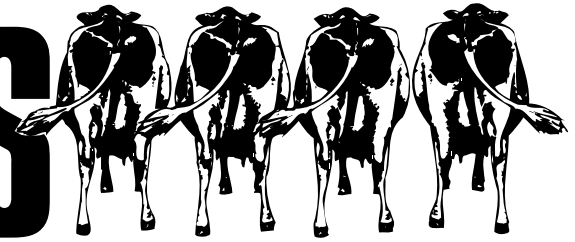


August 1999

Dairy Lines



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Upcoming Events

Kansas State Fair
Hutchinson, KS
September 10-19, 1999

OSU Dairy Day
Day 1: October 27

Northeast Vo-Tech Center, Pryor, OK

Day 2: October 28

Grady Co. Fairgrounds, Chickasha, OK

State Fair of Oklahoma
Oklahoma City, OK

Dairy Show—September 17-21, 1999
Youth Dairy Judging Contest—9:00 a.m.
September 18, 1999

Tulsa State Fair
Tulsa, OK

Dairy Show—September 23-26, 1999
Youth Dairy Judging Contest—9:30 a.m.
September 25, 1999



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DAIRY RESEARCH & EXTENSION NEWS

http://www.oznet.ksu.edu/dp_ansi/dairylin.htm

Corn Silage—Success or Disaster

Compiled by Dr. Mike Brouk

Corn silage harvest is about to begin and this may be the second most important factor, next to hay quality, in determining the success of the dairy for the next year. Corn silage generally accounts for 35 to 50% of the forage in lactating cow diets and can have significant positive or negative impacts upon cow performance. High-quality corn silage can be harvested and preserved by following these guidelines.

First, harvest at the correct moisture and maturity. High quality silage should be harvested at 65 to 70% moisture. Silage stored in bunkers or piles should be harvested at about 70% moisture; and silage stored in upright structures should be closer to 65%. Silage harvested with less than adequate moisture does not form as dense of a pack allowing air to remain. This results in increased aerobic activity which decreases the quality of the silage. Lower moisture levels are generally an indication of increased maturity which also may decrease silage quality. Ideally, corn silage should be harvested when the milk line is one-fourth to two-thirds of the way down the kernel. Harvesting prior to or after this stage will reduce the available energy of the silage resulting in reduced milk production. Harvesting prior to one-fourth milk line results in a lower starch content while harvest after two-thirds milk line increases the starch content but it is less available.

Second, chop and process the crop correctly. Theoretical chop length is generally set at $\frac{3}{8}$ inch. However, if kernel processors are used, it should be set to $\frac{3}{4}$ inch. Using the $\frac{3}{8}$ inch settings with a kernel processor reduces the effective fiber value of the corn silage. In many cases, herds have experienced milk fat depression and acidosis associated with kernel-processed corn silage. This is due to reduced effective fiber and increased starch availability. Increasing the theoretical cut to $\frac{3}{4}$ inch with kernel processors results in a mean particle size similar to that of a $\frac{3}{8}$ inch setting without the kernel processor. Utilizing a kernel processor will increase milk production 2 to 3

pounds/cow/day over unprocessed corn silage. The increase in production is due to increased ruminal starch availability. Increased rumen availability results in decreased fecal losses and increased utilization. The effectiveness of the kernel processor to increase milk production increases as the corn becomes more mature.

Third, utilize a silage inoculant. Silage inoculants are generally viable cultures of lactic acid producing bacteria which increase the fermentation rate. A faster fermentation rate will reduce nutrient loss. Nutrient loss is reduced because less heat is produced and the silage more quickly reaches a low pH. In addition, aerobic stability at feedout may be increased. The effectiveness of inoculants depends upon natural microbial population, water-soluble carbohydrate content, buffering capacity of forage, growth rate of inoculant, environmental adaptability of inoculant and the quantity of viable colony forming units applied.

