

# Pasture Improvement Tools

## Optimizing animal welfare in bedded pack barns



**Bedded packs (BP) are alternative livestock housing systems that can provide animal welfare, waste management, soil fertility and water quality protection from nutrient overloads.**

Bedded packs offer an array of benefits to cows, soil fertility, water quality and overall farmer's quality of life. Specifically, improving animal welfare on bedded pack systems can also help reduce the risk of health problems.

There are a number of factors that may affect animal welfare housed in a bedded pack barn. BP hygiene, comfort and ventilation is significantly higher than cross and naturally ventilated free stalls. A study<sup>1</sup> found that 43% of cows laid down more (two 4-h periods) on BP and produced more milk thereafter. However, high temperatures and humidity in the pack are associated with cows that lay down less time daily and walk more, triggering stress and upsetting dairy production<sup>1</sup>.

BP also shows lower lameness (4.4%, compared to cross and naturally stalls 13.1% and 15.9% respectively) and less hock lesions (3.8% versus 31% and 24%)<sup>2</sup>.

Another study<sup>3</sup> demonstrated that mastitis infections were significantly reduced by 12% in 6 out of 9 farms analyzed. Reproductive performance improved for 4 out of 7 farms with 26% and 34.5% improvement in heat and pregnancy rates respectively<sup>3</sup>.

### ***Environmental benefits***

Improved soil fertility, air and water quality while offering a waste management alternative to liquid storage systems.

### ***Economic benefits***

If correctly managed, BP provide comfort and cattle health, reducing storage and labor costs.

### ***Materials and costs***

Most farmers use hay, sawdust, wood shavings, chips, straw. Costs ranging from \$2 to \$5/cow/day. Bedding has different costs and availability from year to year and even within the season. In general higher costs are associated to overcrowding the pack. An ideal stocking rate would be 100 sq ft/cow.

### **Factors affecting animal welfare on a bedded pack**

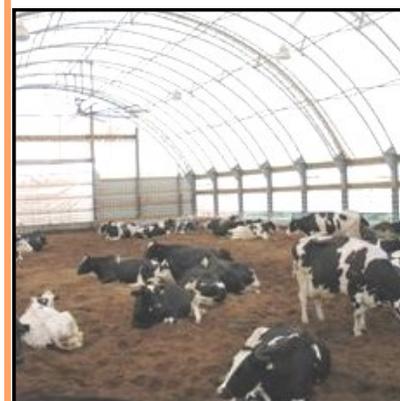
- Adequate bedding
- Ventilation
- Animal movement

### **Signs showing that animals are comfortable**

- Lying down
- Ruminating
- Low/no manure on animals

### **IA well-managed bedded pack with adequate bedding**

- Creates heat
- Is soft to walk on



### **LEARN MORE**

[www.uvm.edu/pasture](http://www.uvm.edu/pasture)

<sup>1</sup>: Endress & Barber, 2007

<sup>2</sup>: Lobeck et al. 2011

<sup>3</sup>: Barber & Endress, 2007

## **MORE INFORMATION**

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