



ÿ Rune Nielsen (TV) and his business partner see many possibilities in this flexible solution.

by FINN GADE KNUDSEN

# Northern Jutland lakes get LED light in the head



In the Netherlands, a system has been used for many years where the lakes get light directly into their heads using fluorescent tubes mounted just above the fixtures. The idea is now being launched in Denmark.

On a pig farm near Støvring in North Jutland, the owner has long had an idea to increase the light in the running and control barn.

- It has been approximately eight years since I was in the Netherlands and saw the system for the first time, says Rune Nielsen. Back then, it was just ordinary light fabric fixtures that they used across the lakes.

Now Rune Nielsen has started RN Solutions Aps, from where he has started selling LED lights for suspension right over the heads of the lakes, so that you partly save power and partly improve reproduction.

- We are so lucky that we have our own test crew close at hand, says Rune Nielsen.

- We had some problems with getting the sows in heat and some after the annual casts, so it came naturally, he elaborates.

The recommendation from VSP is a minimum of 100 lux in the running barn, but several advisers and vets recommend as much as 200 lux.

- There is clearly something in the problem with lighting conditions in running departments. There is generally far too little light, especially down by the lakes,

states Mads Waidtløw, who is the team leader for pig consultancy at Agrinord.

### Significantly better light at the sow

If you measure the brightness of the corridor area where we ourselves stay, there will often be plenty of light, which Rune Nielsen considers to be the main reason why we forget the light conditions down by the manger where the sow stayed. Fixtures and feed pipes make it almost impossible for light to penetrate all the way down to the sow. If Rune Nielsen switches off the LED light and switches on all the pleasant light in the ceiling, a light measurement right below the sow's head shows that there is only approximately 30 lux, which is far below the recommendation. Here, however, it must be remembered that the measurement was taken approximately in the middle of a row of lakes, i.e. far from any windows in the wall. But it still shows a problem. When, on the other hand, the light is placed directly over the sow, it makes it possible to limit the number of lamps in the ceiling, as they must now only be used when there are employees in the barn. Rune Nielsen turns off the ceiling light and

turns on the LED light across the lakes. He then makes the same measurement of the light level in the sow's pen, where there is now over 300 lux.

**Simple and flexible**

The LED fixtures are available in two different lengths and are very simple to connect, which means that you only have to pay the electrician to connect one end to the power supply in the barn. You can handle the rest yourself. The LED fixtures can also replace a normal fluorescent fixture wherever desired, as they are IP 65 approved and spread the light in the same way as a normal fluorescent fixture.

When the stable is measured, RN Solutions calculates how many of the different lengths must be used. The whole thing is adapted to the length of the wire which connects the different fixtures.

- The issue surrounding the durability of LED lights in a stable environment is difficult to see through. There are many opinions about it, but their solution, where things are molded together so that they are quick to assemble, looks exciting, says Mads Waittløw.

Rune Nielsen estimates that there are approximately 27 kilowatt-hours saved for each LED tube that is installed instead of a regular fluorescent tube.

- We don't really recommend that the farmer should replace all the lights in the barn, but simply set up LED lights across the lakes and then keep the other lights off as much as possible, says Rune Nielsen.

**The money earned in approximately two years**

LED lights are not a new invention. Therefore, it is also not unknown that there is an energy saving in this light. This contributes to the fact that you can earn back on your investment in the new home lighting system in approximately two years.

- LED lights save a lot of power, and thus operating costs are reduced, points out Mads Waittløw.

RN Solutions has therefore started a collaboration with Energinord, which provides subsidies to companies that invest in energy-saving roofs. For every kilo watt hour saved annually, 30 øre is granted in subsidy.

Rune Nielsen and his business partner have calculated that this will roughly mean a subsidy of DKK 50 for an LED tube.

- It is us who apply for the subsidy and draw it home from Energinord, says Rune Nielsen and continues:

- the grant does not oblige the farmer to use Energinord on his farm.

In addition to the subsidy, Energinord also offers financing for projects with an energy-saving aspect. They will finance up to 80 percent of the investment sum. As a result, there will be almost no payout when the subsidy is also taken into account.

**Part-time inventor**

Actually, Rune Nielsen is a farmer. He runs a large pig production together with his sister and brother-in-law. The thing about the inventions arises in his daily work, when he comes across problems that need to be solved.

- I just constantly try to think of simple solutions to some of the hassle that is in everyday life, says Rune Nielsen.

Neither he nor his business partner believe that the products they sell now are over.

- In addition to our lights, we also sell straw hedges that can be combined with lights for lakes, says Rune Nielsen.

He is quite sure that more problems will arise in the future that he will get ideas to solve.

- I am the type of inventor who lets myself be guided by the things I experience in the barn. That is why I have teamed up with a partner who understands all things business, says Rune Nielsen. ÿ



ÿ The LED luminaires are easy to install and are positioned so that they are not in the way.



ÿ When the LED light is switched off and only the ceiling-mounted lights remain, the light does not reach down to the lakes at all.



ÿ It is clear that the LED light has an effect.

**IP65 approval means**

Dust must not be able to penetrate the material. Water from a jet pipe directed at the enclosure from any direction shall have no harmful effect.