

# For More and Better Dairy Herds in N. D.

Prepared by J. G. Haney of the Agricultural Extension Dept. of the International Harvester Co., for The Grand Forks Herald.

## For More and Better Dairy Herds

Sixth Livestock Article.

### Feeding The Dairy Cow

By J. G. HANEY, Agr. Ext. Dept., I. H. C.

As stated in a previous article, the dairy cow should be considered as a high class machine, used for the purpose of turning feeds into milk products. In order to do this economically and profitably, it has been learned that the cow must be fed feeds containing definite amounts of certain food elements. The feeds containing these must also be appetizing, and be combined, so as to have the proper effect upon the cow's digestive system. Not all feeds have the same effect.

It has been learned by careful observation that it would be possible to combine feeds so as to have a ration containing the proper amounts of food nutrients, and still this ration would not produce the desired results. Certain feeds are constipating in their effect, while others are loosening, and also, certain feeds are more appetizing than others. Hence, in order to properly combine a ration it is necessary to have all these facts in mind.

Loosening feeds—Alfalfa, ensilage, roots, bran, linseed meal, gluten meal. Constipating feeds—Corn, fodder, corn stalks, prairie hay, timothy hay, corn (in light feeds), cottonseed meal. The above list of feeds is given to contain all that are available, but those not mentioned may be considered as being rather neutral in their effect.

In combining the ration for the dairy cow, selections should be made from each of these classes of feeds, so as to secure the best results. Those who have had the experience of trying to milk cows with no other feed than corn fodder and prairie hay, will remember that the butter is usually white, and very hard, and the cows soon dry up. Those who have fed alfalfa and ensilage in large quantities have observed that the butter was too soft and oily, while a combination of these feeds would produce almost ideal results.

Study Combination of Feeds. As stated in a previous article, not all of any feed is digestible, the amount varying very greatly with the different feeds. It has also been learned the animal's body, and the

feeds, that are high in carbohydrates and fat.

A ration composed of feeds rich in protein, may produce very good results, there will be a waste, and it will be noticed that such feeds are high in price. While it is desirable of over stimulating the milk glands, and causing garget. Feeds that are high in carbohydrates and fats are less expensive, and as the carbohydrates and fats cannot take the place of protein in the ration, the best results for milk production cannot be expected if they are fed in larger amounts than necessary.

**Feed What is Grown.** As a general rule, the feeds that are grown on the farm will be fed to the milk cows, very often regardless of results. While it is very desirable to grow such feeds as are needed on the farm, attention should be paid to the growing of those which will give the best results. If alfalfa and corn with some oats or barley, are available, it is possible to combine these in such a way as to get a very satisfactory ration.

The matter of having a proper combination of feeds is so important that every effort should be made to grow what is needed, and then feed it, ever, if the feeds are not available for combining in such a way as to secure proper results, in many cases, it would be advisable to buy a ration of feed, such as bran, oil meal, or alfalfa hay.

**A Good Dairy Cow Ration.** First, the ration for the dairy cow must contain the nutrients that are demanded by the cow for the production of milk, and the maintenance of her own body.

Second, Succulence—Good June pasture should be a standard for combining all rations. This means that the winter feed should be made up of silage or other root crops should be supplied. Succulent feeds are appetizing, which makes the cow enjoy her feed, and keeps her system in good condition.

Third, Variety—There is perhaps no animal on the farm that requires more variety in their feed, and does better when they have it. The dairy cow is no exception. It would perhaps be possible to combine feeds so as to contain the proper food elements, and still not have sufficient variety. This is true of the grains, as well as of the roughage, which may be fed. It has been learned by the old established dairyman, that when possible, it is well to mix as many different grains and feeds together as possible, always being careful to combine them in such a way as to get a very satisfactory ration.

Fourth, Appetizing Ration—Whatever can be done to make the feed taste better, or make it more enjoyable to feed, will be of great value to her milk production. All hay or fodder intended for the dairy herd should be cut early so that it will have a green flavor, and be easily eaten, and highly digestible. The appetizing effect, from early cut and carefully cured silage will greatly increase the feed value of the ration. The grain to be fed should be fresh ground, and kept clean and sweet. This means that the grinding should be done in a clean mill, and there be no chance for the grain to become stale, or rancid before it is fed. Any coarse, over-ripe or unpalatable feed should be fed in small amounts, and highly digestible. The appetizing effect, from early cut and carefully cured silage will greatly increase the feed value of the ration.

