PROFITABLE DAIRYING

By HUGH G. VAN PELT
Dairy Expert Iowa State Dairy Association

What the Dairy Cow Has Been Doing

Perhaps there is no better explanation of why one breed of cows is better for milk production than the other, than to look into the history of them as breeds. In doing this we find how they were produced and why. We find, for instance, that the beef animal has been bred in her native country by breeders who were past masters in the art of breeding. For hundreds of years they have devoted their efforts along the line of producing an animal which would convert the very greatest possible amount of food consumed, into beef and fat to deposit over the back and loin and rump, over the ribs and down deep in the twist. They have striven to breed such an animal because there has been a demand for just such an animal, and this demand has sprung from the consumer of beef up through the retail clerk in the meat market, through the jobber and on to the packer, and from him through his buyers to the commission men and on down through the feeders of steers to the breeders of beef cattle. In the meat market the demand from the trade has been for cuts of beef that are taken from over the back and the loin and the other parts mentioned, because the beef found in these regions is more suitable to the taste, richer in its flavor, more tender, better grained and, in fact, more to be desired than is the meat which is found in the neck, brisket, plates and in those portions considered the cheaper part of the animal. Because of the demand, the better parts of the animal have demanded a higher price and, consequently, the animal which is most greatly developed in these high-priced cuts is the more valuable animal, and because of the fact that like begets like or a likeness thereof, it has been necessary to breed animals the likeness of which would be well developed in these qualities. This is the demand that has caused the breeder of beef cattle to produce an animal that would convert every possible portion of its feed into beef and fat and lay it over the top of the back, the ribs, etc. During this process of breeding up, he has paid very little attention to milk production, probably due to the fact that it is a most difficult thing to produce an animal which has the power

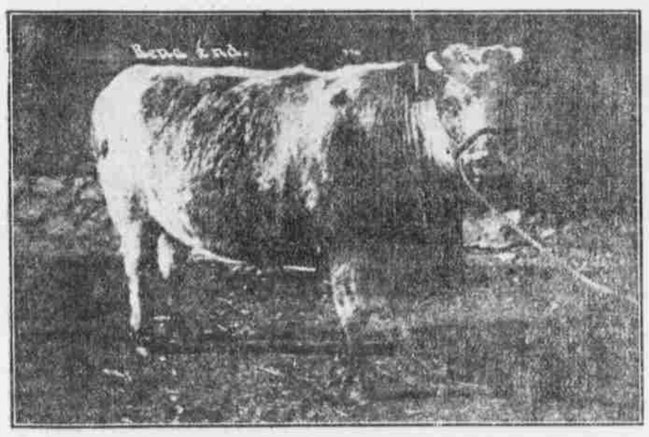
Cow Bred for Economical Milk and Butter Production.

of converting a given amount of feed into two things at the same time. The aim of the breeder of beef cattle has been to produce beef and he has done so at the expense of the milk-giving functions of the animal in his charge.

The Beef Breeders' Accomplishments.

The wonderful results that have been accomplished by these breeders of beef cattle are not to be belittled, because they have produced a wonderful work. They have produced an animal that is capable of making two pounds of valuable beef where one pound or less was to be found in the animals of the past. They have made wonderful improvement in beef production and today we find in the beef breeds, steers that, although they are not capable of making any more gain out of a bushel of corn than is a Jersey or a Holstein steer, still they have the ability of converting their food into high-priced beef rather than into cheap tallow, as is the case with the majority of the dairy-bred steers. But it would be the height of folly to say to the feeder of beef cattle that he should use upon his farms dairy cows because, besides supplying a calf that would be worth one-half as much as the beef calf, he could produce twice as much milk and butter-fat as though he kept a beef cow. He would be very sadly surprised when the time came to market his steers if he found that he had made no profit from them, and this surprise would probably be just as great and just as keen a disappointment as the disappointment which the dairyman finds after he has produced and put beef cattle into the dairy with the guarantee that the calves which he produces will be worth more two years hence when he goes to sell them, even though his cows do not produce half as much milk and butter-fat.

