

Information Guide



DCC Waterbeds[®]

Dual Chamber Cow Waterbeds

Welcome to
THE HOUSE OF COMFORT

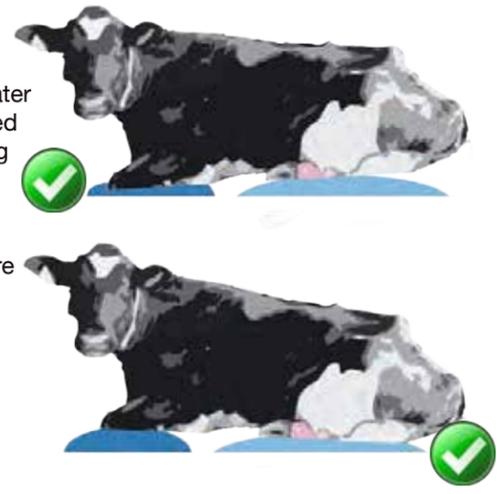


***Custom Fit.
Every Cow. Every Time.***

DCC Waterbeds provide consistent bedding for your cows day in and day out. Reduce labor and top bedding while providing a comfortable, consistent stall surface. Since 2003, DCC Waterbeds have provided long-lasting, low-maintenance comfort for cows around the world.

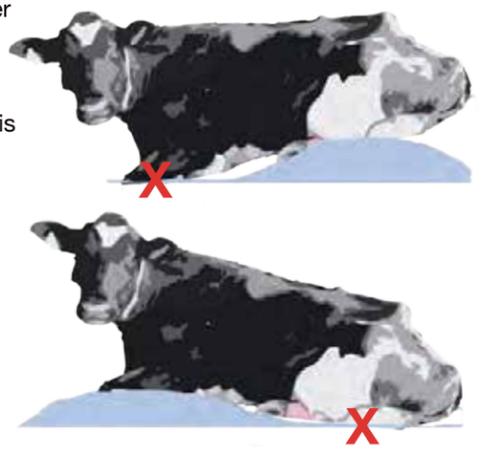
DCC Waterbeds^{ISO} Dual Chamber Cow Waterbeds

Perfectly sized chambers and water volume determined by years of testing ensures there is always a cushion of water floating the cows' pressure points.



SINGLE CHAMBER WATERBED

In a single-chamber design, a cow too far forward or too far back pushes water unevenly. This results in pressure points in contact with a thin layer of rubber, leading to sores and swollen hocks.



Floats the pressure points
HEALTHY HOCKS

Surface moves with the cow's skin to reduce pressure and prevent hock injury.



Minimal Bedding
LESS LABOR

Less bedding material results in lower costs. Less labor to bed stalls. Less manure storage and handling. No grooming or leveling required.



SINGLE CHAMBER vs. DCC Waterbeds^{ISO}

DCC Waterbeds ISO have two separate chambers specifically designed to meet the different needs of a cow's knees, hocks and udder.

DCC Waterbeds ISO:

- Pass the knee drop test, every time.
- Float the hocks, every time.
- Available in multiple sizes to ensure a custom fit for every cow, every time.
- Have better overall construction.
- Have a custom traction imprint to minimize slipping.
- Use stainless steel hardware to hold up to the demands of the dairy barn.
- Never pack and never need any foam underlayment.
- Proven long-life product performance.
- Globally recognized as the leader in cow waterbeds.



Low Somatic Cell Count
CLEAN, DRY UDDERS

A dry environment, means less bacteria. Clean udders with DCC Waterbeds.



15 to 20-year life expectancy
LONG LIFE

Water will never pack or harden, combined with our 10-year limited warranty in free-stalls guarantees consistent cow comfort for years to come.



YOUR SUCCESS, OUR SUPPORT

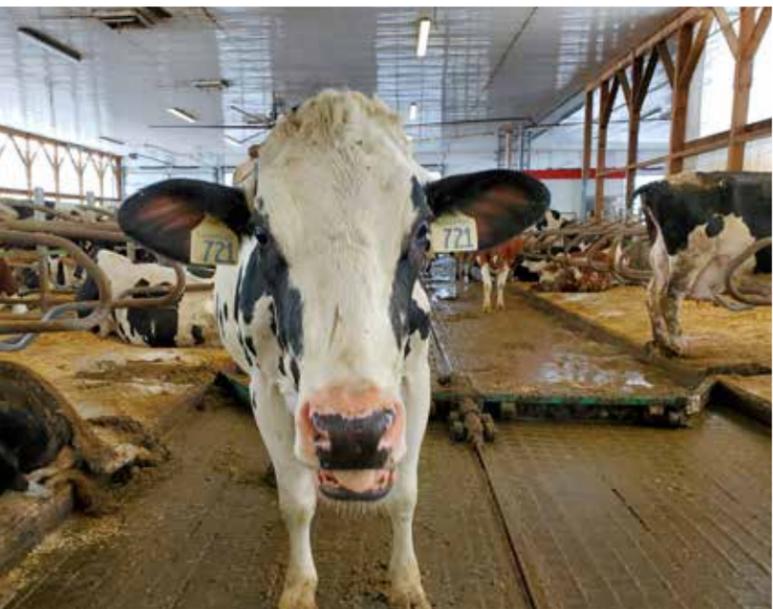
Create your COMPLETE SYSTEM



A dairy farm is a complex, interconnected system. By having DCC Waterbeds as part of your foundation, your cows will be comfortable and you will have many options for how to manage your manure, schedule your labor, and dairy the way you want to.

Because DCC Waterbeds require less maintenance, less top bedding, and provide a clean manure stream, you can count on your labor costs, bedding materials, and manure management to be consistent and straightforward from season to season, year after year.

DCC Waterbeds have a 15-to 20-year life expectancy and are compatible with many technologies—robotic milking, slatted floors, vacuum, flush or automatic scrape manure systems, and multiple ventilation and cooling systems. With DCC Waterbeds, you can have an improved dairy farm system today, while planning for one you may build in the future.



Take CONTROL

Agriculture is one of the most challenging and unpredictable industries. From drought to floods, to changing staff, to the economy, you are constantly planning and preparing for events outside of your control. Let's change some of that.

DCC Waterbeds offer unparalleled consistency in cow comfort every time she lies down, and in every season, for years on end—no frozen chunks of sand bedding, no pooling liquids, no waste-filled bedding, and no rips or lumps.