Fifth, Feeding for quality of butter. In winter, when the cows are eating fodder, barley or timothy hay, straw, etc., the butter is easily eaten, and does not spread on the bread, unless it is warmed. The common opinion is that the cold weather makes the butter hard, but this is only a part of the cause for this hardness. All the feeds mentioned above have a tendency to make the butter hard. If the butter is not easily eaten, such feeds are fed, the butter resulting will not be nearly so hard.

The spreading quality of butter is a strong factor in increasing or decreasing its consumption. No one likes soft and oily butter, nor do they like it so hard that it cannot be spread at all. There are cases on record where dairymen in the winter have had their orders doubled from private customers, by changing the feed from that which made the hard, crumbly butter, to feed which made butter to spread well. This is a matter which a great many should give more careful consideration.

It will be found that a feed which produces a desirable quality of butter will also produce the highest yield of milk. The dairy cow should always be fed

after milking, and never before, or while milking. There are often odors from the feed, or dust, that may be absorbed by the milk, and this will make the milk unpalatable to the consumer. There have at times been complaints from feeding of silage, and other rather strong odored feeds. In nearly every case it has been learned that the trouble was due to the presence of these feeds in the barn while milking, and not to the feeding of them to the cows.

There may be a little trouble in getting cows trained so that they will milk contentedly without feed, but the fact is that they will give more milk, after a few days of training.

The cow should have clean, wholesome food. The dairyman who gets the fancy prices for butter sold to private customers, gives his cows only feed that is clean enough to put on his own table. Spoiled or rotten feeds taint the milk and butter.

The following are a number of rations that will fit the conditions. The figures indicate pounds. Each ration is a twenty-four hour feed, for a 1,000 pound cow in full milk. If the cow is on a twice a day, one-half of the ration should be fed at each feeding.

1. Alfalfa 25, corn fodder 9, or millet hay 6.  
2. Alfalfa 20, corn 7, or barley 8.  
3. Alfalfa 15, corn ensilage 20, corn 4, bran 3.  
4. Alfalfa 10, millet 10, corn 3, bran 3 oats 3.

5. Alfalfa 15, corn ensilage 40, corn 2, oats 3, cottonseed meal 1, linseed meal (o. p.) 2.  
6. Corn fodder 15, prairie hay 8, oat meal 3, cottonseed meal 2.  
7. Corn fodder 15, oats straw 10, bran 4-1-2, linseed meal (o. p.) 3, cottonseed meal 2.

8. Alfalfa 15, corn ensilage 15, bran 1-1-2, Chicago gluten meal 2, cottonseed meal 2-1-2.  
9. Prairie hay 20, bran 8, cottonseed meal 2-1-2.  
10. Prairie hay 20, oats 3-1-2, bran 4, linseed meal (o. p.) 3-1-2.  
11. Timothy 10, clover 10, corn 4, bran 2, linseed meal (o. p.) 3-1-2.  
12. Ensilage 20, alfalfa 20, corn 3 or barley 3.

13. Alfalfa 10, wheat straw 10, mangels 8, bran 6, Chicago gluten meal 2, cottonseed meal 2-1-2.  
These rations are all figured from the accompanying table showing the digestible nutrients in the different feeds. By the use of this table a ration may be combined from any other feed available.

Every dairyman should be familiar with these tables, and use them. Farmers Bulletin No. 22, department of agriculture, Washington, D. C., gives valuable information on this subject, and should be carefully studied. Also bulletin No. 743, Feeding of Dairy Cows, should be carefully read.

The importance of knowing what the cows are producing and how to know will be discussed in a succeeding article.

## BETTER FEELING IN CATTLE MARKET

Market for Porkers 20 to 30 Cents Lower—Sheep Prices Show No Further Decline.

