

AQUA COW RISE SYSTEM

DANMARK



Patent Reg. P.C.T./DC 91-00388
U.S. Patent Reg. No. 539 4836

www.aquacowsystem.com

Your cow is alert and eating, but is unable to get up.

**Water will help her to stand safely,
and to remain standing for hours.**

Water What else so completely reduces pressure,
increases support, and stimulates circulation?

"In deep water the forces of gravity and buoyancy combine to provide a natural traction. Joints are fully unweighted, allowing maximal joint movement without pain or injury. .. In water, both small and large muscle groups, joints, ligaments, nerves, and indeed your mind work in concert and without stress."

- Dr. Dan O'Neill

Knee surgeon for several Olympic athletes

"Restoring motion should be the 1st phase of any rehab program. The buoyancy effects allow less load on the repaired tissues so moving can be done earlier and more safely.... Renewed confidence benefits every area of rehabilitation."

- Speer et al.

Dept. of Sports Medicine

Hospital for Special Surgery, N.Y. N.Y

Let the cow show you.

Provide comfort first, and other benefits follow:

Prevent more damage; diagnose injuries;
eliminate needless nursing care.



Hauling the cow to her feet may be harmful if she can't stand comfortably.



Home health for Miss Rosie at Lylehaven Farm, VT.

A cow's large barrel, so heavy against gravity, becomes ballast in water.

The Aqua Cow tank provides prevention, diagnosis and treatment simultaneously.

**Water was always the answer.
The question has been finding a way to use it.**



Transport Position: Two pins lock trailer beams to container. The Aqua tank is its own trailer. In this position, it can be towed to the farm (carrying accessory equipment), backed up to the cow and towed with the cow inside (even miles to a vet clinic).

AQUA COW TANK

(including these standard features)
\$ 3,950.00 (plus shipping)

Standard Features:

- 2 aluminum doors (front door scooped for comfort)
- Two-ply rubber drag mat w/ irons & chains
- Winch (3,200 lbs.; 2 speed, locks)*
- Front jack
- Feed box/hayrack *
- Ramp (for pulling cow inside)
- 2 chain locks (hold drag mat chains so it doesn't bunch up beneath cow)
- 3 canopy brackets (for covering tank to retain warmth) *
- 2" ball valve with quick connect *
- 8' x 10' tarp and bungee cords *

* If not desired, these parts may be discounted.

Also available: handtruck
(for wheeling tank easily) \$140.00

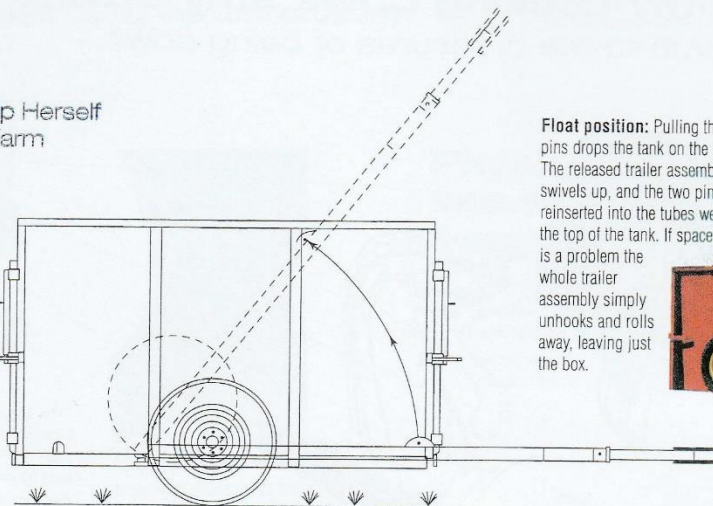
Execution of Design: The Aqua Cow tank is manufactured by Farm-Bilt Machine (Ronks, PA). Their quality is superb.

Design:

Helping the Cow to Help Herself
Bringing a Pool to the Farm

"The best results... occur when the designer and user are one and the same. But if the designer can't be the user—a cow, for example—then he should try to get as close as possible to 'being a cow.'"