Fourth, fill the silo quickly. Longer fill time results in increased exposure to air. The result is increased aerobic activity. Ideally, a silo should be filled in 2 to 3 days. In many cases, it takes more than a week to fill the silo. Each time silo filling stops, aerobic activity increases on the surface. This results in bands of dark-colored silage on the silo face. The greater the exposure time between stopping and starting filling, the greater the amount of spoilage. High quality silage is produced when the silo is filled quickly and exposure time is reduced.

Fifth, pack until the cows come home and then pack some more. Packing in bunkers and piles is very important. Many times, corn silage quality is reduced simply because the pack is inadequate. Utilize tractors with duals and spread the forage in thin (4 to 6 inches) layers. Generally an inadequate pack is the result of the packing tractor not being able to keep pace with the silage harvesting equipment. As a result, the forage layer increases and the tractor cannot produce enough pressure to adequately pack the

continued on page 2

	Quartiles				Your Herd
	1	2	3	4	
Ayrshire					
Rolling Herd Average	17,064	15,519	13,605	11,014	
Summit Milk Yield 1st	58.5	55.3	49.5	42.0	
Summit Milk Yield 2nd	73.5	70.0	56.0	47.0	
Summit Milk Yield 3rd	75.0	70.0	62.0	55.3	
Summit Milk Yield Avg.	68.0	65.0	55.5	50.0	
Income/Feed Cost	1,491	1,370	1,076	930	
SCC Average	252	274	349	273	
Days to 1st Service	89	80	90	126	
Days Open	133	132	146	179	
Projected Calving Interval	13.6	13.5	14.0	15.1	

Brown Swiss					
Rolling Herd Average	18,646	15,454	14,453	12,731	
Summit Milk Yield 1st	57.8	51.4	51.8	45.4	
Summit Milk Yield 2nd	74.0	64.2	60.6	55.2	
Summit Milk Yield 3rd	80.0	68.8	68.6	50.4	
Summit Milk Yield Avg.	71.4	62.8	60.0	53.2	
Income/Feed Cost	1,750	1,576	1,341	1,347	
SCC Average	333	252	287	319	
Days to 1st Service	75	82	72	88	
Days Open	184	160	160	192	
Projected Calving Interval	15.2	14.5	14.5	15.5	

Guernsey					
Rolling Herd Average	15,307	14,105	13,274	11,695	
Summit Milk Yield 1st	54.0	49.0	48.0	46.0	
Summit Milk Yield 2nd	61.0	66.0	55.0	61.5	
Summit Milk Yield 3rd	67.0	67.5	58.0	28.5	
Summit Milk Yield Avg.	60.0	59.5	54.0	58.5	
Income/Feed Cost	1,802	1,383	1,708	1,079	
SCC Average	184	289	310	488	
Days to 1st Service	74	102	62	79	
Days Open	176	216	129	191	
Projected Calving Interval	15.0	16.3	13.5	15.5	

Holstein					
Rolling Herd Average	22,597	19,660	17,550	14,220	
Summit Milk Yield 1st	72.1	64.7	59.3	49.7	
Summit Milk Yield 2nd	92.5	82.6	73.2	61.3	
Summit Milk Yield 3rd	97.9	88.3	79.4	67.2	
Summit Milk Yield Avg.	85.8	78.0	71.1	60.5	
Income/Feed Cost	2,211	1,828	1,622	1,224	
SCC Average	326	370	400	491	
Days to 1st Service	89	89	89	79	
Days Open	163	167	177	202	
Projected Calving Interval	14.6	14.7	15.0	15.8	

Jersey					
Rolling Herd Average	16,691	14,615	13,180	10,739	
Summit Milk Yield 1st	46.0	46.8	44.6	37.2	
Summit Milk Yield 2nd	55.8	57.7	52.5	40.7	
Summit Milk Yield 3rd	70.1	65.8	58.1	49.6	
Summit Milk Yield Avg.	63.1	57.0	51.7	44.4	
Income/Feed Cost	1,794	1,798	1,347	956	
SCC Average	335	361	265	451	
Days to 1st Service	94	87	73	77	
Days Open	140	136	142	160	
Projected Calving Interval	13.8	13.7	13.8	14.5	