South St. Paul, Sept. 30.—Better feeling prevailed in the cattle market yesterday than any day this week. Packers bought more freely and there was a general advance in prices. A shade betterment in prices reported here and there by a few sellers. On the whole, the deal was on a stronger basis. The congestion in the yards had been largely cleared away; a number of dealers had their pens well emptied by the close yesterday. There were only 2,500 fresh receipts, and the market was well supplied.

Good tidy South Dakota steers sold at \$7. Good butcher cows out of the same consignment cashed at \$6.25. A few heifers, ranging from 100 to 150 lbs. while medium to good ones weighed in at \$5.50 to \$5.75. The common and trashy sorts, which cannot be sold to the packers, brought \$4.50 to \$5.00. Good cows brought \$5.50; the fair to good \$4.75 to \$5.25. A few cows, classed by sellers as fair, were offered at \$5.00, while the best canner stuff sold mostly from \$3.50 to \$4.

There was a little more life to the stock and feeder trades with a better disposition on the part of buyers. Country outlet Thursday was pretty good, but most yard dealers still have a surplus of stock. A few better steers sold at \$5.50 to \$5.75. The best heifers offered sold from \$5.50 to \$5.75.

Yield calves were a quarter lower all around, the top ones bringing \$11.50 and seconds usually \$9. Heavy yield calves are 50 cents lower for the lot. Late hog arrivals had to take \$6.10c yesterday, but they would have brought early in the day. The market was rated 20¢ to 30¢ lower, with the bulk cashing at \$9.90 to \$10.10. Two loads of Montana drew a premium and sold at \$10.30, with other porkers of top grade went at \$10.25. Hogs are rated 40¢ to 50¢ lower than last week, and are still in demand by packers and brokers, with the best ones getting \$9.15. Most of them are getting \$8.75 to \$9.

The 10 cent hogs are nearing the vanishing point. A fresh cut of 10 to 15 cents yesterday sent the bulk of the supply below that mark. Best offerings got \$10.15 and they were rated as good as the porkers which brought \$10.30 Friday. With quality better than Friday, bulk of hogs sold at \$9.15 to \$10.15 and they were rated as good as the porkers which brought \$10.30 Friday. Trade was slow. Light mixed hogs brought usually \$9.35 to \$10. Pigs were a shade higher, but they were the best price in the early trade.

Increasing sheep receipts, with lower prices, are looked for by the trade. There have been sheep on sale here this week than usual, and time this fall, though it was largely a native assortment. Prices showed no further decline, most of the top fat lambs bringing \$2.50, with others sold at \$2.60, and the seconds at \$2.00. Heavy lambs have been hit hardest in the recent price cutting and are rated at \$2.50. They are being usually \$2.50 to \$2.75. Killing ewes are selling from \$5.50 to \$7. Feeding lambs of the same variety are worth \$8.50 to \$7.75, and breeding ewes are selling mostly around \$7.50 to \$7.75, unless fancy yearlings, which easily bring \$8.25 to \$8.50.

The people of the Argentine Republic in South America have more money than they thought they had, and are less anxious to keep it than we supposed. They are going to pay Caruso \$100,000 for singing there 39 nights.

# THE MARKET WORLD

## NEW TRACTOR GIVEN A TRIAL

Plant for Manufacture May Be Established in Grand Forks.

Shall Grand Forks have a tractor company? Can it do the money of North Dakota keep North Dakota products at home? Shall we have an immense factory with hundreds of workmen making the cleanest and best made in and around our own vicinity? These and kindred questions were asked yesterday afternoon by a party of interested business men who visited the Leslie Stinson farm to see a new tractor operate. This new machine was constructed by Mr. Stinson's brother, C. H. Stinson, of Watertown, S. D., and was shipped here to be given a thorough tryout in a place where all the good and bad points of a machine of this kind could be tested. The new tractor was plowing yesterday a six inch deep furrow and was pulling three large size plows at the rate of three miles an hour. At that time it had finished continuous run of eighty-three acres and had done the work in 71 1-2 hours, during which time no stops had been made for repairs.