— Seaton Baxter -
Livestock Systems
Designer



Float position: Pulling these two pins drops the tank on the ground. The released trailer assembly swivels up, and the two pins are reinserted into the tubes welded to the top of the tank. If space is a problem the whole trailer assembly simply unhooks and rolls away, leaving just the box.



Today's Dairy Innovators Start by Asking the Cow.

This is how the Aqua Cow tank was invented.

In 1979 Danish dairyman John Lastein's knee was torn up by a bull. He linked his own do-it-yourself rehab in the hospital's pool to the plight of down cows. Soon after returning home, he and his sons welded their first tank.

Through the 80's the Lasteins continued to tinker with the design. They had no intention of selling the float tank until vets seriously began to suggest it. By 1990 the method was becoming established in Denmark. About this time he was invited UC Davis to demonstrate his system. In 1995, after nearly a 5 year wait, Lastein received his U.S. patent.



John Lastein (on the left) visits with dairyman Bill Meyerhoff, vet Tom Heitzman, and the cow.

How It Works

Inside of an hour,

Step 1: Prevent Further Damage

Ask: What is she going to do to herself? Move cow to grass or bedding with good footing.

Step 2: Physical Exam – Narrowing Your Options.

[See down-cow.com/physical exam]

Step 3: Use Medicine?

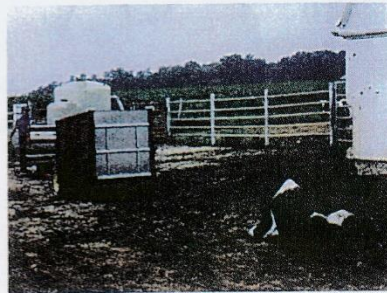
These decisions are up to you and your vet.

Step 4: Cow Still Not Up?

Call for the Aqua Cow tank?

“This is a tool to be used in addition to good health care for the animal. ‘Blind therapy’ does nothing but waste your time and resources. The primary metabolic abnormality must be addressed first. Cows that have medical illness will NOT respond well to being placed into the tank.”

– Dave Anderson, DVM, MS
Ohio State University
College of Veterinary Medicine



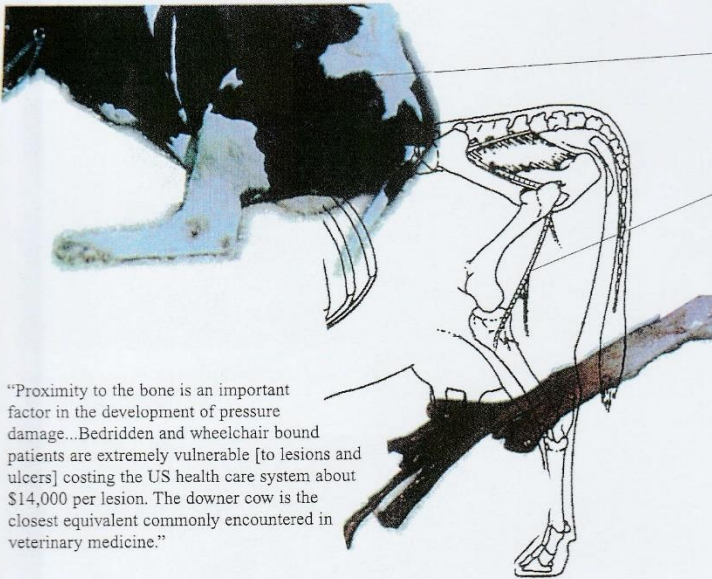
1: Back tank to the cow (inside the barn or out.)



2: Remove the end doors, set jack and ramp. Roll the cow onto the drag mat and...

Why Do Healthy-Looking Cows Stay Down?

They succumb to the pressures of being down.



Blown-up view of compressed and damaged sciatic nerve. “The sciatic nerve wraps around the femur... where it is vulnerable to compression.”

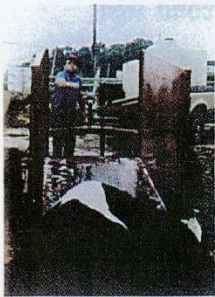
“Proximity to the bone is an important factor in the development of pressure damage...Bedridden and wheelchair bound patients are extremely vulnerable [to lesions and ulcers] costing the US health care system about \$14,000 per lesion. The downer cow is the closest equivalent commonly encountered in veterinary medicine.”