Now, on the other hand, if we look through the origin and the development of the dairy breeds of cattle, we find that for hundreds of years there have been men with ability just as great as that used by the developers of beef cattle who have been working and tussling with the laws of breeding for years, striving to produce an animal that would convert every possible bit of its food into milk and butter-fat. They have cared little for the beef that might be found on the animal's body, but what they have striven to do was to develop an animal that after consuming and digesting a large amount of feed would assimilate it into blood which would carry it, instead of to the top of the back, and ribs, around through a well placed and large udder and there convert it into



A Cow Bred for Economical Beef Production.

milk and butter-fat. Like the breeders of beef cattle their results have been wonderful and they have to a large degree accomplished their end; but in so doing they have developed an animal radically different in form and conformation from that which the producer of beef cattle has developed. Instead of being rectangular and square in form and covered with beef from one end to the other, they have produced an animal that is wedge shaped, open jointed and angular in form. Now, they have not produced this animal of this shape because they thought that a long neck, bony ribs, an open jointedness and spareness in flesh, prominent hip bones and leanness in appearance all over, were an indication of beauty, but in their great interest in the question of developing an animal that would convert every portion of its food into milk and butter-fat, they have given up this result and they have found that it is impossible to produce an animal that will take a given amount of food and convert it into two different products at the same time. Consequently, they have found that if each animal produces every available portion of food into milk and butter-fat there is nothing left for the production of beef to cover up the bones of the body, and the result is the above described conformation.

And so we have breeds of cattle for the specific purpose of being utilized as machines for the conversion of raw materials produced upon the farm into beef; and, on the other hand, we have animals developed for the specific purpose of making for us a machine with the ability to convert raw materials or the grains raised upon our farms, into milk and butter-fat; and whenever one of these breeds oversteps its bounds and enters the field of the other, then, from the standpoint of an efficient and profitable machine, they are at a loss because the other machine can do that work much more efficiently and profitably.

The Dual Purpose Cow.

However, as indicated in the beginning, there is probably a place for the dual purpose cow, by which term we mean that cow that is capable of producing some milk and butter-fat and some kind of a calf every year. There are many who are to be found in every business who cannot accomplish to the same degree the results of others, and likewise there are many breeders and feeders who, were they to have the very best beef cattle that could be raised, would not appreciate them to the extent that they would take the very best care of them, and consequently they would degenerate and deteriorate from year to year, so that in the end the results would be far from flattering, and it is without doubt equally profitable for these men to have an animal much inferior to the very best. And the likelihood is that they can make almost as much profit out of a common animal as they can out of an animal developed to the very highest degree possible, and the same is true relative to the cow that has to be milked upon the farm. There are many who would milk cows, that have not studied the fundamental principles of handling, caring for and feeding the dairy cow and it would be a terrible hardship to the cow were she compelled to withstand the care, feed and management that she would receive at the hands of these feeders, because, as has been stated before, she is more or less of an artificial being, and in order to do her best work she must be subjected to the very best methods of management, and for this purpose likely the so-termed dual purpose cow is to be recommended. She has been of wonderful service in that she has been used as a stepping stone from beef production to the production of milk and butter-fat. If we look to the history of every country, we will find that the different stages of development are, first, grain farming, next grain and stock farming, next stock farming, and finally stock farming and dairying. The man who has educated himself as a feeder of beef cattle always finds that to feed for the production of milk is a much different business. He must have different kinds of animals, keep them under different kinds of shelter and feed them foods of different kinds and in different proportions, and on the whole care for them entirely differently; and were this man to step immediately from the feeding of beef cattle into the feding and caring for the very highest character of dairy cattle, he would not be pleased with the results as a feeder of this second class of animals. Consequently, when he finds that there are greater profits that are more certain to be found in milk production, the first step which he takes is to begin milking the cows that have heretofore done nothing but produce the calves that he has later sent to market; and as he feeds for a period of time these cows that produce for him regularly hardly enough milk and butter-fat to pay for their keep, he begins to wonder if there are not other methods of feeding these same cows that will better their production, and in consequence, he learns from time to time and from year to year of the better methods or the ways of producing from these same cows more milk and butter- fat and doing it more economically and profitably.