**No Wear of Gears.** The object Mr. Stinson had in mind when he brought his machine here for trial was to show that he could build a machine that could stand the wear and tear of the actual running test without any perceptible wear of any part. This he pointed out yesterday, as he has been one of the great obstacles other tractor builders have been unable to overcome, but he claims to have succeeded in this completely. To prove his statement he took off the casings over the gears yesterday and examined them. The gears showed no wear, although the machine had been on a continuous run and had finished more than half of the 160 acres it was to plow. At the end of the run Mr. Stinson says he will take his machine to Grand Forks and take all the gears apart for a thorough and complete examination. If an thoroughly convinced, however, that there will be no wear of the gears.

**Men Enthusiastic.** Members of the Grand Forks Commercial club have been inquiring into the demonstration and have been very enthusiastic over the fine results accomplished. Yesterday they saw an advertisement in the Grand Forks Herald, and inquired into the machine to turn up more new earth every year until he had done it all.

James Dinnie, Fred L. Goodman, A. I. Hunter, W. H. Brown, Art Turner, B. E. Baldwin of Fairbanks, Morse & Company, C. Graber and George L. Irving of Chicago have watched the demonstration and have said that this machine is a wonder. The demonstration is continuing through today and Mr. Stinson welcomes all visitors.

**Construction of Machine.** The tractor is equipped with a four cylinder side valve motor, 4-1-2x5, with two speeds, and a reverse, and a speed reverse, which will drive it 2 to 3 1-2 miles per hour. The exclusive features are a universal guide wheel which can be changed to either side or the middle to accommodate the different kinds of work that will be required of the machine. (2) All gears, including main and intermediate, are of differential lock, which the differential can be locked or released while the tractor is in motion. This is an exclusive feature, being especially patented by Stinson. (4) A hand type clutch that is simple and reliable. Mr. Stinson claims this tractor is the only one built with enclosed gears running in oil.

Up to date no plans have been made for the construction of the machine on a large scale. There have been offers of inducements to establish a factory at different points, but up to date no definite plans have been formulated. However, said Mr. Stinson yesterday, "we will put this machine on the market just as soon as I should just what it will do under a severe test. The very reason why I shouldn't start manufacturing on a large scale."

He asked if he had considered Grand Forks, Minn., as a possible location, but he quietly let it be known that he would do so. Some few friends and some members of the Commercial club have seen it and they think that Grand Forks would be a good place to start a factory because it is near the market and close to the Great Lakes where we can get our raw material, but we have not given that matter much thought."

## Grand Forks Markets.

Obtained through the courtesy of the Russell-Miller Milling company of Grand Forks.

Prices for Monday, Oct. 2.

Wheat. No. 1 northern.....\$1.65  
No. 2 northern.....1.55  
No. 3 northern.....1.51  
No. 4 northern 52-53 lbs.....1.39

Durum. No. 1 durum.....\$1.53  
No. 2 durum.....1.49  
No. 3 durum.....1.39  
No. 4 durum.....1.21

Barley. C.....\$ .77  
D......74  
E......68  
F......64

Rye. No. 1.....\$1.06  
No. 2.....1.02  
No. 3......87  
No. 4......85  
No. 5 mixed......83

Flax. No. 1.....\$2.12  
No. 2.....2.07  
No grade.....1.81

## BANK CLEARINGS.

Grand Forks bank clearings Sept. 30th, 1916, \$113,909.54.

## Market Quotations

Markets and Cossip Furnished by Chas. E. Lewis & Co., Security Building, Grand Forks, N. D.

**SEPTEMBER WHEAT.**  
Chl. Minn. Dul.  
Open.....1.55 1.57  
High.....1.56 1.71  
Low.....1.50 1.64  
Close.....1.52 1.64 1.63

**DECEMBER WHEAT.**  
Chl. Minn. Dul.  
Open.....1.54 1.63 1.63  
High.....1.55 1.64 1.64  
Low.....1.51 1.62 1.63  
Close.....1.54 1.63 1.63

**MAY WHEAT.**  
Chl. Minn. Dul.  
Open.....1.54 1.61 1.61  
High.....1.55 1.61 1.61  
Low.....1.53 1.62 1.60  
Close.....1.53 1.60 1.60

