

# Wood wool's popularity in

*Cleaning the teats before milking is very important to udder hygiene and cow stimulation to let her milk flow. Several cleaning products are in use; cotton cloth, paper and even a rotating brush. Originating from Switzerland udder wool is gaining popularity.*

By Thomas Wildberger, managing director Lindner Verpackungen, Switzerland



*Udderwool is gaining popularity as a natural udder cleaner and stimulant.*

There are various recognised routines to be followed for preparing dairy cows for milking in order to obtain maximum milk yield. Also there are requirements regarding the collection of foodstuffs concerning quality and in this case, milking hygiene. In Switzerland, for example, it is required to have a visual inspection of the milk before milking to see if there are any visible mutations in the milk. This requirement is laid down in the Swiss VQSMP Order (Regulation on quality assurance in milk production) and also obliges farmers to maintain optimum personal hygiene and clean and hygienic udders and teats for the dairy cattle.

### Pre-milking routines

The VQSMP Order and the Hygiene Directive of the European Commission are also an important measure for udder and health control. Any visual mutation in the milk can thereby be sufficiently recognised at an early enough stage to prevent that particular

batch of milk entering the food chain. The use of a pre-milking beaker with a black plate is recommended. Milking on the floor in the cow shed (tie stalls) or on the hand are not suitable methods. The latter in fact only serves to spread germs from cow to cow via the hands of the milker. The milk in the teat cistern directly above the teat canal is particularly contaminated with germs. For this reason, a prior milking test is to be carried out and the sample disposed of. Care must be taken to prevent any mixing of the milk sample with the remaining cistern milk in the udder. Avoiding any manipulation of

the udder before drawing-off the pre-milking sample can prevent this. This routine also particularly refers to udder and teat cleaning.

The subsequent dry teat cleaning method removes particles of dirt and manure before milking. It is of great importance however, to prevent any excessive contamination of the udders between milking times. This can be achieved by means of good cowshed hygiene as well as by the provision and care of pens where the dairy cows can rest and ruminate. The shearing and removal of udder hair also contributes to improved udder hy-

### Comparison of available working materials

Cleaning material	Paper	Udder wool	Textile cloths
Hygienic characteristic	* disposable after use	* disposable	* regular daily washing after use
Tactility and teat stimulant	* yes	** yes	** yes
Use in combination with disinfecting agents	yes	yes	yes
Use	1 sheet per udder	app 5-10 grams per udder	Unlimited <sup>1)</sup>
Price per cow and milking	1.3 euro cents dry 2-2.6 euro cents moist	0.6-1.3 euro cents	2 euro cents (at least)
<sup>1)</sup> Only economical for large dairy farms, because of investment and depreciation costs for a washing machine.			

# Udder hygiene increasing

giene. These measures are just as important as a thorough dry cleaning of the teats, instead of the more problematic wet method of teat cleaning.

## Stimulation

Stimulation is a fundamental part of the overall milking process and a prerequisite for rapid and entire delivery of the milk. A certain tactile excitation of the teats is encouraged through manual mechanical massaging during the pre-milking routine in conjunction with dry cleaning of the teats and udder. This excitation is transmitted via nerves to the brain, which causes the hormone oxytocin to be released. The greater volume of the milk is held in the gland tissue before milking and cannot be released without an active transference to the cisterns. The effect of oxytocin causes the milk to be forced into the cistern cavity of the udder (milk injection). -ry farm with a herd of 1,000 cows, the influence of preparation routines on the milk flow was examined. Carrying out the pre-milking testing reduced the connecting time of the milking machinery by 23 seconds. In other respects, the milk flow could be slightly increased. In order to prepare dairy cows for optimum milking accordance, sufficient stimulation is required as well as ensuring a calm atmosphere with minimal stress for milking. Under conditions of stress the adrenalin hormone counteracts the effect of oxytocin. This causes a more or less greater volume of milk to be retained in the udder dependent on the degree of stress suffered by the dairy cow. Calm and stress-free milking routines are therefore vital for obtaining a high rate of lactation.

## Options for teat cleaning

There are various products available on the market for complying with the statutory hygiene requirements and for carrying out udder cleaning routines before milking. These products vary according to their tactile characteristics, method of application as well as in price. Whenever possible, udders should be cleaned dry, as too great an application of water can incur additional problems involving udder inflammation and a reduced adherence of the teat cup of the milking machine on moist teats. When seriously contaminated udders need to be cleansed moist, the teats should be carefully dried afterwards with disposable tactile material before applying the milking machinery.