DCC Waterbeds are comfortable with minimal maintenance, and you can choose a top bedding that works for your cows. Because DCC Waterbeds shed moisture and dry quickly, you can achieve a consistently low somatic cell count (SCC).

DCC Waterbeds are always there for you and your cows, no matter what.

Welcome to PEACE OF MIND

Water is a forgiving surface that supports the cow, but will not pack down. DCC Waterbeds gently float the cow's pressure points—knees, hocks, and udder—while shedding moisture and helping to keep bacteria levels low.

DCC Waterbeds are extremely durable, and the beds are backed by a 10-year limited warranty in a free stall barn. Every time a cow leaves a DCC Waterbed, the bed immediately returns to its original shape, ensuring maximum comfort for every cow, every time.

Cows like a comfortable surface. Cows like predictability. DCC Waterbeds provide both. With DCC Waterbeds, you will have peace of mind knowing your cows are comfortable, dry, clean, and cool.

We do our job, so it takes less time to do yours.

DCC Waterbeds[®] ISO

Dual Chamber Cow Waterbeds

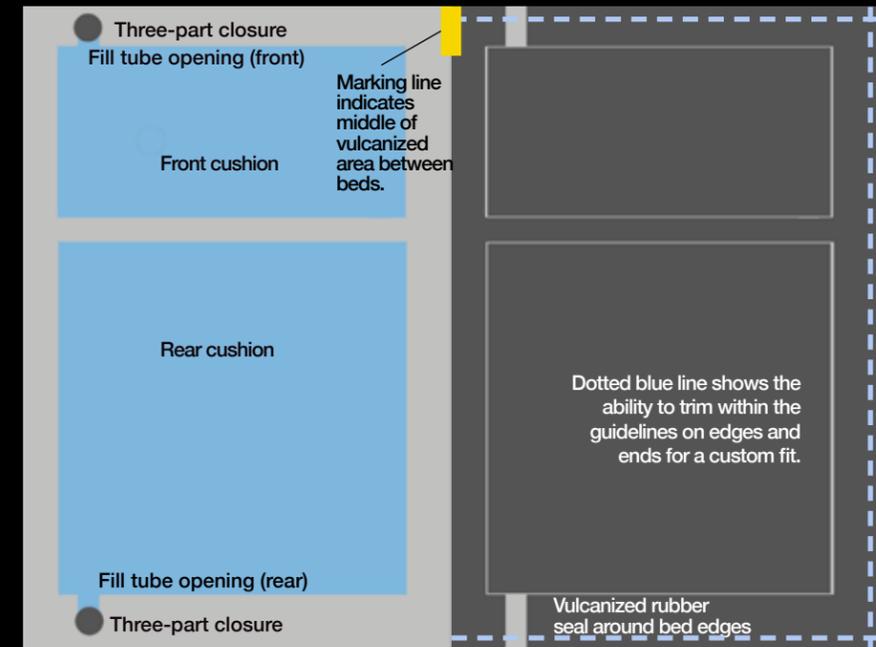
isolated chambers

DCC Waterbeds *ISO* has two isolated water chambers and eliminates any water transfer between the front and rear of the bed. This guarantees a consistent cushion for the knees and body every time a cow lays down. The *ISO* provides cushion for the knees, floatation for the cow's body, and consistency for every cow, every time she lies down.

The fixed volume of water in the front and rear chambers of DCC Waterbeds *ISO* floats the cow's pressure points.

ISO APPLICATIONS

FREE STALL // 10-year limited warranty
TIE STALL // 1 year warranty



PATENTED TECHNOLOGY

Patent numbers:
DCC Waterbeds Original: 6,935,273 B2 (2005)
DCC Waterbeds *ISO* 9,332,735 (2016)
European Patent No 2 966 996 (BE CZ DE DK ES FI GR GB IE IT LU NL PL)



Consider how low-maintenance comfort will impact your entire dairy system. More choices, more control, more consistency.

PROVEN PERFORMANCE

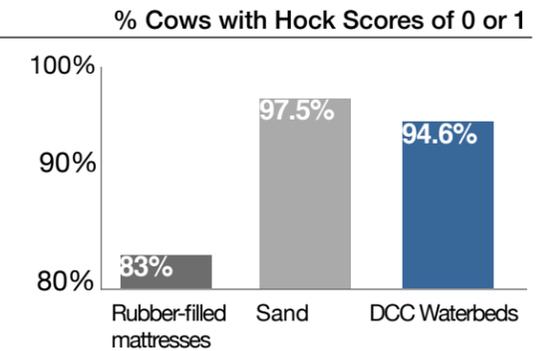


DCC Waterbeds are easy to manage—in any system.

With DCC Waterbeds, dairy producers have choices in their top bedding material and daily cleaning is fast and simple. What's even better is DCC Waterbeds never pack down and they dry quickly, so if you don't want to disrupt a resting cow, you don't need to. She will still be comfortable. This all means less stress for the cow, less work in the barn, less material in the manure stream, and less wear and tear on expensive equipment. DCC Waterbeds are a solution to the dairy management challenge of providing consistent cow comfort with less labor, materials, and maintenance.

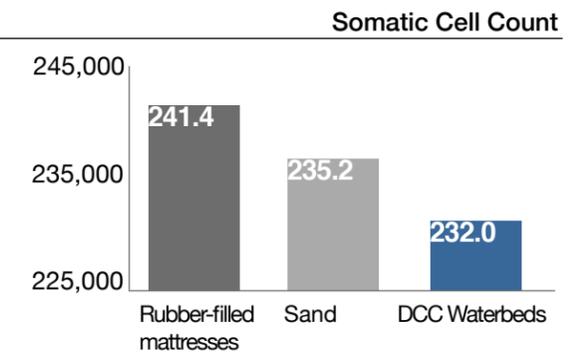
EXCELLENT COMFORT

DCC Waterbeds protect the hocks. Ask any producer with DCC Waterbeds, or look at the research. DCC Waterbeds protect the hocks at a level on par with sand bedding, float the cow's pressure points, promote strong circulation to the udder and legs, and ensure consistent comfort.