**ST. LOUIS.**  
Sept. Dec. May.  
Open.....1.53 1.54 1.54  
Close.....1.53 1.53 1.53

**KANSAS CITY.**  
Sept. Dec. May.  
Open.....1.51 1.49 1.49  
Close.....1.51 1.49 1.49

**WINNIPEG.**  
Sept. Dec. May.  
Open.....1.52 1.55 1.55  
Close.....1.52 1.54 1.54

**CHICAGO CORN.**  
Sept. Dec. May.  
Open......90 .73 .73  
High......90 .73 .76  
Low......89 .73 .76  
Close......89 .73 .76

**CHICAGO OATS.**  
Sept. Dec. May.  
Open......47 .48 .51  
High......47 .48 .51  
Low......46 .48 .51  
Close......46 .48 .51

**CHICAGO PORK.**  
Sept. Oct. Jan. Dec.  
Open.....26.40 22.95 23.50  
High.....26.80 22.95 23.50  
Low.....26.80 22.95 23.50  
Close.....26.80 22.95 23.50

**MINNEAPOLIS WHEAT.**  
Dec.—Puts \$1.04 1/4.  
Calls \$1.05 1/4.

**MINNEAPOLIS CASH CLOSE.**  
No. 1 hard.....\$1.70 @ 1.71  
No. 1 northern.....1.66 @ 1.67  
Choice 1 Nor. arrive.....1.68  
Regular 1 Nor. arrive.....1.64 @ 1.65  
No. 2 northern.....1.61 @ 1.62  
No. 2 hard Mont.....1.57 @ 1.58  
Arrive.....1.58  
No. 3 northern.....1.53 @ 1.54  
No. 1 durum.....1.67  
Arrive.....1.67  
No. 2 durum.....1.63 @ 1.64  
No. 3 yellow corn......81 @ .83  
Arrive......81

**DULUTH CASH CLOSE.**  
No. 1 hard.....\$1.71 @ 1.70  
No. 1 northern.....1.68 @ 1.69  
No. 2 northern.....1.63 @ 1.64  
No. 3 northern.....1.58 @ 1.59  
Oats, cash......48 @ .49  
Rye......72 @ .73  
Barley......63 @ .64  
No. 1 durum.....1.68 @ 1.69  
No. 2 durum.....1.65 @ 1.67  
September durum.....1.20  
December durum.....1.66  
May durum.....1.60  
Flax, cash on track.....2.23 @ 2.23

**WINNIPEG CLOSE.**  
No. 1 northern.....1.61  
No. 2 northern.....1.58  
No. 3 northern.....1.54  
No. 4 northern......82  
Barley 2 C. W......91  
Oats, October......82  
Oats, December......80  
Flax, May......53  
Flax, October......51  
Flax, December......50

## VARYING PRICES AT THE CLOSE

September Wheat Lower and December and May Wheat Higher.

Minneapolis, Sept. 30.—September wheat 7-8 cents lower, December wheat 5-8 cent lower, May wheat 5-1 cent higher. Chicago September wheat closed 2-1-8 cents lower. December wheat 1-8 cent lower, May wheat 1-4 cent lower. The wheat market ruled firm early but developed weakness later in the day. Final figures for the December and May are higher while the September price is down nearly two cents. Early in the session September wheat sold up to \$1.67 1-2 and then dropped to \$1.64 1-4 where it finished. December wheat went to \$1.64 1-4 and closed at \$1.63 3-8 to \$1.64 1-4. Argentine news was bullish, although a few scattered showers were reported there. The Liverpool spot wheat market came unchanged and this firmness in the face of yesterday's weakness in our market helped to strengthen prices at the start. Weather map generally favorable for threshing operations in the northwest.

**MARKET NEWS.** Chicago: Today will witness wind up in September trades. It will be no surprise to see September wheat at a big premium. There is a large open interest in it, and higher prices are expected unless long sell freely. Traders attributed the late break in wheat yesterday to the tropical position of the pit. The market was regarded as overbought during the morning. Part of the selling was attributed to a late cable intimating that rains were threatening in Argentine. Shorts in September corn are being satisfied at around 90 cents and are being led by holders. From the way the market has moved in the last few days there may be no fireworks today. Export business in wheat was about 700,000 yesterday, including 400,000 from Omaha. Chicago sold 50,000 wheat and 60,000 corn. The corn netted better than 90 cents.—Herald.

