

More milk with good light

Production can increase with 15 % with lightperiod of 16 hours

Increasing the number of hours with sufficient light per day has a positive effect on the production of dairy cows. The optimum of hours seems to be between 14 and 16 hours.

Cows can produce 6% to 15% more milk when the lightperiod is lengthened to 16 hours per day. This increase in milkproduction is driven by the hormones of the cow and is followed by a higher feed intake.

A higher milkproduction can only be realised when the lightintensity is at least 150 – 200 lux (15 – 20 footcandle). This is the result of research done by Praktijkonderzoek Veehouderij (PV Lelystad, the Dutch governmental research station on dairy cows).

Toine van Erp of the gezondheidsdienst voor dieren (the Dutch sanitary and health organization for animals) estimates that most of the barns do not have adequate lighting: „150 lux is rarely realized“, according to Mr. Van Erp. He adds to this that the 16 hours of light should be followed by 8 hours of darkness. So also the small lights for the night have to be shut off, leaving them working has a negative effect on the results.

With the construction of new barns a lighting design for the barn can be made, this in order to calculate how much and what sort of light is needed. Cees-Jan van den Dool from Agrilight b.v. says that High Pressure Sodium, Metal Halide and Fluorescent lights are used.

It is important to have a uniform distribution of light in the barn and that the distance from the fixture to the floor is too high. A good reflector is important for a uniform distribution.

Gelein Biewenga from the PV says that a good lighting can be realised with one fluorescent tube fixture of 58 watt every 20 m²*. This is calculated when the height of the fixture is 5 meter above the floor.

The lightoutput of the fixture can decrease quickly, caused by pollution. A heavy pollution will cause some 30 to 40% of decrease in lightoutput. Measurement of light can be done with a simple luxmeter, which will cost around €100 to €150 per luxmeter.

It is important to purchase watertight fixtures with a cover, so that cleaning with water will be no problem.

* on a height of 5 meter from the floor, fluorescent tube with reflector from Philips or Osram