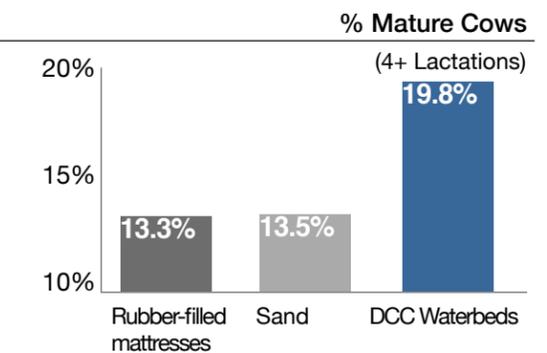
BETTER MILK

Connecting milk production with bedding type can be difficult as herds all produce at different levels based on their age, nutrition, genetics, and many other factors. Moisture like urine or milk runs off DCC Waterbeds and the beds stays drier and minimizes bacterial growth. This leads to reduced mastitis rates and a consistently low SCC. Low mastitis and low SCC indicate high milk quality.



HEALTHIER COWS

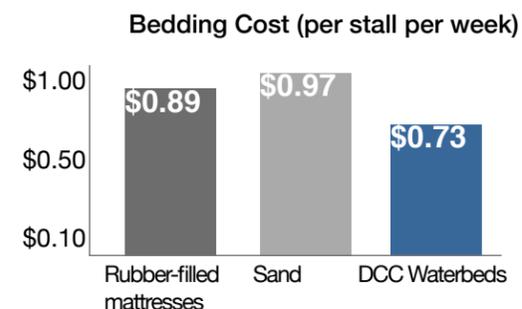
A strong indicator that a herd is at peak health can be pared down to just one metric: age. A herd of mature cows (4+ lactations) means more milk, more profits, and indicates good herd health. Producers with DCC Waterbeds have the choice to cull cows when they want to, and not because they have to.



Fulwider, Wendy (2007). "Effect of stall base type on herd health, costs, and producer satisfaction." Journal of Dairy Science. <http://bit.ly/JDS2007>.

BEST VALUE

Low-maintenance and long life means savings in operating costs. DCC Waterbeds are the least expensive bedding because of their 15-to 20-year life expectancy.



Fulwider, Wendy (2007). "Effect of stall base type on herd health, costs, and producer satisfaction." Journal of Dairy Science. <http://bit.ly/JDS2007>.



DCC Waterbeds®
Dual Chamber Cow Waterbeds

We have never had issues with the beds freezing.
Bernie Kamphof, Thunder Bay, ON (180 DCC Waterbeds)

We had the coldest winter (in 2015), and the cows were all comfortable and clean all winter. We bedded twice a week, and we didn't have to deal with the logistics of getting any frozen sand in and out of the barn.
Mike Verhasselt, Kaukauna, WI (2,661 DCC Waterbeds)

For the last 18 years we haven't had much freezing at all. It needs to be really cold for that to happen.
Wayne Peters, Lake City, MN (150 waterbeds)



People frequently ask us, do DCC Waterbeds freeze? In a barn with a stocking density around 1:1, the cows' use of the beds ensures that they don't freeze, even in below zero temperatures.

Cows generally won't lay down in an exceptionally cold or drafty area of the barn, regardless of the stall surface. So ensure your barn is as buttoned up as it can be and your stocking density is close to 1:1 for the season.

DCC Waterbeds work to help moderate the difference in temperature between the cows and their surroundings. During cold weather, both heat from the cows and ground temperatures beneath the barn help ensure that DCC Waterbeds don't freeze.

If there are still stalls that are going to be exposed, we recommend a non-toxic, anti-freezing liquid to add to those beds.

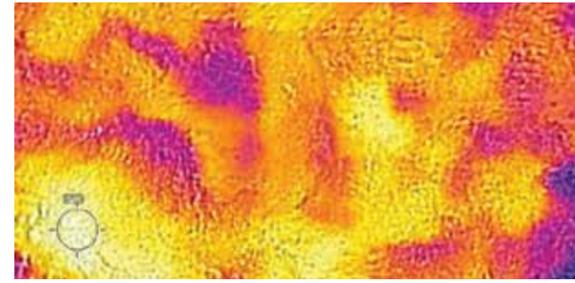
If DCC Waterbeds do happen to freeze, they are durable and it will not affect their future performance.



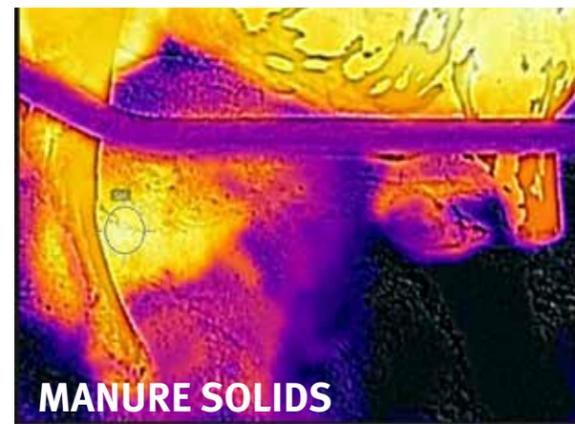
When warm weather hits, **DCC WATERBEDS STAY COOLER**

No one can hide from the heat. Misters, fans and water availability all help reduce heat stress. But have you thought about the temperature of your bedding? We find DCC Waterbeds are 5-10F degrees cooler than sand, manure solids, and other mattresses in hot weather. That is a lot of extra heat your cow is exposed to up to 12 hours a day when she is lying in the stall.

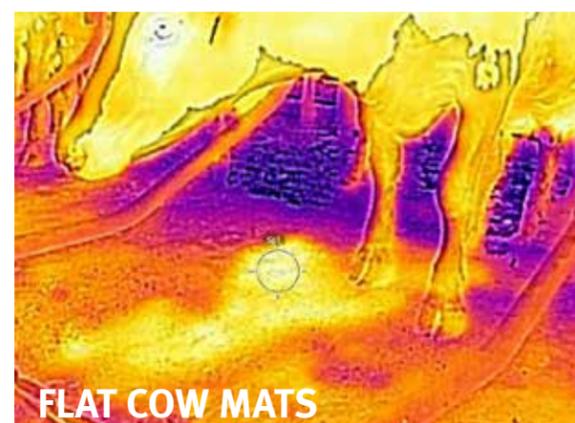
DCC WATERBEDS MEASURED IN BARNs WERE 5-10F DEGREES COOLER THAN SAND, MANURE SOLIDS, OR FLAT COW MATTRESSES.



