

Waste Wallboard and Wood fiber Alternative Dairy Bedding

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Bovidae Farm, Falmouth, NS



Bovidae Farm



Waste Wallboard and Wood fiber

Dairy Industry – sawdust, DKS, straw, hay, sand, peat moss



It was getting harder to find consistently available bedding

Waste Wallboard and Wood fiber Project

In 2010, **LP Consulting**, who works with us developing our farms Nutrient Management Plan, approached us about participating in a project to test an alternative bedding using waste wood fiber and wallboard

We met with **Halifax C&D Recycling, DivertNS** and **NS Environment** to look at the materials to provide input on what could work in our barn.



What were we looking for in bedding?

- **Doesn't increase somatic cell count – clean and dry, resists bacteria to reduce mastitis potential**
- **Absorbent and long lasting in our barns**
- **Easy to use in the barn and should be able to be stored outside and shed water**
- **Provide a dry comfortable soft resting area for cows for health and performance.**
- **Stays in suspension in slurry tanks and pits**
- **Cost effective and available**

Quality Control is very important!

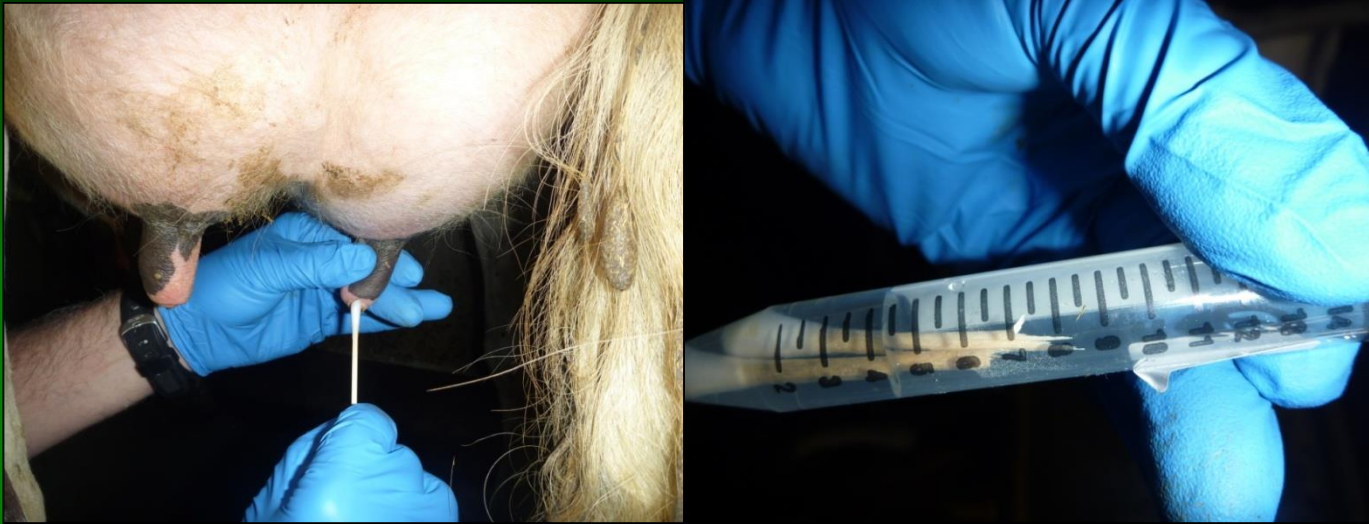
Safety Testing

Contaminants of Concern – Heavy metals, flame retardants, asbestos, dioxins & furans, insecticides, hydrogen sulfide and formaldehyde gases.



Cow Health Testing

Bacterial Counts - Teats



Bacterial Counts – bedding (0, 2, 14 days)

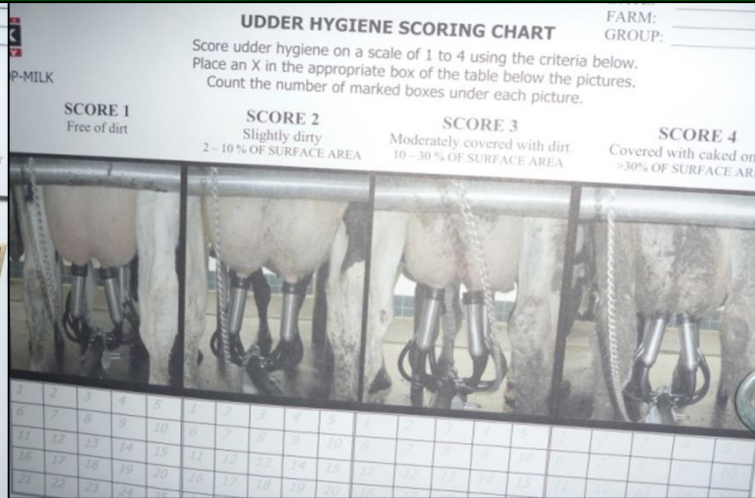


Cow Health Testing

Hock Health



Cow Cleanliness



Cow comfort – laying down time (14 hrs)



Other Testing

Other – odor, stall dryness, ease of handling and storage
Economic benefits



Final results

- Udder health and milk quality were **not** compromised
- Product worked as **good or better** than sawdust
- Wallboard and wood fiber can be diverted from landfills to provide a safe bedding material that **works well in our barns**

Project Awareness Program



Cost-efficient alternative

Nova Scotia agronomist researches using waste drywall materials to develop innovative bedding solutions

A new research project is analyzing using discarded drywall mixed with waste wood fiber as a cost-efficient alternative to traditional cow bedding.