**LIVERPOOL SPOT WHEAT UNCHANGED.** Corn unchanged to half higher. On passage: Wheat 3 lower. Corn unchanged to 3 lower.

**LIVE STOCK RECEIPTS.** Chicago: Receipts, 140,000, 5 to 10 cents lower; left over, 5,800; mixed, \$2.45 @ 10.55; heavy, \$9.75 @ 10.60; rough, \$9.45 @ 9.75; light, \$9.50 @ 10.60. Cattle receipts, 600; sheep, 6,000, steady. Kansas City: Hogs, 1,500; cattle, 100; sheep, 200. Omaha: Hogs, 5,000; cattle, 200; sheep, 10,000.

**Harris Winthrop—Take profits on advances.** Chapin—Prospects for a continuation of the present activity for some time to come.

## MONEY TO LOAN

In Minnesota and North Dakota at lowest rate of interest, with privilege of repaying at any time and interest stops on amount paid. Both interest and principal made payable at your nearest town. Agents wanted.

M. F. MURPHY, Grand Forks, N. Dak. Financial Correspondent for Union Central Life Ins. Co.

## TOP PRICES PAID FOR HIDES, WOOL

Calf Skins, Fats, Tallow Etc. Also Copper, Brass, Iron, Lead, Tin, Zinc, Tin, Inner Vests, Rubber, Etc.

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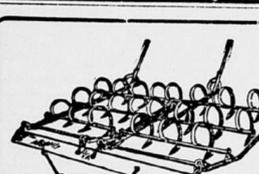
**HIDES** We pay the highest market price for hides and sheep pelts. We furnish shipping tags free. GINSBERG BROS. 201 First Ave. Grand Forks, N. D. Phone 1012 W.

## The Entering Wedge

A knowledge of bookkeeping, banking, shorthand, typewriting, business methods, etc., is what you should possess if you want to secure your first start in business. This knowledge is what business men demand, and once your start is made it leads to still better things. Why can't you become as successful as other young men and women who have taken advantage of our instruction? Write for free catalog and let us tell you how to get the first start.

## UNION COMMERCIAL COLLEGE

Grand Forks North Dakota



## Quack Grass Can be Killed With the New Kovar Spring Tooth Harrow

Our four-horse harrow cuts 9 ft. 2 in. wide. Can furnish in any width desired. Once over with our harrow is as good as double disking for it leaves the land level and in best possible condition to crop.

Guaranteed to scour in any soil and bring the quack grass roots to the top of the ground. That is the only way to kill quack grass satisfactorily. Guaranteed or your money back. If your dealer cannot supply you, write for prices and the size you want direct to Factory.

## JOS. J. KOVAR

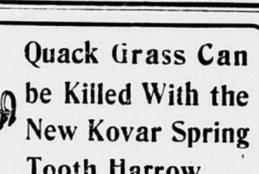
Leslie Stinson, Dealer at Grand Forks, N. D. Factory on Milwaukee tracks, N. Elm St., Owatonna, Minn.

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## JOS. J. KOVAR

Leslie Stinson, Dealer at Grand Forks, N. D. Factory on Milwaukee tracks, N. Elm St., Owatonna, Minn.

## Potatoes.

We are carlot buyers and shippers. Write us. D. E. RYAN CO. Minneapolis, Minn.

## MacDOUGALL FEED CO.

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## THE MYERS SHOCK LOADER

Six loaders attached to bundle racks sufficient to keep the largest thrasher running at top speed. It is simple in mechanism and easily repaired by any blacksmith if broken.

Watch for advance notices when it comes to your territory.

Agents: J. D. Bell and A. S. Miller of Penn, N. D., have secured the agency for Ramsey, Benson, Nelson, Eddy, Walsh, Cavalier and Pembina counties. They will demonstrate the loader in various communities and invite every farmer to see it for himself.

Watch for advance notices when it comes to your territory.