SAND
 Outdoor temperature: 92F
 Temperature of sand under cow: 97F



MANURE SOLIDS
 Outdoor temperature: 75F
 Temperature of surface under cow: 98F

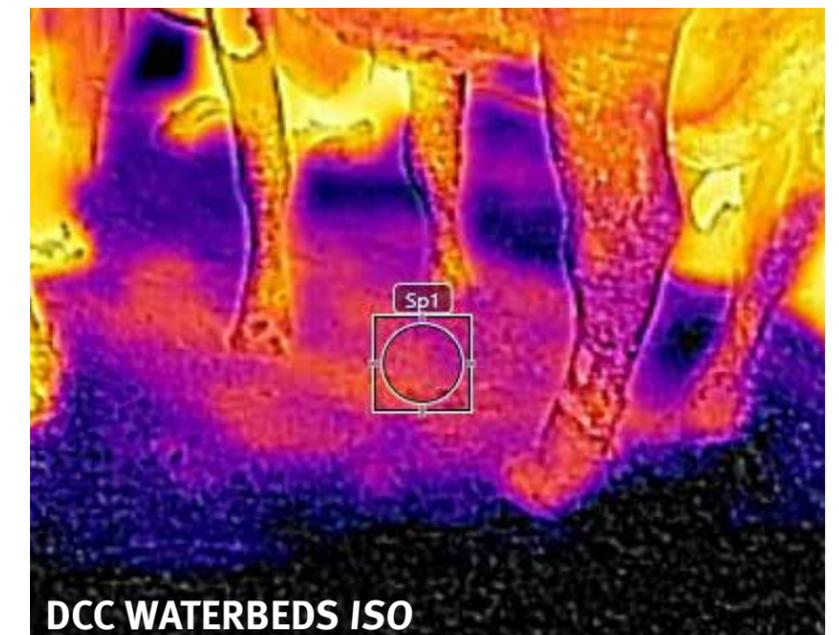


FLAT COW MATS
 Outdoor temperature: 89F
 Temperature of mat under cow: 97F



These photos show the temperatures beneath the cow immediately after she stands up. Using a heat-sensing thermal camera, we captured the temperature ranges. The hotter the surface, the more yellow and orange will be in the image. The cooler areas are purple and black.

During hot weather, the ground temperature conducted through the concrete beneath DCC Waterbeds, ensures the cows remain cool.

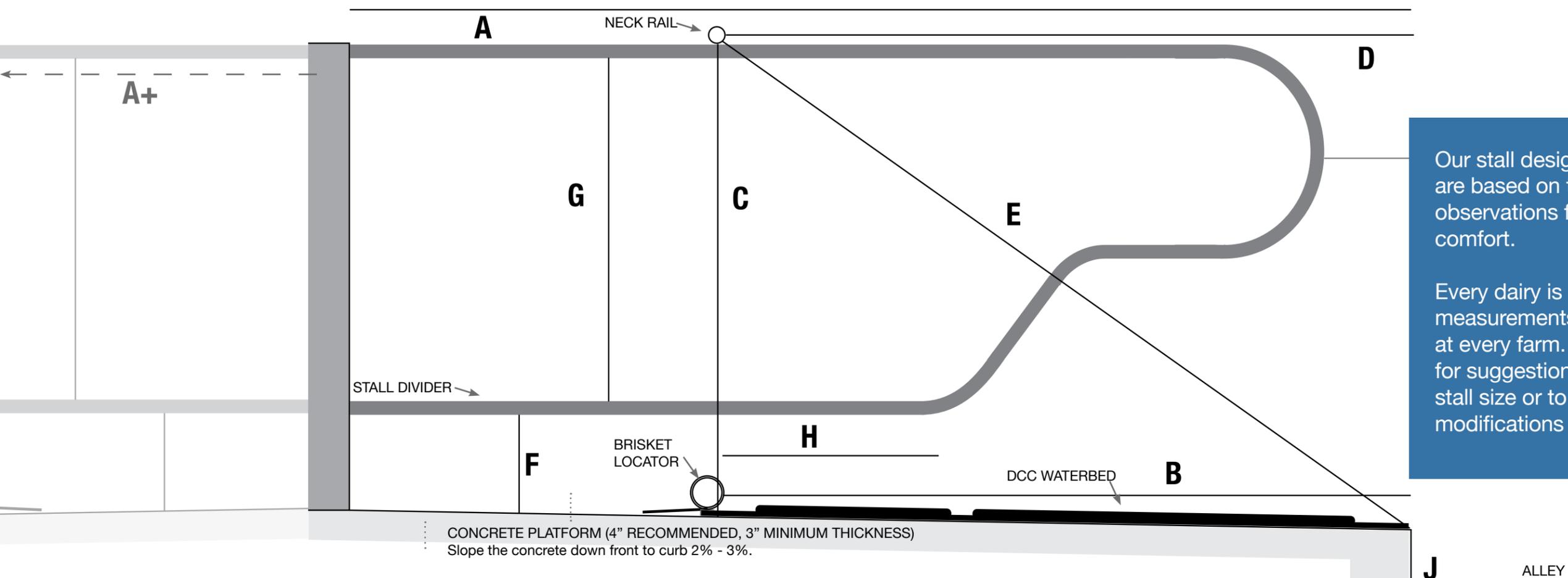


DCC WATERBEDS ISO
 Outdoor temperature: 87F
 Temperature of DCC Waterbeds ISO under cow: 84F

To see more temperature readings with a thermal reader:



FREE STALL DESIGN RECOMMENDATIONS



Our stall design recommendations are based on the latest research and observations from experts in cow comfort.

Every dairy is different, and these ideal measurements may not be possible at every farm. Please contact your rep for suggestions to fit the beds to your stall size or to make recommended modifications to the stalls.

NOTE: When switching from deep bedding to DCC Waterbeds the neck rail location is critical. Often the neck rail is closer to the curb (D) and the cows may dig out bedding (C) to give them the space they need. With DCC Waterbeds, the measurement will be constant. Work with your sales rep to discuss the appropriate measurements.