During this period that the change has been coming about, he has learned to properly care for the cow and now the time is ripe for him to go into the dairy business and to use the real dairy cow. It is somewhat like the custom of the small boy who must ride the woden hobby horse first, later the Shetland pony and finally he is capable of riding and managing successfully a real saddle horse. There is no doubt but that of all the horses the saddle horse is the best, but it would be the height of folly to give him to the boy at the period when he should be riding a wooden hobby horse, or even at the time when he should be riding a Shetland pony. When the proper time comes he will be very successful in riding a blooded saddle horse, and it would be the utmost folly for him to be trying to get some place on a wooden hobby horse at this time.

But, in its place, the hobby horse has been extremely valuable in that it has taught the first fundamental principles of riding, and so it is with the different degrees of efficient milk producing cows. Inasmuch as it is to a great extent folly for a man who is trying to produce milk and butter-fat with the greatest degree of profit to be using common, unprofitable cows, it would be almost as great a folly for the man who has never given the matter any consideration and has practically no ideas regarding the management of dairy cows to be using high-class, expensive, pure bred dairy animals because in all likelihood they have been so intensely developed that many of them would become ruined and practically worthless in the course of a very short time under poor management and would degenerate from year to year, and instead of the herd becoming better as time passed on, it would in reality become poorer and his results would be far from gratifying.

QUEER HABITS OF AUTHORS

Peculiar Eccentricities That Can Only Be Set Down to the Eccentricities of Genius.

Mark Twain's habit of writing in bed in the latter years of his life has called attention to some of the peculiarities of composition among earlier authors.

Milton never could write his poems unless his head was thrown as far back as possible and his eyes looked upward. Maturin stuck a wafer between his eyebrows when he was working, not only to show his servants and household that he was engaged in composition but also to help him concentrate his faculties.

Glover was best able to compose a ballad while he was walking in the garden of a friend and destroying her flower beds with his cane. Although Mezeray worked only in daytime, he had to have candlelight in the room while he wrote his histories. Rousseau found that his thoughts came most freely when he wandered in the woods and collected botanical specimens.

Descartes lay perfectly still and motionless while engaged in thought. Ampere could work on his problems only while standing up, and thus he anticipated the desk of those modern writers who stand at their work. Ampere was in the habit of writing down his thoughts in enormous letters.

Haydn never set to work on his scores without drawing on the ring given to him by Frederick II., and Paesiello was in the habit of covering himself with bedclothes before he thought he was capable of his best work.

Adversity and Virtue.

Adversity tries men, but virtue struggles after fame, regardless of the adverse heights.—Silius Italicus.

THE ELECTRICAL WORLD

ELECTRIC NOTES.

An electric machine has been made to wash and purify the air in any room.

Paper may be made a good electric conductor by impregnating it with carbon.

Japan has now more than 200 telephone exchanges, more than twice the number it had two years ago.

More than 20,000 20-candlepower incandescent lamp filaments can be made from a single pound of tantalum.

A new electric desk lamp has the filament stretched out in a long line to distribute the light over a greater area than usual.

The handle of a new electric torch is magnetized so that it will adhere to metal surfaces, leaving its user's hands free for work.

The largest wireless station in Europe, that on the Adriatic sea at Pola, Austria-Hungary, includes a 300-foot tower built on a foundation of glass.

Two California men have patented an electric flatiron with an automatic cut-off, so that the current is used only when the iron is in actual operation.

Somewhat in line with the electrically lighted scarf pin is one devised by a French jeweler in which images of animals are made to move by motors supplied with power from a pocket battery.

In an address recently made by Prof. John W. Whitehead of Johns Hopkins university it was pointed out that out of 220,000 miles of railroad in this country only 1,000 miles have as yet been electrified.

To permit a motorist to explore dark corners of his car with a light and yet leave his hands free there has been invented an incandescent lamp and reflector to fasten to the forehead and take current from the car's batteries through a cord.

An electric light plant in Nebraska is manufacturing ice as a by-product. The exhaust steam of the plant, which would otherwise go to waste, is utilized in the ammonia absorption process of ice manufacture, and also for distilling water from which the ice is made.

