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VALUE OF SKIM MILK

What It Is Worth to the Creamery Patron

Address by

Prof. E. H. Farrington.

Prof. E. H. Farrington, of Wisconsin Dairy School, recently delivered an address at a convention in Sparta of Wisconsin Butter-makers' Association. His subject was: "The Value of Skim Milk to the Creamery Patron."

Skim milk at the present time is worth nearly as much to the creamery patron as he received for whole milk some years ago. The majority of creamery patrons, I think, fail to realize that there is comparatively little difference between the feeding value of skim milk and whole milk when fed to the calves, pigs, and chickens on the farm. Everyone knows that the butterfat skimmed from the whole milk is too expensive a luxury to feed to farm stock, but the skim milk left is too valuable a feed to waste at any price.

Feeding experiments without number have been made by scientists and by practical feeders to note the results obtained by feeding skim milk on the farm, and many attempts have been made to estimate its value to the farmer. These experiments have convinced many farmers that they do not wish to sell their skim milk, but some of them do not know even yet that feeding calves, pigs and chickens economically is one of the secrets of the farmer's success. Nearly every land owner knows that dairying is one of the most profitable lines of farming, but those who get the largest returns from the dairy farm are the stock raisers as well as the sellers of the dairy products from the farm.

Many different suggestions have been made as to the best way of demonstrating the feeding value of skim milk to the farmer, so as to convince him of its value. Probably no one subject has received more attention from the professors and experimenters connected with our agricultural colleges than the feeding value of skim milk on the farm. In the past these experiments have been confined to noting the gain in weight of calves, pigs and poultry, as the result of feeding skim milk and without other farm feeds, but in recent years it has been shown at the Wisconsin College of Agriculture by Professors Hart and McCullum that skim milk contains an unnamed something absolutely necessary for the normal growth and development of farm stock, but which is not present in other feeds.

For years chemists have analyzed feeding stuffs and reported the amounts of protein, carbohydrates, fat, and mineral substances contained in each one. At first this was all that was assumed necessary to find out concerning these feeds, but after a while some one suggested that the digestibility of the protein, carbohydrates, etc., was fully as important as the total quantity of these constituents present in all feeds. It is only within the past few years that the experiments referred to have shown that even knowing the total digestible protein and other constituents is not enough for measuring the difference in value of feeding stuffs, but in addition to this information we must find out what kinds of proteins are present in the different feeds.

It has been shown that a single grain feed contains several kinds of protein and that these are always present in the same proportion in the same grain. Further, it has been demonstrated that certain combinations of proteins are capable of supplying the particular something that is needed for normal growth and development of animals, while other proteins and protein mixtures do not contain this mysterious substance.

Up to the present time feeding experiments have demonstrated that skim milk contains all the necessary proteins, and they are in proper proportion for the normal development of growing animals. These experiments also showed that certain grain mixtures have caused the animals receiving them to become weak, blind and show symptoms of paralysis.

Skim milk is a natural food for young animals. It contains not only the right proteins but also everything else, including mineral matters needed for the growth of the animal's skeleton. There are no vegetable feeds that will take the place of skim milk; a successful substitute has not yet been found.

The value of certain patent or special feeds sold in small packages at high prices for feeding young stock is often due to the milk powdered or casein these contain. The well informed farmer knows that he can supply these constituents to his stock by feeding skim milk, and that this is much less expensive than the high-priced feeds mentioned. Nearly everyone knows that farmers selling their whole milk have difficulty in raising calves. Whole milk is too expensive for this purpose. If a farmer expects to milk cows as a part of his farming operations, he ought to grade up his own herd by selecting calves from his best cows, and he can only do this successfully by feeding them skim milk.

SKIMMILK TO CALVES.

Although skim milk is a satisfactory feed for young calves, experiments have shown that it can not profitably be fed alone for any great length of time. Calves need some roughage in their feed along with the skim milk in order to properly develop their growing digestive organs. A calf must naturally be allowed to have its mother's milk for the first few days of its life. It may then be taught to drink by feeding whole milk three times a day at first, and gradually reducing the number to two feeds per day. After about three weeks a little skim milk may be added to the whole milk, and in about ten days, by increasing its proportion, the skim milk may be entirely substituted for the whole milk.