TARGET STALL DIMENSIONS (IN INCHES) FOR COWS OF DIFFERENT BODY WEIGHT ESTIMATES

	BODY WEIGHT ESTIMATE (in pounds)	500	700	800	900	1000	1100	1200	1300	1400	1500	1600	1800+
	DCC Waterbeds width recommendation (in inches)	34	36	38	42	44	45	46	47	48	48-50	50-51	54
A	TOTAL STALL LENGTH (FACING A WALL)	72	80	90	96	96	108	108	108	114	120	120	120
A+	TOTAL STALL LENGTH (HEAD TO HEAD)	144	160	180	192	192	204	204	210	210	216	216	216
B	HORIZONTAL DISTANCE REAR CURB TO BRISKET LOCATOR	60	60	64	65	66	66	66	68	68	70	70	72+
C	VERTICAL HEIGHT NECK RAIL TO STALL SURFACE	36	38	40	42	42	44	46	48	48	49	50	54
D	HORIZONTAL DISTANCE NECK RAIL TO CURB	60	60	64	65	66	66	66	68	68	70	70	72+
E	DIAGONAL DISTANCE NECK RAIL TO CURB	70	71	76	77	78	80	81	83	85	86	86	89
F	VERTICAL HEIGHT UPPER EDGE OF BOTTOM DIVIDER RAIL ABOVE STALL SURFACE	8	8	8	9	11	11	11	11	12	12	12	12
G	VERTICAL HEIGHT DIAMETER INSIDE STALL DIVIDER LOOP	29	30	32	32	33	33	34	34	35	35	36	36
H	HORIZONTAL DISTANCE BRISKET LOCATOR TO STALL DIVIDER CURVE	16	18	18	18	20	20	20	20	22	22	22	22
J	REAR CURB HEIGHT	6	6	6	6	8	8	8	8	8	8	8	8

BRISKET LOCATOR MATERIALS

Using ACT's available galvanized locator brackets, install a 4-inch, schedule-40 PVC pipe with bell ends for optimal comfort.

STALL SLOPE AND BASE

Slope the concrete down front to curb up to 3%. The concrete platform underneath the DCC Waterbeds should be a recommended 4" thick and a minimum of 3".

FREQUENTLY ASKED QUESTIONS

Q: Will DCC Waterbeds tear or leak?

A: Typical cow use will not tear a DCC Waterbed. DCC Waterbeds can be damaged by improper use of equipment. We recommend the use of a plastic scraper to clean the stalls.

Q: How much and what type of top bedding should I use?
How often will I need to put on top bedding?

A: For answers concerning adequate and comfortable bedding quantities, types and applications, please see pages 14 and 15.

Q: How long does it take for cows to transition to DCC Waterbeds?

A: In our over 20 years' experience installing DCC Waterbeds, some cows adapt immediately, while others may take longer. Using a moderate to heavy amount of top bedding during transition will speed the process. As the cows fully adapt, we recommend tapering the application of bedding material back to a light to moderate application of top bedding. See page 14 for more detailed information.

Q: Do you need stainless-steel side strips for every stall?

A: No. DCC Waterbeds come in a roll, and stainless steel side strips are not needed for every stall. They are needed only for the end bed in each run.

Q: Do you need brisket locators on every stall?

A: Yes, but it is your choice. We highly recommend a 4" PVC pipe as a brisket locator for proper cow positioning in the stall. Please contact us with specific questions.



Custom-fit INSTALLATION

DCC Waterbeds are manufactured and tested using strict quality-control standards. DCC Waterbeds arrive in a long roll of individual, connected beds. To install, the beds are unrolled so there is one DCC Waterbed per stall. The ends of each run and the front of each bed are then anchored to the concrete with stainless-steel and aluminum hardware. Next, the bed is filled with tap water and sealed with a three-part stainless-steel closure. Finally, a brisket locator is installed along the front of the beds.

DCC Waterbeds have been successfully fitted in newly built and renovated facilities. Proper fit is important, so work closely with a DCC Waterbeds dealer to ensure maximum comfort and performance.



BED SIZES

Bed widths:

Imperial:	Metric:
40"	110cm
42"	112.5cm
44"	115cm
45"	120cm
46"	125cm
47"	130cm
48"	
50"	

Bed length: 72" (183cm)

Special order custom sizes and Original design are available. Please contact us for specific details.

junior - heifer beds

Imperial:
32" x 63"
34" x 63"
36" x 63"
38" x 72"

We know DCC Waterbeds will stand the test of time. We provide a 10-year limited warranty on DCC Waterbeds in a free-stall barn and a 1-year warranty in a tie stall barn.

10-YEAR WARRANTY

A new experience **PREPARE YOUR COWS**

Putting cows on DCC Waterbeds for the very first time is an adjustment—a new surface, a new smell, and a new feeling.

It's no secret that cows don't like change but with patience, confidence, and a little extra top bedding at first, your cows will transition to DCC Waterbeds.



START OUT WITH WHAT COWS KNOW

Except if you're changing from sand bedding, plan to initially bed your waterbeds with whatever material you have been using. Giving your cows something familiar will help them adapt to the new smells, look and feel of the waterbeds. If you're switching from sand, try one of the top bedding options listed on the next page.



COVER BEDS WITH 2-4 INCHES OF TOP BEDDING ON DAY 1

Using your top bedding of choice, cover the beds with 2-4 inches of top bedding. Gradually reduce top bedding material as cows adapt and you are comfortable with cow cleanliness and maintenance on the beds.

CLEAN BEDS, ADD BEDDING, SCRAPE ALLEYS REGULARLY

Scrape any soiled bedding off of the beds, add or spread dry bedding to the scraped area, and scrape the alleys during every milking or as required in a robotic, dry cow, or heifer barn.

ADJUST TOP BEDDING QUANTITY AS COWS ADAPT

In our over 20 years' experience, cows have adapted from tie stall to free stalls, from open lots to free stalls, and bedded pack barns to free stalls all with DCC Waterbeds. Some cows and herds adjust to change quickly. Others take time. By starting out with a generous amount of what the cows know for top bedding, your cows will adapt. As the cows transition, we recommend gradually reducing the amount of top bedding to meet your cow cleanliness goals.

MANAGING A RELUCTANT COW

Sometimes there are one or two cows that resist adapting. In this instance, we recommend placing the cow in the stall and preventing her from backing out for a short period until she lies down. Once she lies down on the surface, she will generally overcome her reluctance and use the bed at the next opportunity.

Regular cleaning **SIMPLE AND FAST**

The process of cleaning and adding new top bedding is simple. It is flexible, fast, and easy. Consider your herd hygiene goals, try out your preferred top bedding material, and commit to a routine.

TYPICAL TOP BEDDING MATERIALS

- Kiln-dried sawdust
- Shavings
- Chopped straw
- Long straw
- Gypsum
- Lime
- Paper byproduct
- Finely chopped canola
- Chopped corn stalks
- Manure solids



RECOMMENDED QUANTITY

1-3 gallons of top bedding per stall



TOP BEDDING APPLICATION

MANUAL APPLICATION

Fill a small wheelbarrow or bucket with top bedding material. Using a shovel, dust the ends of a few beds with top bedding.