“The amount of muscle function loss and the location of the dysfunctional muscles determine the ability to stand or become recumbent by default. While muscle damage may be more striking in appearance on post mortem exam, a smaller lesion to the sciatic nerve will have more profound consequences due to the wide distribution of the nerve. Therefore, subtle differences in position during the initial recumbency will determine the location and severity of lesions and the ensuing deficits. Minimizing this damage should be the aim of both prevention and treatment efforts.”

“While primary causes of the downer cow problem can be either systemic or local, the secondary effects are always local tissue injury resulting from compression of the limbs or musculoskeletal damage due to struggling to rise or ‘creep’. Regardless of the primary cause of the recumbency, all down animals are subject to tissue compression in the hind limbs which becomes the common ‘unifying factor’ for all downer cow cases.”

The caption quotes are excerpts from the research of Victor Cox, DVM Ph.D, Dept. of Veterinary Biology, U. Minn. College of Veterinary Medicine. Dr. Cox describes how a downer become the victim of her own weight. His research documents how the compression of only a few hours down may start a chain of new damage. People suffer similar injuries caused by trauma and compression.

the cow's up and showing us how she is. In one sweep the Aqualift pulls the downer in, transports her, raises her safely...



3: ...winch the cow inside.



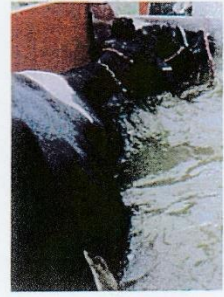
4: Each aluminum door has a rubber gasket which forms a watertight seal with a lip on the tank.



5: Trailer the cow to the selected location with good footing for her exit and her return to full strength.



6: Two pins release the trailer assembly, causing it to swivel up and the tank to drop. Reinsert pins in upper slots to hold up the trailer.



7: Pump water, raise cow.

The whole advantage of this tool is using it early. If you wait, you're not using the tool properly.

Insurance companies are insisting on hydrotherapy for post-op patients and injured workers. The earlier and safer the treatment, the earlier the recovery and the less production time lost. The same, of course, is true for cows.



Snapped neck of the femur bone due to struggling to get up



Skin ulcer due to prolonged pressure damage

Physical Exam: Selecting Good Candidates

"Downer cows can be divided into two groups:

1. Those with abnormal vital signs or irreparable injury.
2. Alert and eating animals that simply cannot rise.

Group #2 animals can benefit immediately from hours of comfortable standing and eating

Group #1 cannot. First they need to be diagnosed, treated and moved to group #2."

Physical Exam

Identify Primary Causes:

1. Illness
metabolic (milk fever)
toxic (mastitis); ulcers
2. Injuries
pelvic, spinal, fractures

Treat Primary Causes

Is the cow alert and eating?
Is her illness over?
No terminal injuries found?

Float Cow?

prevent damage from
pressure and struggling

"Basically you're trying to reduce down to hidden nerve and musculoskeletal injuries that should respond to hydrotherapy."

— Steve Mills, DVM

"Flotation is most effective if applied early, before a downer cow develops serious myopathy/neuropathy."

Quotes:

*Bradford Smith, DVM, DACVIM
Director, Veterinary Teaching Hospital
U. California Davis*

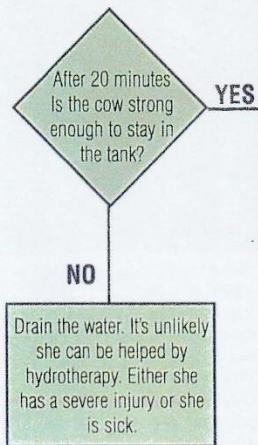
Brad Smith and team continue clinical research documenting the success of water therapy in treating down cows.

"A good physical exam prior to flotation is of paramount importance. If one eliminates many of the [identifiable] unsuccessful cases [in our first study] the success rate will improve even further - to 90% in our [next] group."

...and then supports and feeds her for hours as her systems revive.