Milking Shorthorn					
Rolling Herd Average	14,687	13,904	12,976	10,608	
Summit Milk Yield 1st	51.0	49.5	47.5	44.5	
Summit Milk Yield 2nd	51.0	62.0	57.0	49.0	
Summit Milk Yield 3rd	77.0	74.0	66.5	68.0	
Summit Milk Yield Avg.	61.0	62.0	57.0	51.5	
Income/Feed Cost	1,526	1,649	1,336	684	
SCC Average	138	305	293	210	
Days to 1st Service	190	74	40	66	
Days Open	132	116	244	104	
Projected Calving Interval	13.6	13.0	17.2	12.6	

forage. It is better to error on the side of too much packing than not enough. Be sure that the packing equipment can keep up with the harvesting equipment.

Sixth, cover the silo quickly with a cover. Utilization of a plastic cover (4 to 6 mm thick) will reduce surface spoilage. In general, spoilage on the top 3 feet of a covered bunker is 25% greater than that of remaining portion of the silo. If a cover is not used or if it is not quickly covered, increased spoilage results. If possible, cover the completed portion of the bunker or pile each day. Tires should be placed on the cover to decrease the amount of trapped air and to reduce the possibility of wind damage to the cover during storage.

Following these six guidelines will result in high quality corn silage being available to the herd for the following year. Cows fed high quality corn silage will respond with increased production. Remember, the silage you harvest and store this fall will affect your success in the dairy business until the silo is empty and you have one chance to get it right. Excuses for mistakes made during harvest may make us feel better but will not increase cow performance.

Hay Prices*—Kansas

	Location	Quality	Price (\$/ton)
Alfalfa	Southwestern Kansas	Supreme	95-105
Alfalfa	Southwestern Kansas	Premium	65-90
Alfalfa	Southwestern Kansas	Good	60-75
Alfalfa	South Central Kansas	Supreme	120
Alfalfa	South Central Kansas	Premium	75-90
Alfalfa	South Central Kansas	Good	65-75
Alfalfa	Southeastern Kansas	Supreme	90-95
Alfalfa	Southeastern Kansas	Premium	80-90
Alfalfa	Southeastern Kansas	Good	65-75
Alfalfa	Northwestern Kansas	Supreme	50 cents/pt RfV
Alfalfa	Northwestern Kansas	Premium	80-90
Alfalfa	Northwestern Kansas	Good	70-75
Alfalfa	North Central Kansas	Supreme	50 cents/pt RfV
Alfalfa	North Central Kansas	Premium	80-90
Alfalfa	North Central Kansas	Good	70-80

Source: USDA Kansas Hay Market Report, August 3, 1999

Hay Prices—Oklahoma

	Location	Quality	Price (\$/ton)
Alfalfa	Central/Western, OK	Premium	85-100
Alfalfa	Central/Western, OK	Good	65-85
Alfalfa	Panhandle, OK	Premium	80-90
Alfalfa	Panhandle, OK	Good	70-95

Source: Oklahoma Department of Agriculture, July 29, 1999

Feed Stuffs Prices

	Location	Price (\$/ton)
Blood Meal	Texas Panhandle	249
Corn Gluten Feed	Kansas City	55-58
Corn Gluten Meal	Kansas City	250-255
Corn Hominy	Kansas City	65-66
Cotton Seed Meal	Kansas City	119-125
Whole Cotton Seed	Memphis	120
Distillers Grains	Central Illinois	83-86
Pork Meat and Bone Meal	Texas Panhandle	150-155
SBM 48%	Kansas City	152-153
Wheat Middlings	Kansas City	36-40

Source: USDA Feedstuff Market Review, August 4, 1999

K-State Research and Extension Dairy Cattle Heat Stress Field Day September 2, 1999