MECHANICAL APPLICATION

Use a skid steer or a bedding side shooter to apply top bedding. Use a shovel or scraper to spread bedding.

TYPICAL CLEANING SCHEDULE

PARLOR

While the cow pusher is bringing the cows into the parlor, he or she carries a light plastic scraper and scrapes the beds. Or use a stiff bristled brush or brush attachment to a skid steer to clean the bed ends. Do not drive a skid steer directly on DCC Waterbeds. After cleaning, dry bedding is spread over the scraped/brushed area. Clean alleys regularly.

ROBOTIC MILKING

Have a person walk through the barn 2-4 times per day to clean the ends of empty stalls. After cleaning, dry bedding is spread over the scraped/brushed area. Top bedding is generally applied without the use and disruption of a skid steer in the pens. Clean alleys regularly.

COST COMPARISONS

SAND VS. DCC WATERBEDS COST PER STALL PER YEAR

Dairy farmers who have switched from sand to DCC Waterbeds report consistent or increased production, no hock swelling and overall satisfaction. All the categories outlined below spell out the increased cost of managing sand. What is sand's impact on your bottom line?

EXTRA COST OF SAND

COST OF BEDDING MATERIAL

Cost of purchasing sand (50 lbs. per stall per day) versus cost of purchasing loose material like sawdust, straw, or other bedding.

Sand \$67.56
DCC Waterbeds \$36.68

\$30.88

COST OF BEDDING MAINTENANCE

Cost of labor time, skid steer fuel, and skid steer depreciation for the process of adding bedding material to the stalls.

Sand \$27.33
DCC Waterbeds \$5.84

\$21.49

COST OF GROOMING STALLS

Cost of labor time, skid steer fuel, and skid steer depreciation for the process of grooming and leveling sand stalls.

Sand \$19.86
DCC Waterbeds \$0

\$19.86

COST OF ALLEY SCRAPING

Cost of time, labor, skid steer fuel, and skid steer depreciation for the process of alley scraping.

Sand \$7.71
DCC Waterbeds \$5.14

\$2.57

COST OF MANURE HAULING

Cost of hauling manure, factoring in the added volume and increased cost per gallon of hauling sand-laden manure.

Sand \$98.86
DCC Waterbeds \$71.35

\$27.51

COST OF PERIODIC MAINTENANCE

Cost of the process of periodically digging out and refilling the back ends of sand stalls.

Sand \$9.04
DCC Waterbeds \$0

\$9.04

EXTRA SAND SKID STEER EXPENSES

Due to increased time on the skid steer, there are extra skid steer maintenance costs incl. tire replacement and oil changes.

Sand \$2.44
DCC Waterbeds \$0

\$2.44

TOTAL EXTRA COST OF SAND BEDDING PER STALL PER YEAR: \$113.79

TOTAL EXTRA MONEY SPENT PER STALL USING SAND OVER 10 YEARS:

\$1,137.90

Addressing THE IMPACT OF SAND ON YOUR SOIL

Everything that goes into your dairy system, must come out. For every ton of sand that you put in the free stalls, that same sand must come out. Setting aside the high cost of buying, moving, bedding, and removal of sand bedding, another cost of sand involves what sand does to your soil over time.

Sustainability matters

Stewardship of the land has long been a core value of farmers. The land provides, so farmers care for the land for generations. What dairy producers may not consider is how the spreading of sand may be causing irreversible damage to the land itself.

Changing loam soil (40% sand) to sandy loam soil (60% sand)

Loam soil holds more water and nutrients than sandy loam soil. Loam soil isn't as prone to crusting. According to an estimate by the Department of Soil Science, College of Agriculture & Life Science at UW-Madison, if an acre of loam soil is plowed 6 2/3" deep it will take 214 tons of sand to permanently change the soil from loam soil to sandy loam soil. If vertical tillage practices are applied at 3 1/3", it will take just 107 tons of sand to permanently change the soil.

Your land may be changing

If you are spreading sand, you could be damaging your soil and its future yield potential in just a generation. We have calculated in the chart below the number of years of spreading it takes to change loam soil to sandy loam based on 50 lbs. of sand added per stall per day. Is this sustainable to you?

THE CHANGING LAND

If 50 lbs. of sand per stall per day is used on the farm, = **9.125 tons of sand to spread per stall per year.**

Do you have two, three or four acres of land per stall on your dairy? Less? More?

Acres of land per stall	Tons of sand applied per acre per year	Number of years it takes for loam soil (40% sand) to change to sandy loam soil (60% sand)	
		6 2/3" deep plow	3 1/3" vertical tillage
2 acres	4.56 tons/acre	46.9 years	23.5 years
3 acres	3.04 tons/acre	70.3 years	35.2 years
4 acres	2.28 tons/acre	93.8 years	46.9 years



DCC Waterbeds HELP HEAL HOCKS

"We used to get some swollen hocks on the old mats, so then we would stick those cows on the DCC Waterbeds to heal them up."

Leland Claypoole, Pennsylvania
500 DCC Waterbeds

(Claypoole replaced all remaining flat mats in 2014)



In a few short weeks after installing DCC Waterbeds, Ferme La Croisée in Québec saw hocks sores markedly improve, leading to healthier, better-producing cows.

"We are very pleased with DCC Waterbeds for our tie stall barn. The cows are sleeping longer, the legs are healing, and you can see that their knees and hocks no longer swell or hurt. We had an increase of 4 to 5 liters of milk per cow per day."

Ferme La Croisée, Québec
60 DCC Waterbeds

*For research or to calculate your own results, visit <http://bit.ly/dccmatcalc>

FLAT COW MATS VS. DCC WATERBEDS COST PER STALL PER YEAR

A flat cow mattress might cost up to \$100 less than a DCC Waterbed up front. Any "savings" are quickly erased as flat mats are proven to result in higher cull rates, more hock sores, and increasing amounts of top bedding over time as they pack.

TOTAL EXTRA MONEY SAVED/SPENT ON FLAT MATS VS. DCC WATERBEDS

UP FRONT COST DIFFERENCE

Foam or crumb rubber mat can cost between \$0 and \$100 less than a DCC Waterbed. In this example, we use \$100 less.