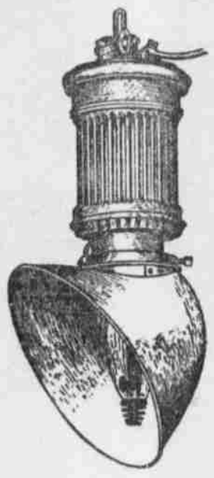
OUTDOOR LAMPS LIGHT INSIDE

Found Advisable to Illuminate Iowa Powder Mazagine by Arc Lamp Through Window.

Is it practical to do indoor lighting with outdoor lamps? The suggestion sounds almost like a paradox and yet is not that what we universally do in the daytime when we get our indoor illumination from the outdoor sun? Were we not spoiled by the advances made in artificial lighting by means of lamps placed in all sorts of indoor locations, the idea of leaving the lamps out of doors might not seem so preposterous, says Popular Electricity.

It is unusual, to be sure, and yet there are occasions where this is not only practical but advisable. One of these was found some years ago in connection with a powder magazine located on the outskirts of an Iowa town, where the only available current was that of a direct current arc circuit.

An incandescent circuit might safely have been carried right into the structure, and an alternating current



Throws Light Through Window.

might have been transformed to a suitably low voltage for this purpose, but to bring the high voltage arc circuit into the powder magazine seemed risky. So the lamps were hung out of doors close to thick glass windows, but instead of the usual glass globe each was fitted with a reflector which threw the light inside.

Telephone Winds Clock.

Making the telephone set and wind the clock is a novel idea lately patented by W. W. Dean. The limb of the telephone line that, when out of use, is connected to ground at the central office, is in the new system connected to the subscriber's book lever, and reaches ground through a lower contact and the coil that winds and sets the clock. The ground-to-ground circuit has no result. When the clock is to be set and wound a master clock at the proper instant closes a circuit, momentarily switching current from a battery at the central office to ground through the winding and setting coil. The clock is then acted on by the coil.

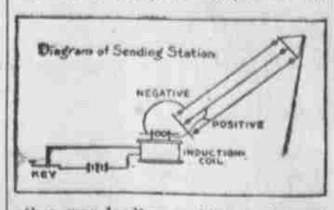
Wireless Telephony.

In connection with his new system of wireless telephony, Prof. Q. Majorana uses a liquid microphone. This consists of a small tube attached to the diaphragm of the microphone and through which a stream of water flows between a pair of platinum electrodes. The water is slightly acidulated so as to complete the circuit between the electrodes. However, when the microphone is vibrated by the voice the stream of liquid fluctuates, varying the electrical resistance in accordance with the sound of the voice.

WIRELESS OUTFIT IS UNIQUE

Successfully Operated Without Ground Connection at Either End—Apparatus on Bicycle.

The sending of wireless messages through space without a ground at either station has been demonstrated by two inventors of Brooklyn, N. Y., Messrs. I. Wolf and H. Mohler, where they took part in the Memorial day parade with their complete sending and receiving stations mounted on bicycles, says Popular Mechanics. One of the inventors took the position at the end of the procession, while the

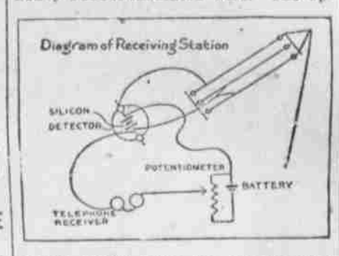


other was leading, making a distance of about 1½ miles between them. No ground wire was used and the rubber tires prevented any connection through the frame and wheels.

The sending apparatus of the station on the bicycle consisted of a two-inch induction coil, a zinc spark gap, a home-made rubber plate multiple-series condenser, which was used for transmission of the electrical waves, and a large wireless key that operated the coil. The receiving instruments consisted of a pair of 3,000 ohm double-head telephone receivers, a silicon detector and a noninductive potentiometer. The entire outfit, including the battery, was mounted on a board 10 by 22 inches, which was fastened to the handle bar of the bicycle as shown in the photographs.

The aerial consisted of a three-wire system mounted on a seven-foot pole, which was attached to the seat of the bicycle. Each of the three wires are ten feet long and insulated at the top and bottom.