Calves need grain or roughage before them continually, and this should be provided for as soon as the calf is two weeks old. Under such conditions it has been demonstrated over and over again that a calf will make satisfactory growth and a normal development.

A great number of feeding experiments have been made to show the value of skim milk for raising calves. I have selected one of these in which all the feed as well as the calves were carefully weighed for a period of time.

Twenty calves were divided into two lots of ten each. One lot was fed whole milk and the other skim milk, both receiving the same grain and roughage ration in addition to the whole milk and skim milk they consumed. At the end of the feeding trial the gain in weight of both lots of calves was figured at the same price per pound, and the value of the whole milk as well as of the skim milk fed both lots was found by subtracting the cost of the grain feed and the roughage from the value of the grain in live weight of the calves.

Without recording the details of this experiment, I find that the calculations showed the value of the whole milk to be 89 cents per 100 lbs., and the skim milk to be 61 cents per 100 lbs.

In this experiment the grain in live weight of the calves was figured at 8 cents per pound. Present prices would undoubtedly change the figures obtained in this experiment, but the relation between the value of the whole milk and the skim milk would be the same.

SKIMMILK FOR PIGS.

The digestive system of pigs is not the same as that of calves and on this account it is possible for pigs to grow to normal size and development by feeding them skim milk alone. It has been proved, however, by numerous feeding experiments, that better and cheaper gains in weight by pigs may be obtained by feeding corn or some other grain mixed with the skim milk, than is obtained by feeding skim milk alone. The most satisfactory ration for pigs seems to be about one part of corn to three parts of skim milk. When the pigs are very young, however, the proportion of one part of corn to five parts of skim milk has been found to be better.

The calculation made by Prof. Henry from a large number of

feeding trials led him to conclude that when corn is fed with about three parts of skim milk, and corn is worth 50 cents a bushel, the money value of the skim milk is 37 cents per 100 pounds, and when corn is 84 cents per bushel, the value of skim milk is 46 cents per hundred pounds.

Gov. Hoard has suggested the following rule for finding the money value of skim milk: "Multiply the market price of live hogs in cents per pound by 5, when skim milk is fed alone, but when fed with corn or barley, multiply the market price by 6."

Applying this rule and taking 9 cents as the market price of hogs make the feeding value of skim milk when fed with corn or barley at 54 cents per hundred pounds.

The Gurler plan for estimating the value of skim milk is to assume that 100 pounds of skim milk when fed in combination with corn to hogs is worth one-half the market price of corn per bushel. According to this rule, when corn is \$1 per bushel, skim milk is worth 50 cents per hundred pounds for feeding pigs.

These estimates of the feeding value of skim milk are all practical ones and are based on many observations obtained from a large number of feeding trials. There will naturally be some exceptions to them, but skim milk has a peculiar value for growing animals in building up bone and muscles, and in developing the vital organs of the animal. It is difficult to give a money value to these points, but they should be taken into account when one is considering the feeding value of skim milk.

SKIMMILK FOR POULTRY.

Many feeding trials have been made with growing chickens in which they have been given mixtures of grain alone and the gains in weight compared with those obtained by feeding mixed grain and skim milk. One of these experiments in which 20 chickens were fed showed that the cost of feed per pound of gain with mixed grain alone was 4.5 cents, and with the lot fed mixed grain and skim milk the cost of feed per pound of gain was 3.5 cents, or one cent less per pound of gain. It was noted that the chickens fed grain and skim milk, ate more feed and were in better physical condition than those fed grain alone.