Flat Mat Purchase If You Could Save:

\$100

Extra per stall in year 1

COST OF TOP BEDDING

Each year, mats need more and more top bedding to compensate for lost comfort due to packing. We've estimated that flat mats use an average 1/3 more bedding.

Flat Mat Purchase You Spend:

\$12.25

Extra per stall per year

COST OF HOCK SORES

Research* shows that cows on mats have a 12.6% higher rate of hock sores than cows on DCC Waterbeds. Between lost milk, treatment, and time, the costs add up.

Flat Mat Purchase You Spend:

\$5.80

Extra per stall per year

COST OF 4+ LACTATION CULL RATE

Research* shows that cows on mats have a 6.6% higher cull rate than cows on DCC Waterbeds. With replacements around \$1,700, a high cull rate can boost costs.

Flat Mat Purchase You Spend:

\$47.12

Extra per stall per year

COST OF LOST MILK FROM 4+ LACTATION COWS

Research* shows that herds on flat mats have 6.5% fewer cows in the 4+ lactation group. An older cow produces about 40 cwt higher than a replacement heifer. With milk at \$15 cwt, the reduced earnings from a young herd continue to grow.

Flat Mat Purchase You Spend:

\$39.00

Extra per stall per year

TOTAL EXTRA MONEY SPENT IN YEAR 1 (Per Stall):

\$4.17

TOTAL EXTRA MONEY SPENT IN YEAR 2+ (Per Stall):

\$104.17

TOTAL EXTRA MONEY SPENT PER STALL USING FLAT MATS OVER 10 YEARS:

\$941.70

MANURE SOLIDS VS. DCC WATERBEDS

The decision to bed with manure solids comes at a high price – for capital equipment, manure storage and processing capacity, routine parts & maintenance, extra labor, and the potential for herd-health problems. DCC Waterbeds provide long-life, consistent comfort, less total manure volume, less labor and healthy cows.

CAPITAL COSTS

Separation equipment, rakes, levelers, manure delivery, augers, tractors, loaders, buildings and manure pit expenses are big-ticket items that can easily exceed \$1 million for manure solids bedding.



BEDDING MAINTENANCE

Labor availability and costs continue to challenge dairies. Finding employees that can be trusted to operate equipment consistently and safely makes hiring difficult.



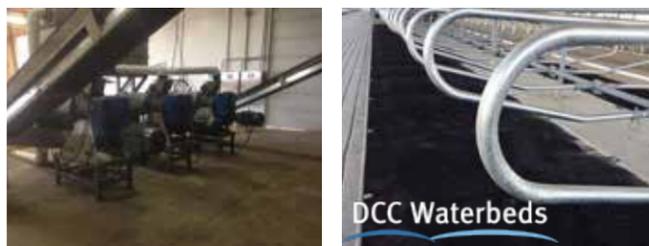
MANURE MANAGEMENT

Manure management strategies all drive costs. When bedding with manure, the process of creating the bedding creates logistical problems. With DCC Waterbeds, you only bed for stall cleanliness and dryness – not for comfort – simplifying the process.



REPAIRS & MAINTENANCE

Separator screws, screens, pumps, and gear boxes all need to be replaced. Repairing and replacing equipment can produce costs exceeding \$50,000 a year on larger farms. Repair costs for DCC Waterbeds are minimal.



HERD HEALTH

Mastitis costs U.S. dairy producers more than \$2 billion dollars annually (Schroeder, 2012), and manure solids require intense management to avoid an outbreak. Hoof health and heat stress problems just add to the losses. DCC Waterbeds' dry surface helps prevent mastitis and keep cows cool.



OTHER CONSIDERATIONS

Potential for compost fires, permitting difficulties that limit herd expansion, and water restrictions are other costly considerations when bedding in manure solids.



DOES YOUR BEDDING SHED OR ABSORB MOISTURE?

Deep bedded stalls need to be filled and groomed regularly to provide consistent comfort. Without regular filling and grooming, cows work themselves down into the dirty bedding material, which is saturated with urine, milk, and manure.



A few inches under the sand, cows will come in contact with black, urine-and-manure-saturated sand.

Manure solids bring the additional challenge of heat generation as part of the composting process—in the piles and in the stalls.

Foam and/or rubber-filled mats introduce similar risks when liquids penetrate the surface layer and soak into the filler material. As the cows continue to use these mats, the liquids get squeezed out like a sponge.



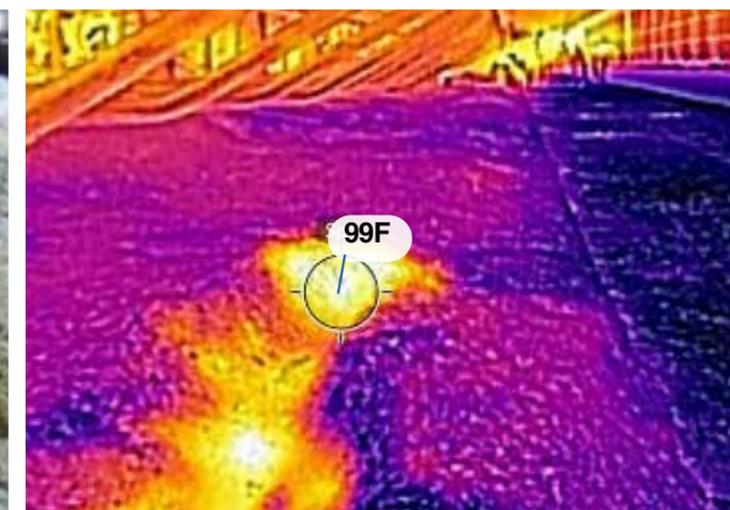
The urine and manure stains demonstrate how much liquid has settled into these flat cow mats.

Bacteria thrive in these environments, and continuous exposure to bacteria can lead to mastitis and hoof issues.

DCC Waterbeds shed liquid and manure and don't have foam fillers, thereby lessening risks to your cows. Please see page 3 for information on DCC Waterbed benefits.



The outdoor temperature the day the photo was taken was 75F. The freshly added dried manure bedding looks fine from the surface.



Using a heat-sensing thermal camera, temperature beneath the surface is 99F. That is 24F warmer than the outdoor temperature.



What makes DCC Waterbeds the right choice? According to dairy farmers who have switched from sand to DCC Waterbeds and have not lost any production, the combination of comfort, production, and living without the headaches of sand make DCC Waterbeds their top choice.