Exiting the Tank

First Test



Feed and Cover

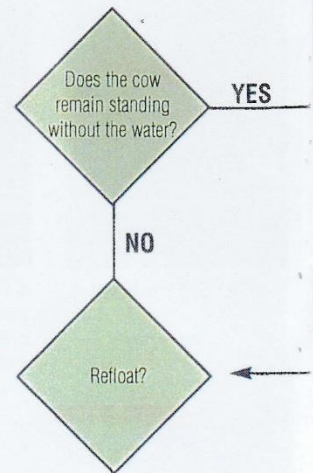


8. Attach the feed rack. Provide good hay. If it's chilly, put on the canopy brackets and the tarp to retain heat.

After 8 – 12 Hours

Drain the water slowly, allowing her to get used to less and less support

Second Test



Evaluation - Diagnosis

What is she telling you?



How does she get up in the rising water ?

- Does she just need a boost or does the water do most of the work?
- Back end or front end first?
- Could she stand without water?

Once she's up, check her vital signs...

- Does she eat? Chew her cud?
- Does she bear weight evenly?
- Hang her ears in discomfort?

"The tank is a valuable diagnostic tool. If the cow doesn't respond to this, then you have recognized it early, without wasting a lot of time... If she cannot stand in the buoyancy of warm water, there is little point in continuing with her. Either she has a severe, irreparable injury (fracture, spinal), or she is too weak because of some underlying illness (mastitis, hypocalcemia, fatty liver). The point is, if she can be saved, she will stand when the water is added."

– Pete Carradonna DVM
Gardiner, ME

"Examples of problems hard to diagnose in a down animal but easier in the tank: hip luxation, femoral fracture, severe swelling but localized, broken back, torn uterus."

– Gilles Fecteau,
Faculte Medicine Veterinaire
University of Montreal



"Once standing in warm water, it is often obvious which limbs are paretic or painful. Most cows relax and eat hay. Even [unhandled] 1st calf heifers seem remarkably calmed by warm water."

– Bradford Smith, D.V.M.



She's up but not necessarily happy.
Her owner's smile may be premature.

She Can't Exit Too Slowly

She must take one step at a time.



To readjust her full weight, the cow should stand at least a half hour before walking out.

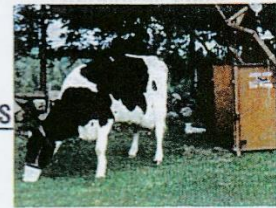
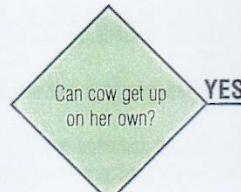


Remove the front door and use it as a barrier, backing it off slowly. Be careful. A belly flop may be your fault.

Once her front feet are outside, take the door away and let her come on her own.

The cow sinking in water is either terminal or needs lots of therapy

Final Test



Exercise will accelerate her recovery. Be sure she's back to full strength before putting her through the parlor or back on cement.

In most cases, float her again.

A Message to Bovine Vets...

This is a veterinary tool, but someone else besides you manages it.

You're the natural 1st contacts. You make the method cost-effective, and know the caseload.

The right person can have a rewarding side business. Basically, the custom service specializes in delivering warm water. We can send you a recruiting sheet to send out with your monthly statements. Refer good prospects to us and we'll help them get set up.

"Time is what I give. It's frustrating to drive 20 miles to see a slightly injured cow that I can't help. But for several years now that's changed. Depending on the case, we'll recommend floating. Our clients call the custom service. We almost never see the cow in the tank... What would we do if the custom operators left? It's a black and white thing. First we'd get a tank. Second, we'd get someone to run it."

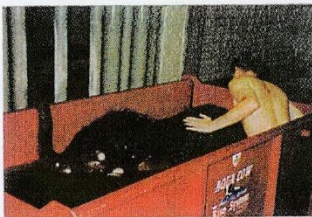
— Rick Price D.V.M.
Monroe, N.H.

"And it's the best darn way to get a down cow up. Success depends on why she was down. Pretty good IF you pick your cases right... We are spoiled here. If the cow can't get up, then we just call Float-a-Cow to come. I believe it is a service you could offer as a side business and make a go of it. I'd carefully assess your potential market (farm density, size, etc) and willingness of local vets to recommend it first. Good luck!"