Another feeding experiment, made to note the effect of skim milk on egg production, showed that a lot of 32 hens fed for 122 days on a ration to which two quarts of skim milk was added daily to moisten the grain, laid 1,244 eggs, and another lot of 22 hens fed at the same time on the same grain rations, but with no skim milk, laid 996 eggs. There was a difference of 248 eggs in favor of the skim milk lot, and if the eggs are valued at 24 cents per dozen, the skim milk was worth \$1.22 per hundred pounds, based on the increased egg production.

THE LOSS IN SOIL FERTILITY.

The successful farmer knows that it is absolutely necessary for him to consider the subject of soil fertility on his farm. Most farmers have learned that by selling hay and grain crops from the farm the soil becomes exhausted unless stock is kept for the purpose of converting these feeds into salable products and retaining the fertilizing constituents of the food on the farm. An analysis of the different farm crops as well as of dairy products has shown that the fertilizing constituents in a ton of hay are worth about \$4.50; a ton of corn about \$5.00, and a ton of wheat about \$6.00; and that every ton of these crops sold from the farm is taking just that amount of fertility out of the soil. An analysis of dairy products shows also that butterfat contains the smallest quantity of fertilizing constituents of any one of them, and by applying the same calculations to dairy products as has been used in estimating the fertilizing constituents in farm crops, it has been shown that by selling a ton of butter from the farm, only 50 cents worth of fertilizing constituents are sold, while a ton of milk removes about \$2.00 worth of fertilizing constituents from the farm. These figures plainly show that it is much more economical to feed the grain in crops to cows and sell cream from the farm than it is to sell whole milk, which contains over four times as much soil fertility as does the cream.

CHURCH NOTICES

8 p. m., Bible reading on "Second Coming of Christ."

South Salem Friends. Corner of South Commercial and Washington streets, H. E. Penberton, pastor. Bible school at 10 a. m., B. C. Miles, superintendent. Meetings for worship and preaching at 11 a. m. and 8 p. m. Junior C. E. at 3 p. m. Senior C. E. at 7 p. m. Prayer meeting at 8 p. m. Thursday.

Swedish Tabernacle, M. E. Corner South Fifteenth and Mill streets, Rev. John Oval, minister. Sunday school at 2 p. m., Gust Anderson, superintendent. Mr. Andrew V. Oval will have charge tomorrow. All cordially invited to attend.

Englewood U. B. Guy Fitch Phelps, pastor. Sunday school, 10 o'clock a. m., W. W. Rosebraugh, superintendent. Preaching at 11 a. m. and 8 p. m. Young People's meeting at 7 p. m. Services instructive and entertaining.

First Christian. Corner Center and High streets. The trucks will make their usual trips to bring people to Bible school. The school assembly at 9:15 will be directed by Dr. H. C. Epley and there will be assembly and special music by the orchestra. The contest with Eugene grows more and more interesting as it draws near the close. The Salem Loyal Women's class is in the lead but must not slacken its effort and attendance or Eugene will yet win the race. The lesson for Sunday is from Isaiah 28:1-13. As lesson study counts be sure to help out by study as well as attendance. Salem is helping loyally. We had 200 in the class last Sunday, and almost as many studied lessons. We plan for 300 tomorrow. Come one if we get them. At 11 a. m. Mrs. Porter will speak on "The Book That Turns the World Upside Down." The evening service will be at 7:45, subject "The Voice and message From the Wilderness." C. E. at 6:45 p. m., Miss Parsons, leader. Mr. Porter continues to improve and will be able to take care of the regular services after tomorrow.

Commons Mission. No. 241 State street. Service, 3 p. m. Friday, 8 a. m., Prayer band, Friday.

THE MOTHER. By Berton Braley. I do not want my boy to go to war. To suffer cruel pain, perhaps to die, Yet if the cause he should be fighting for. Calls him to fight, I know full well that I would be unworthy of a mother's name If I should strive to keep him by my side. 'Tis mine to recognize his country's claim. And let him go in all his youth and pride. I will be brave the day he goes away, I will not show the terror in my heart. But Oh, Dear God! how I shall watch and pray. Seeing my son, my splendid son, depart— Pray that he does his stern task bravely well. Bearing his share of duty to be done, But that from out the storm of shot and shell He may come safe to me, my son, my son!