Michael Stanton, New York
673 DCC Waterbeds Original
220 DCC Waterbeds junior
Switched from mats, Installed: 2009, 2010, 2011, 2014, 2015, 2016

ON PAR WITH SAND, FEWER MANURE HEADACHES

“We didn’t want to go with sand because of the manure system. Our cows are just as comfortable as our neighbors who have sand and our production is right up there, but we’re not having to spread the manure or deal with the sand like we see down the road. I’m getting good milk production, good herd health, and we have zero swollen hocks.”

MORE COMFORT, MORE CONSISTENCY, SAME PRODUCTION

“My cows are as comfortable as they were on the sand, and maybe even more. More because the waterbeds are consistent all the time. [With sand] the cow comfort goes down and up and down and up over the course of the week or month. With the waterbeds, there are 365 days in the year and the cows are laying in the exact measurements that are supposed to be the best for them on a bed that is soft and comfortable for them every time. Production wise, we are consistent with what we were with sand, and the cows are still laying down just as much.”



Jason Esser, Wisconsin
200 DCC Waterbeds Original
Switched from sand, Installed: 2013

SAME PRODUCTION, SAME HEALTHY FEET & LEGS

“I really don’t know why anyone would want anything other than waterbeds. We get the same production and same healthy feet and legs as we had on sand. The investment has been worth it just in cow comfort, not to mention all of the maintenance benefits.”

Keith Schulte, Iowa
216 DCC Waterbeds Original
Switched from sand
Installed: 2013

Shared Advantages //

PERFECT FOR ROBOTIC MILKING

Investing in robotic milking technology is both transformational and a commitment to change, to the future, and to learning.

DCC Waterbeds are the best bedding solution for robotic milking barns as they complement robotic milking systems like no other option.

DCC Waterbeds requires minimal cow disruption, minimal bedding material, and minimal maintenance.

Additionally, DCC Waterbeds offer cow comfort on par with sand and deep bedding, but with unmatched consistency of the bedding surface. As the cows develop individual schedules in the robotic barn, they can be sure to always come back to a comfortable DCC Waterbeds surface, day in and day out.

DCC Waterbeds® & ROBOTIC MILKING

DCC Waterbeds

- Superior cow-comfort
- Low maintenance cost
- Dry surface, low SCC
- Simplify manure management
- Eliminate sand to reduce wear on robots

BOTH

- Reduce cow stress
- Reduce labor
- Increase cow longevity
- Lower mastitis rates
- Long-term investment for next generation
- Minimal bedding maintenance disruption

ROBOTS

- Consistency in milking procedures
- Better data on cow health
- Milking, eating, resting choices made by cows
- Flexible time management

DCC Waterbeds® *junior*

Low-maintenance comfort FOR HEIFERS

You can raise young stock for years and years on DCC Waterbeds, all with little maintenance and superior comfort. With a life expectancy of 15 to 20 years in a free stall barn, DCC Waterbeds *junior* are perfect for growing heifers with ease. Here are just a few reasons producers are installing DCC Waterbeds *junior*, in smaller sizes for young stock.

- Low maintenance
- 15-to 20-year life expectancy
- Eases transition at freshening
- Easy acceptance of free stall
- Comfortable and consistent
- Protects the hocks



"DCC Waterbeds for heifers have many advantages: zero maintenance, zero bedding, really durable, great comfort, and the cows are ready for the free stall from day one. It's the obvious bedding choice for anyone raising heifers and looking for a high value, low-maintenance bedding in the heifer barn. We have had DCC Waterbeds for over a decade for our milk cows and continue to save time and money in maintenance, bedding, and herd health."

Marv Hesse, Hesse & Sons Dairy, Oregon
Waterbeds installed between 2001 and 2017, including 750 for heifers



"I literally chose what I thought was the best form of bedding in comfort that we could get underneath the heifers without using sand... My goal was to raise a really nice heifer and a really comfortable heifer with as little maintenance as we could. I feel like we've reached our goals. I really like the barn and when I walk through it, I just don't feel like I would change anything. I would absolutely recommend you raise your heifers on these waterbeds."

Majestic View Dairy | Wisconsin
460 DCC Waterbeds *junior* installed in 2015

ACT COMFORT WAVE

For farmers who want the reliable comfort of a waterbed plus a layer of foam, we're proud to introduce ACT COMFORT WAVE. With ACT COMFORT WAVE, we add a layer of latex foam giving the benefit of additional hoof grip and extra confidence that you're providing your cow great layered performance for her comfort.



ACT COVER PLUS

ACT Cover Plus is a premium cover product, bringing you two layers of rubber, plus reinforcing fabric. This heavier-duty cover stands up to the toughest challenges, ensuring that you can get many years of use from your mattress system. When it's time to replace your top cover for your foam or crumb rubber mattresses, we've got you covered. And, with three different sizes, you can cover the whole herd.

ACT COMFORT MAX

ACT Comfort Max mattresses give your cow the comfort of resilient latex foam, covered with our premium ACT COVER PLUS. With options for different cover sizes and foam thicknesses you can choose the mattress system that best fits your herd.



ACT SCRAPERS

For quick, efficient stall cleaning, you need the right scraper for your bedding surface. Choose from our three scraper styles made with durable rubber or nylon materials built to withstand tough barn conditions.

THANK YOU for your interest
in **DCC Waterbeds.**



DCC Waterbeds have been awarded the DLG Technology and Farm Input Test Center's DLG APPROVED seal for performance in cow comfort.



**ADVANCED COMFORT TECHNOLOGY
DCC WATERBED**

- ✓ Deformability/Elasticity
- ✓ Permanent Tread Load
- ✓ Abrasion
- ✓ Slip resistance
- ✓ Acid resistance
- ✓ Cleaning distance

DLG-Prüfbericht 7107

**IT'S TIME TO TAKE THE
NEXT STEP: CONTACT US**

Nothing beats seeing DCC Waterbeds in a dairy barn or talking to us to get your questions answered.

FIND US ONLINE

www.AdvancedComfortTechnology.com

 www.facebook.com/dccwaterbeds

 www.youtube.com/dccwaterbeds

 support@advancedcomforttechnology.com

 www.instagram.com/dccwaterbeds

SCHEDULE A TOUR

Let us know when you would like to see DCC Waterbeds on a farm.

Where do you live?

When can you do a tour?

What type of farms do you want to see?

What are you most interested in learning?



ACT
ADVANCED
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