The transmitting and receiving instruments were connected with very heavy rubber-insulated wire. The op-



erator would guide the bicycle with one hand and work the key with the other. The interesting part of this outfit was the aerial used for sending the electrical discharges. The wires were divided into two parts; one part consisted of two wires connected to the positive terminal of the induction coil, while the other, or single wire, was connected to the negative. In both diagrams A represents the top of the aerial and B the bottom.

VARIOUS USES OF SILUNDUM

May Take Place of Platinum in Apparatus for Melting Brass and Many Other Metals.

Silundum, the new material for industrial and domestic apparatus made in the electric furnace of F. Bolling, a German engineer, is now being supplied commercially by a special factory in Switzerland. It is a form of silicon carbide produced by saturating carbon with silicon, which is a vapor at about 1,600 degrees C., and the product differs from carborundum, the amorphous or crystalline silicon carbide, it being a very hard and resistant mass retaining the shape originally given the carbon. That is, the carbon, as bricks, rods or utensils, may be coated with or entirely converted into silundum by heating in silicon vapor. Below 1,600 degrees C., silundum does not melt or oxidize, and it is expected to find a large field as a cheap, resisting and durable substance for the heating rods or grids of electric kitchen ranges. As it can be given a high temperature without risk of overheating, the ranges may have the glowing heat of a coal fire. As silundum is not affected by acids or chemicals, it may take the place of platinum for many uses, especially in apparatus for melting brass, aluminum, lead and other metals, and for laboratory ovens requiring high temperature. It is attacked by very hot molten metals, from which it may be protected by a thin coating of platinum.

Electric Smelting.

The success of electric smelting is indicated by its rapid adoption. A German authority counts up 114 electric furnaces that are at work making steel, and his list is incomplete, some important omissions having been pointed out. Of those enumerated 77 are arc furnaces, two generate heat by arc and resistance combined, and 35 are induction furnaces. There are also some pig iron smelting furnaces, Norway and Sweden have two or three. Of the steel furnaces seven are at work in England and a number in America, but the great majority are in France and Germany. Most of the furnaces are of small capacity—one to five tons. They are employed chiefly on high-class steels, for special purposes, but a fair proportion are working on ordinary steels, such as structural steel, castings and railway ties, rails, etc.

Wireless for Airships.

Now that aerial navigation is coming to be considered seriously, new problems are arising, such as the question of navigation on starless nights or over fog-bound land, when the aeronaut will be unable to find his bearings. It has been proposed by a German inventor, that a network of wireless stations be established over the land, each automatically sending out a predetermined signal at regular intervals, which would be received by the air craft, and enable the aeronaut to determine his course. The airships would not be required to carry transmitting apparatus, as a small receiving apparatus would suffice to enable them to avail themselves of this proposed system, and the weight of the receiving device could easily be kept down to a few pounds

Proper Niche

There Is Right Place for Every Man

By MADISON C. PETERS

EMERSON said: "The crowning fortune of a man is to be born with a bias to some pursuit which finds him in employment and happiness."

The business which we love is the one to which we go with delight. No man can struggle victoriously against his own character, and the man who tries to do anything else than that for which nature intended him will be worse than nothing. Many of the world's most successful men have failed in several pursuits before they finally discovered the bent of their genius. Goldsmith failed as a physician, but became immortal in "The Deserted Village." Cromwell was a farmer at forty, and Grant a tanner at thirty-eight, although the latter had fitted himself for his great life work by military education at West Point.

No man will ever do his best until he fills his proper niche. Many an ambitious parent forces a boy to become either a doctor, a lawyer or a preacher, and thus defeated, disappointed and dispirited, the boy who might have become a successful farmer, a good blacksmith or a merchant prince.

There are many fathers who think it their divine right to dictate the boy's calling in life. Handel, the great composer, was set aside for the law, and his father, a physician, did all he could to destroy the boy's fondness for music.

The parents of Bach meanly denied the boy a candle so that he had to copy his music by moonlight.

Galileo, discoverer of the pendulum, inventor of both the microscope and the telescope, was set apart by his parents for a physician, but he would hide his physiology and on the quiet work out the most difficult problems in mathematics.

Lorraine, the painter, was apprenticed by his parents to a pastry cook, while Arkwright's parents apprenticed him to a barber.

