

# FARM REPORT

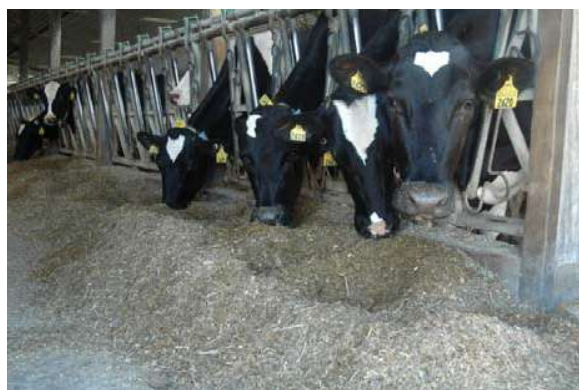


## In This Issue:

Women in Agriculture	2
Dairy Production in Italy	3
Alfalfa Snout Beetle Update	4
What's Happening on the Farm	5
Is your Feed Scale Working?; Check Alfalfa Stands Early	6
Corn Planting Primer	7
Farming into the Future: A 50-Year Projection	8
Yearlong Dairy Internship Opportunity	9
Tires, Dirt, & Mosquitoes: A Potentially Deadly Mix	10
Miner Milk Lab Testing Milk from Across N. America	11

## FROM THE PRESIDENT'S DESK: A MIDNIGHT SNACK?

A recent article in the *Journal of Dairy Science* by Kevin Harvatine's group at Penn State University assessed the effect of delivering feed in the morning or evening during summer heat stress (J. Dairy Sci. 101:396). For many years, feeding dairy cattle in the evening during heat stress has been a common management recommendation. The reasoning is that cows will be more active in the evening and more likely to feed during the cooler part of the day. In addition, Italian research found that core body temperature and respiratory rate were both reduced by evening feeding compared with morning feed delivery.



Despite these potential benefits of evening feeding when cows are heat stressed, the Penn State researchers wondered if feeding at night might interfere with the cow's natural circadian rhythms, or 24-hour repeating biological cycles. Naturally, the dairy cow consumes a large amount of feed after fresh feed delivery in the morning and during the afternoon and early evening, but they consume much less feed during the nighttime hours. The Penn State group has discovered that this natural pattern of feeding is a strong circadian rhythm that cows maintain even in the face of nighttime feed delivery. In fact, they have observed that non-heat

stressed cows fed at either 8:30 a.m. or 8:30 p.m. had similar dry matter intake during the overnight period.

In their most recent work the goal was to specifically see what happens to daily rhythms when cows under summer heat stress are fed at night. Fresh feed was delivered once daily at either 8:30 a.m. or 8:30 p.m. as in the previous study, but the daily high and low temperatures were about 80°F and 67°F. Cows were monitored for 14-day periods, and during this time interval neither milk yield nor composition was 64% more with night feeding, but intake during the night and early afternoon was not affected. So, the common observation that night feeding during hot conditions will boost intake only holds true for the time period right after feed delivery but not on a 24-hour basis.

See **FEED**, Page 7

Visit our blog:  
[minermatters.com](http://minermatters.com)



[facebook.com/WhMinerInstitute](https://facebook.com/WhMinerInstitute)

# DAIRY PRODUCTION IN ITALY

I started my PhD in October 2016 with the forage research group of the Department of Agricultural, Forestry and Food Sciences at the University of Turin in Italy. As part of my studies I'm spending three months at Miner Institute through the collaboration that our group has with the Lallemand Animal Nutrition company, focused on the study of microbial dynamics in silages. With great pleasure I would like to give you a brief description of the milk production in Italy and the role that forages play in this sector.

Italy is a country of 60 million people located in southern Europe. The territory of Italy presents a wide variety of environments and farm management practices: from the extensive mountain farms in the Alps to the intensive ones in the Po Plain in the north; the Apennine mountains and the hilly areas in the center and the driest areas in the south. Over the years these different environments influenced the agricultural development and the productive specialization of the farms.

By focusing on dairy production, two different systems can be distinguished: extensive and intensive systems. The extensive system is widespread in the marginal areas not suited to cultivation (mountains, hills, dry areas); this system is mainly based on the breeding of sheep, goats and rustic breeds of cows. The feeding is mainly satisfied by grazing

and most of the milk production is transformed into dairy products. These systems often lead to the production of typical PDO cheeses such as Pecorino, Fontina and Caciocavallo.

In 2016, Italy produced 12,180,165 tons of Milk Equivalent (ME) and around 95% of this was from bovine farms. Thirty-eight percent of total ME utilized was imported from European countries such as Slovenia and Hungary. Italy exported 4,570,601 tons of ME of which 97% was cheese. Among the exported cheeses, those known worldwide are Grana Padano and Parmigiano Reggiano (28% of export), Gorgonzola and Pecorino. As reported by the Italian Dairy Farmer Association (AIA) in 2016 the average number of lactating cows per farm was 80, but this number varied depending on the area of Italy (84 lactating cows per farm to the north, 48 to the center and 58 to the south).

The greatest amount of milk produced in Italy is from the intensive dairy farms located in the Po Plain, where 73% of the Italian milking cows are located. Different milk breeds of cows are bred but the most widespread is the Italian Holstein-Friesian (70% of the total), followed by Italian Brown and Italian Simmental. The average production per cow is 8,844 kg of milk per year with a mean content of protein and fat of 3.30% and 3.74%,

respectively. The annual production of milk is strongly influenced by the breed: In 2016 it was 9,411, 7,192 and 6,678 kg of milk for Italian Holstein-Friesian, Brown and Simmental cows, respectively.

Since the early 1980s farmers and nutritionists developed a ration composed of corn silage (about a third of the ration on DM basis) and grass hay produced in the farm's fields. All the other components of the TMR such as concentrates, protein sources and integrators were purchased. This type of feeding worked well until 2008, when the cost of feed increased, especially due to the use of soybean as a protein component, and farmers were forced to find alternative solutions. Thus, in the last 10 years there has been an increased interest for high quality forages produced on the farm. In particular, grass silage, high moisture corn and alfalfa silage have become a larger part of the ration (up to 50% on DM basis) providing most of the energy and protein needs for the cows.

The use of high quality forages in the feeding of dairy cows helps to maintain high production levels, high quality of the milk and improves the economic and environmental sustainability of dairy farms.

— Francesco Ferrero  
[francesco.ferrero@unito.it](mailto:francesco.ferrero@unito.it)