Use LaBlanc, an agronomist with LP Consulting in Newport, Nova Scotia, along with Don Anderson, a research project partner and elder health specialist with Quality Milk Management in Sussex, New Brunswick, and the Atlantic Veterinary College have been working on this project since May 2012. They are testing several components of the alternative bedding on two farms—Bovidae Farms, run by Bob Wilson, Falmouth, N.S., and Evolvevets Farms, owned by Jack Folkssema, Millford, N.S.

LaBlanc got the idea for the alternative bedding research project after hearing dairy farmers complain about their difficulties obtaining sawdust for bedding.

She wanted to determine the feasibility of grinding up discarded drywall and mixing it with waste wood fiber for bedding. The wood bedding, which contains gypsum, could also be used for soil amendment in lime the field where it is applied.

LaBlanc partnered with Halifax Construction & Demolition Recycling, a recycling and composting company. It ships up to 50,000 tonnes

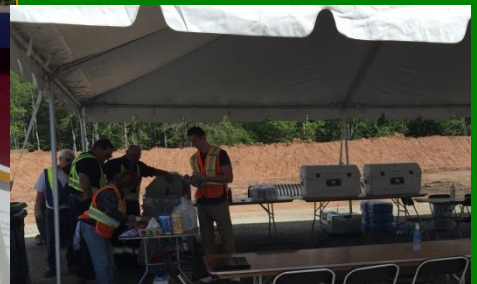
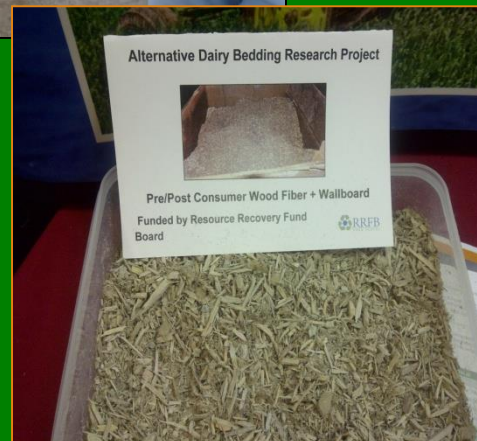


Bob Wilson, owner of Bovidae Farms in Falmouth, Nova Scotia, says the waste wood fiber-drywall mixture he uses for bedding as shown in the photo works well in his barn. His cows like to lie on it because it's a dry surface.

of waste drywall and 100,000 tonnes of waste wood fiber annually to a landfill. "We hope to be able to divert most of this if the project proves successful," says LaBlanc. Before pulverizing the scrap wood into fiber, Halifax C&D sorts it and removes wood that is painted, treated with preservatives or chemicals, or contains any metal, such as nails. It is then sorted and screened "so it won't be a problem for farmers and won't leach contaminants into the field," says Paul Longobardi, C&D Recy-

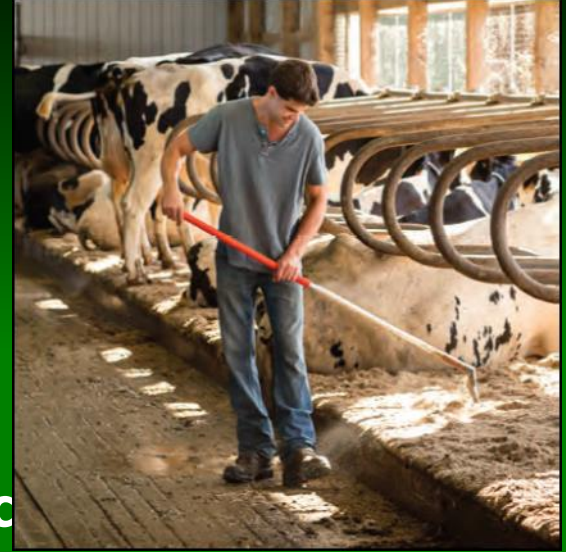
in February 2013 | THE MILK PRODUCER

Tour at our farm
Farmers talking to farmers



Farmer Feedback

- Very **absorbent**
- Keeps stalls and cows **dry and clean**
- Excellent **grip** in the alleys
- Cows **like** lying on the bedding
- Keep calves **warm** in the winter in their huts
- Stays **in slurry** in the manure pit
- A load of bedding **lasts longer** than sawdust



Issues

- Early in program – very dusty
- Packs when wet
- Sometimes grind isn't fine enough in the winter



Alternative Bedding Program 2013-2018

- Program is very successful. **Booked over a year in advance!**
- **Over 50 farmers on the program.** 90% dairy farmers, 10% to beef/mink/horses
- Bedding has been used as far away as **Northern NB**
- **Temporarily ran short of bedding** this month due to not enough wood fiber



Successful Partnership btw Industry & Agriculture!

2013 Mobius Award Of Environmental Excellence

Innovation in Waste Reduction



DivertNS provided the funding & enthusiasm to help **Agriculture & Industry** to work together to find a solution to a challenge in our industry!

NS should be proud to share our story!

Not only does it address the Ag bedding challenge, but Ag can potentially divert materials that would fill 48 football fields piled 1 meter high!