John Jacob Astor's father intended to make a butcher of his son, which determination caused the boy to run away from his home in Germany and brought him to America.

There can be no greater mistake on the part of the parent than to seek to bend the boy's design where his genius does not incline. The world does not demand that any man shall be a famous lawyer, a skilful historian, an eloquent orator, or a merchant prince, but that with a noble purpose, a high endeavor and a useful end in view you shall make yourself master in your line.

There is a place for everybody, and when a man is on the right track he will know it by the way things run. If you have been boring away in the same hole for years without striking oil, either your auger is too short or you are in the wrong hole. When a man has found his true calling he will not find nature putting any barriers in his path. In the right place you will be resourceful and happy, you will expand and grow and be at least comparatively successful.

Ignorant of Causes of Insanity

By DR. CARL A. WICKLAND

Eminent alienists agree that clinics reveal nothing of the causes of insanity.

Dr. W. M. Coplin, director of the bureau of health and charities, Philadelphia, says: "Insanity in most cases is unaccompanied by any perceptible change in the brain structure. The brain of the patient, when examined under a microscope, shows absolutely nothing which differs in any way from the appearance of the brain of a perfectly sound person."

Dr. A. W. Campbell, another authority, says: "Insanity neither affects nor disarranges the brain structurally."

Dr. William H. Thompson, physician to the Roosevelt hospital, New York, has alluded to the unexpected discovery that insanity is not a disease of the brain, because no anatomical investigation, microscopical or otherwise, can show the least difference between either brain cell or fiber of a person dying insane and the healthy brain of one killed in an accident.

The underlying cause that the symptoms indicate is ignored and this principally because it leads to the unpopular subject, namely—demoniacal or spirit obsession.

Unclean Fly Our Worst Enemy

By L. W. PACKARD

Is there on law or any feature of our sanitary laws that will compel landlords to provide screens for the doors and windows of houses and flats to protect their tenants from the worst enemy we have—the common house fly?

The egg of the fly is laid in filth, hatched in filth, and the parasite feeds upon filth until it is able to fly and enter our homes and deposit its germs.

It is scientifically proved that the common house fly is the cause of more fatal disease than any other thing we contend with.

The fly by its nature is a filthy thing. The fly is born in filth, feeds upon filth and takes naturally to filth. Then he enters our homes and promenades upon our meats, our fruits, our bread; he falls into coffee, he gets into our milk, he gets into our sugar bowl. He leaves the bacteria of a dozen or more diseases on and in the food we eat.

To prove this, catch a half-dozen flies and put them under a microscope. There you may see the bacilli. To prove them dangerous bacilli take them to some medical laboratory and you will find the truth of my statement.

Try This When Your Hair Is Dusty.

When the hair is dusty and dull, and you want to clean it quickly, just sprinkle through it a little dry shampoo powder made by mixing four ounces of orris root with four ounces of therox.

Then brush the hair thoroughly and not only will it be clean, but it will have a rich and glossy luster that can be given in no other way. So little time is required for this dry shampoo that it can be done profitably whenever the hair is dressed.

Therox is excellent for the scalp and gives the hair new life and vigor. The regular use of this mixture heightens the natural color, while washing the hair with water too often causes it to lose color and become dull and brittle.

Mexican National Drink.

The aloe, or rather agave, is the base of the Mexican national drink. The flower stalk is hollowed out, and the sweet, sugary juice caught in cups. If only slightly fermented it forms a most delicate and refreshing drink.—Stray Stories.

Dislike Term "Japs."

In a letter to the London Morning Post John Hyde, a member of the Royal Societies club, pleads that the Japanese be not called Japs. He says that the mikado's little people "very much dislike the application to them of the epithet, and it is only their extreme politeness that prevents them from openly resenting it." He adds: "During four years' residence in Japan I have not on so much as a single occasion heard Japanese addressed, or even referred to, as Japs by any English or American resident of that country, and until my recent return to England I had supposed that the use of the objectionable term was confined, to a certain class of people in the United States and some of the less influential of American newspapers."

English Joke.

What is the difference between seasickness and putting a bankrupt's property under the hammer? When you put the bankrupt's property under the hammer it is a sale of effects; but sea-sickness is the effects of a sail.—London Tit-Bits.