white candiesticks. We used to have silver candlesticks or colored pottery candlesticks with white candles. Now behold the white porcelain candlestick with the colored candle. Blue candles are often used, with a centrepiece of white flowers in a blue dish. The result is. really very attractive.

No surgical operation is necessary in removing corns if Holloway's Corn