Sponsors: Kansas Dairy Commission
Monsanto Dairy Business

- 10:00 a.m. Tour Meier Dairy, Palmer, Kansas
- 10:30 a.m. Presentation of research results at Meier Dairy
- 11:00 a.m. Questions and Discussion
- 11:30 a.m. Tour Robert Ohlde Dairy, Linn, Kansas
- 12:00 a.m. Presentation of research results at Robert Ohlde Dairy
- 12:30 p.m. Questions and Discussion
- 12:45 p.m. Lunch at the American Legion, Linn, Kansas
- 1:15 p.m. Impact of Housing and Environment on Dairy Cattle Lameness
Dr. Jan Shearer, University of Florida
- 2:30 p.m. Adjourn

*Please call Tamie at (785) 532-1280 by August 25, 1999, if you plan to attend.
We need to know if you plan to attend so that we can have an accurate count for lunch. Thanks.*

For more information, contact:

Mike Brouk
(785) 532-1207

John Smith
(785) 532-1203

Joe Harner
(785) 532-5813

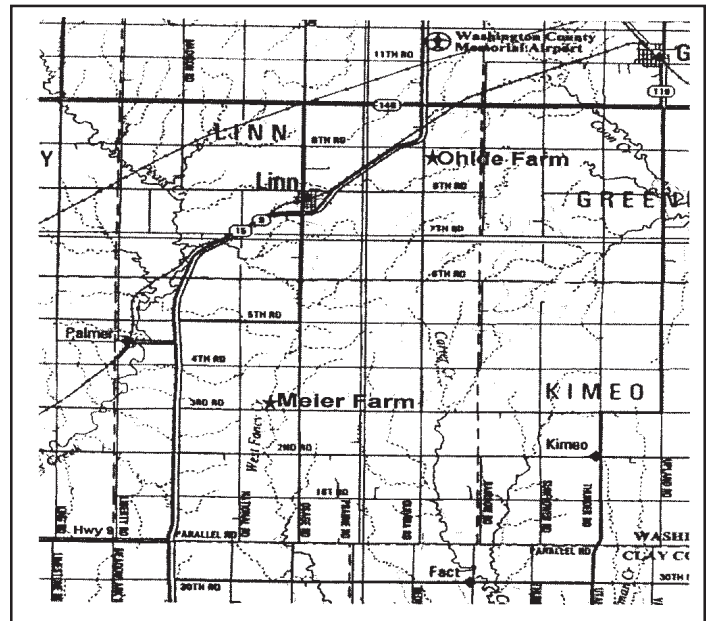
Directions to each dairy are shown below

Directions to Meier Dairy

- From Palmer, KS South on Hwy. 9/15 1.5 miles.
(Watch for St. John's Lutheran Church)
East on 3rd Road 1.5 miles.
Dairy is on the north side of 3rd Road.
- Coming from the South Go 3 miles north of the Junction of Hwy. 9 and 15.
(Watch for St. John's Lutheran Church)
East on 3rd Road 1.5 miles.
Dairy is on the north side of 3rd Road.

Directions to Ohlde Dairy

- From Meier Dairy West 1.5 miles on 3rd Road.
North 7 miles on Hwy 9/15.
South ¼ on Quivira Rd.
(Quivira Rd. turns south where 9/15 turns to the north just northeast of Linn)
Dairy is on the east side of Quivira Road.
- From Washington, KS South on Hwy. 15 for 8 miles.
South ¼ mile on Quivira Road.
(Quivira Road continues south where Hwy 15 turns west).
Dairy is on the east side of Quivira Road.



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Dairy Lines is jointly published for dairy producers by the Department of Animal Sciences and Industry, K-State Research and Extension, and the Department of Animal Science, Oklahoma Cooperative Extension Service.

For more information or questions, please contact
785.532.5654 (K-State) or 405.744.6058 (OSU).

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