— Bernie Ritchie, DVM
Ephrata, PA

...and to other large animal vets and owners

The Aqua Cow tank is not just for cows.



Netherlands: A Dutch vet checks his young patient after removing a splint on her fractured leg as...



...her mother looks on.



Denmark: This special Horse Rehab Pool was recently designed in Denmark. The box is much larger and the inner walls and floor are rubber padded to protect thrashing animals.



Ohio State U. This camel named Bernie suffered an allergic reaction to deworming medicine. Like a cow, pressure damage from being down kept her from rising. Bernie was down for two months before being moved to OSU's clinic. After two sessions in the tank he was walking again.



“A cow down over 24 hours is an emergency.”

– V. Cox, U Minn.

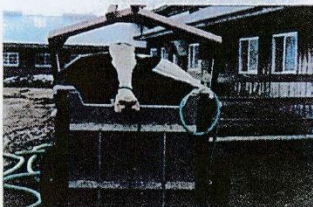
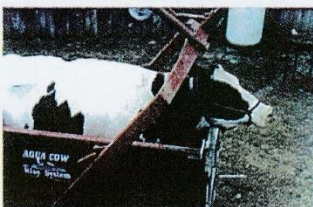
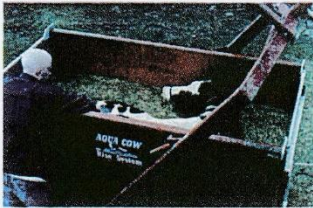
How would an emergency service work in your dairy area?

Emergency teams need a system.

The Aqua Cow Rise System depends upon two kinds of resources:

1. Veterinary diagnosis
2. Physical capacity – 650g warm water, equipment to deliver it, and labor (it's a two-person operation)

Large dairies & clinics that already have both just need an Aqua Cow tank.
Smaller farms should rely on their vets for #1 and a custom service for #2.

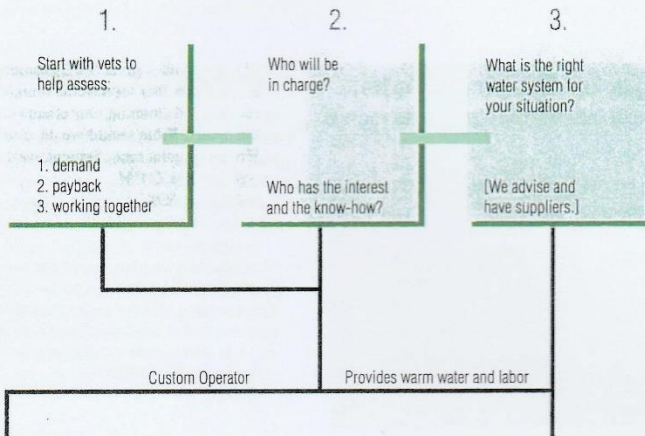


Before Buying an Aqua Cow Tank...

Let us help you through these steps

“Farmers appreciate this service more than my other custom services. If she's not going to make it with this, she's not going to make it. The farmer knows we're doing all we can for her.”

– Leroy Martin, custom operator
Lancaster Co., PA



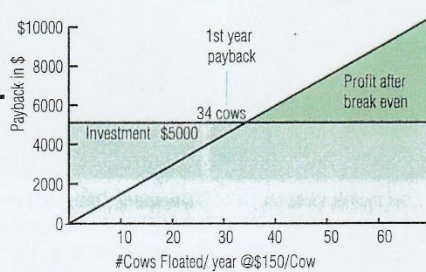
Estimated Payback

Cash out	
Aqua Cow tank	\$4000.00
Water Equipment	1000.00
Total Investment	\$5000.00

What To Do About Water?

1. Water delivery must be routine and dependable.
2. There is not a standard solution for everyone
3. For information see Instruction Manual and www.downcow.com/aquacowrisesystem/watersystems

Cash In
Assumed fee of \$150.00 to float a cow.



The Aqua Cow Tank keeps its value. It will last and last. Keep it clean and it's ready to go.

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Langagervej 1, Jels
6630 Rødding
Tlf. 74 55 22 66