*Udderwool can be used straight from the bag (right) or the required volume can be put in a bucket (left), which is placed in a special frame with a bucket for the disposed udderwool next to it.*



The working materials available on the market can be distinguished as disposable paper and udder wool or textile cloths as well as a combination of such dry cleaning materials with disinfectants solutions. In all cases, it is a prerequisite that only one piece of paper, or cloth or dispensation of udder wool be used on each udder and then immediately be disposed of or collected for the laundry in the case of cloths. In practice, the usual multiple use of cleaning materials on several dairy cows at once no longer makes any sense at all as the hygienic advantages of disposable materials are thereby lost. The previous use of one udder cleaning cloth on several dairy cows at a time is now forbidden by law (in Switzerland) and is also no longer hygienically justifiable.

## Udder cleaning paper

Udder paper is a disposable article and is manufactured by means of a variety of elaboration processes appropriate to the current manufacturing procedures of the papermaking industry. The different qualities available on the market are usually optimised for the application purpose, e.g. as regards tearing resistance when moistened with disinfectant fluids. Paper is practically free of germs, provided that stocks are stored dry and the material can be disposed of without difficulty after use. The tactile effect and application to the teats can be described as good, but in comparison with udder wool or textile fabric, not so ideal for the purpose.

## Udder wool

Udder wool is not the same quality as packaging wood wool. Udder wool is finely processed from paper-thin wood wool,

which is planed out of spruce timber and is practically free of germs and without splinters. Udder wool possesses a particularly good tactile effect and is thus ideally suitable for the removal of caked particles of dirt and manure from the teat. Udder wool is a disposable article and is to be disposed of immediately after one-time use as an udder cleaner. As udder wool is an untreated natural product it can be disposed of without difficulty, e.g. by mixing-in with farmyard manure.

Dependent on the degree of contamination of the udder the consumption of udder wool can be reckoned as between 5-10 grams per milking session and dairy cow. A 14 kg pack of udder wool available from the trade will last an average of 100 days for a dairy herd of 10 cows for example, dependent on generous or cautious use. This converts to around 4.5 kg of udder wool per dairy cow per lactation (305 days).

Stocks of udder wool (in PE sacks) should be stored dry and not be exposed to ambient air humidity and the water-splashing environment of milking stands. Otherwise the advantages of a practically germ free product in its initial state would be unnecessarily reduced.

## Textile fabric

Cotton teat-cleaning cloths should be provided and used according to the number of dairy cows involved – one per cow and then washed and tumble-dried in a washing machine after one-time use. Sufficient disinfection is obtained by washing at 60°C. The residual moisture after tumble-drying can be left in the cloth until the next use as this makes for better tactility for cleaning the

teat. Of advantage is the acquiring of several sets of cloths according to the number of dairy cows in the herd. These can be kept to hand in a pail ready for each milking time. A greater number of cloths will enable the washing machine to be run at fuller capacity.

## Disinfecting agents

In principle, disinfecting agents are irritants and require dwell time, apart from a minimum quantity of active, effective ingredient, to obtain the required reduction in germs on the skin of the teat.

Skin surfaces entirely free of germs are in practice never achieved. The use of such a disinfectant before milking can cause a debilitation of the teat skin as a result of dehydration, desquamation and irritation leading to laceration.

This method should only be applied in conjunction with skin care preparations for the teat after milking. In addition, the use of such agents should be reserved only for emergencies.

The Swiss Dairy Research Institute has currently only approved two substances for use before milking sessions and one is on the way. The effective use of such agents is intended to counteract acute udder inflammation caused by ecological environmental



**The wood wool can not only be used to clean udders, but also other parts of the cow, e.g. before insemination.** (Photos: Lindner Verpackungen)

impingements. In cases of chronic teat inflammation, teat dipping in iodine solutions after milking sessions is far more effective. The principal aim is to be able to milk clean

dairy cows with clean udders and these then need only be cleaned with dry cleaning material, which will also make for excellent stimulation before milking. ■

You are cordially invited to attend

# World Dairy Expo

the Art of Dairy

## October 4-8 2005

Alliant Energy Center  
Madison, Wisconsin USA

**See over 2,000 head of North America's finest dairy cattle** compete for top honors in seven breed shows. Join the international crowd of **65,000 attendees** from **80 countries**.

Witness the latest technology and innovations in dairy equipment, supplies and genetics at the **world's largest dairy-focused trade show**, featuring nearly **700 exhibitors** from **21 countries**.

Take part in **free daily seminars** and **virtual farm tours** conducted by industry experts and successful dairymen from around the globe.

**SECURE YOUR VISA NOW** and begin making travel arrangements to attend the world's greatest dairy show!

For further information: [www.worlddairyexpo.com](http://www.worlddairyexpo.com)  
**World Dairy Expo**  
 2820 Walton Cummins West, Suite 101  
 Madison, Wisconsin USA 53718-6797