CHICKEN DINNER Every Sunday AT The Cherry City Home Restaurant 186 South High Street Owing to the high cost of Food the price is 30 CENTS Home Cooked Food—Served Home Style. We invite you visit our kitchen.



HERBERT BRENON presents NAZIMOVA in "WAR BRIDES" FELZNIK-PICTURES

BIG SUPER-FEATURE COMES TO THE GRAND

"War Brides," the first production by the Herbert Brenon Film Corporation for Selznick-Pictures, will be seen at the Grand Opera House on Tuesday and Wednesday, May 22 and 23. This photoplay will introduce to moving picture patrons a new star, Nazimova. Well known on the stage, she is now making her debut on the screen in a film version of the play, by Marion Craig Wentworth, in which she made a sensational success in vaudeville. She had refused all offers until she saw "The Daughter of the Gods," which Brenon wrote and directed, and was so charmed by the work that she signed a contract to appear under his direction. "War Brides" is an intensely dramatic story, but while it has to do with conditions brought about by war, there are no battle scenes. A trench is shown and the effect of the fighting upon the troops, but no battle scene is enacted. The main story has to do with the sufferings of the women at home. Joan, the young widow, defies the military authorities, and urges the young women of the village to refuse to become brides of the departing soldiers. She is imprisoned, but escapes, and leads a band of mourning women to meet the king and protest against war. Her own individual message she delivers in a most dramatic manner. Herbert Brenon has excelled himself in this production. His previous successes, "Neptune's Daughter," "The Soul of Broadway," "The Clemenceau Case," "The Krutner Sonata," and others, have won for him a reputation second to that of no other director in the world, and he stakes his reputation upon "War Brides" as his greatest work down to the present.

Margaret Mason Writes of Gotham Fads and Fashions

By Margaret Mason.

Boys will be boys is no longer true. They now will be Boy Scouts or sailors in blue, and little girls swagger in Red Cross togas too. Why really "Just children" you no more can view.

New York, May 18.—All the infancy is in full uniform these days. Young hopefuls at the age of five and six are miniature copies of honest-to-goodness Boy Scouts with knapsacks, leggings, broad-brimmed hats and everything all complete. Quite the best thing about the suits from a mother's viewpoint is the fact that they are made from the regulation khaki and hence bear some promise of withstanding the constant friction of too close application to balustrades and cellar doors, and shocks of climbing stone walls and apple trees, of lurching in mud pies and damp sand piles and other delectable death-to-clothes stunts that boyish flesh is heir to.

The sturdy Boy Scout shoes that come from size 10 up, almost but not quite, revive for harassed Dads and Mothers the erstwhile happy halcyon days of the copper toed boot. Another khaki model for small boys that is practical, serviceable and good looking is a Norfolk suit with knickerbockers. Of course this hasn't the lure for the small boy soul that is just bursting to grow up and be a soldier but it has its good points even if they aren't patriotic ones.

The sailor suits while of course they have always been on deck are now floating on the very top wave of renewed popularity. A small boy can always be ship shape in a blue serge or white duck sailor or middy suit with all the necessary adjustments of bo'sun whistle, flowing tie and hat band gold lettered with name of his favorite battleship. For dress up effects there are cunning copies of officers' uniforms in regulation blue serge and brass buttons and there are also flossy white flannel sailor suits guaranteed to turn little Percy into an ice cream sailor fit to rival any chocolate soldier.

While small brother is envying around in his martial marine and regimental duds little sister is by no means out of the patriotic picture.

At the age of four and five she is a good sartorial imitation of a Camp Fire girl in khaki kilts and accoutrements. She is a ladylike sailstress in a middy blouse and skirt but her greatest achievement is a Red Cross uniform, white apron, cap, sleeve band and all. No little girl can resist such blissful apparel and is even ready and willing to have her face and "paddies" scrubbed at frequent intervals in order to live up to it. These cunning Red Cross outfits are fine for the little ladies but tough on the neighbors' cats and dogs and the doll families. Tabitha and Thomas Cat are worn almost to wraiths from too zealous nursing and the family setter has ceased to set.

When they blossom out in party pretties or Sunday school garb the little girls today have charming confections to choose from indeed. The color line is no longer drawn at pink and blue and white for tiny tads. They now look like wee golden girls in wonderful yellow creations of linen and cotton crepe that are quaint and individual of cut and dainty in hand embroidery and smocking. Yellow is really a lovely color for childhood and these new yellow frocks and golden coats and sweaters are the new last words in Lilliputian fashion circles.

Yellow rosebud sprigged dimities, dotted swiss slips, over yellow silk under slips and yellow striped and checked gingham made up with plain white or plain yellow are decidedly smart. All the newest little girl models frocks have the cunningest pockets and collars and French touches, just like Mother's bits of yarn embroidery, belts,

and fixings that all little girls just love. For hard work in the garden in these days of each one doing her bit, there are delightful little overalls of pink, blue, navy and tan chambray banded in striped or checked chambray of white and the same shade with lovely big pockets to hold sand, pebbles or a radiolast and onion or two when the wee enthusiastic gardener gets to raising a little food stuff on her own account. Of course there are sunbonnets to match.

Trapshooters To Get Oil Stock As Prizes

By Peter P. Carney.

(Editor National Sports Syndicate.) Shares of stock in reputable oil companies will be the chief prizes in the state championship snoot of the Oklahoma State Sportsman's association over the traps of the Tulsa Country and Gun club on May 27, 23 and 24—and for this reason the Oklahoma shoot will be the most important in the Southwest this year.

The Tulsa club hopes to give the biggest state snoot in the country. Besides the oil stock—which amounts to a lot of money—they will give \$2,100 in cash and trophies. The oil stock was purchased one year ago, and is paying six per cent interest. The winners of the stock get the interest also.

There will be four registered events at 100 targets on the second and third days of the shoot. The first event is the Harry Sinclair special; the second, the Frank Gillespie special; the third, the J. S. Cosden special, and the fourth—which will also decide the State championship—the Oil Field special.

The Harry Sinclair mentioned is the former president of the Federal Baseball league. He is very much interested in the shoot, as are the other wealthy oil producers of Tulsa, and every one of the companies will send squads. One trap in the State tournaments, 100 and twenty shares of stock will be given in the four events, based on 15 shares to the winner, 10 shares to the second high gun and five shares to the third high man. Well paying oil stock, as additional prizes, should be the means of bringing out hundreds of trapshooters.

The Tulsa club has five traps, concrete trap houses, a fine club house, and has made arrangements to take the shooters on motor trips through the oil fields, and the women of Tulsa have arranged for this and other trips for the women who attend the tournament. There will be trapshooting at night under powerful lights, by way of diversion.

No attempt will be made by the Tulsa club to make a profit on the tournament. All money over expenses will be refunded. May is a glorious time to shoot in Tulsa. The fall, winter and spring are the seasons in which most of the trapshooting is done.

Of Interest to the High School Girls of the State

The State Alumni association of the University of Oregon offers each year a scholarship, which is called the Mary Spiller Scholarship the purpose of which is to promote the cause of education among the women of Oregon. The person to whom this is awarded must be a girl graduate of an accredited high school of Oregon. The scholarship will be held more than one year by the same person, if by the committee award it think it wise to so bestow it. The scholarship consists in the payment of board and room at Mary Spiller hall, situated on the university campus, for one year. The receipts

PEPSIN... Advertisement for Pepsin medicine, describing its benefits for various ailments.

Everybody Satisfied... Advertisement for a product, possibly a food item, emphasizing customer satisfaction.

HOW FRANCE... Advertisement for a product, possibly a beverage or food, with a focus on French quality.

ENTIRELY NEW... Advertisement for a new product or service, highlighting its novelty.

TRY JOURNAL... Advertisement for a journal or publication, likely related to the school girls' scholarship.