

ENGINEERING
YOUR SPRAY SOLUTION



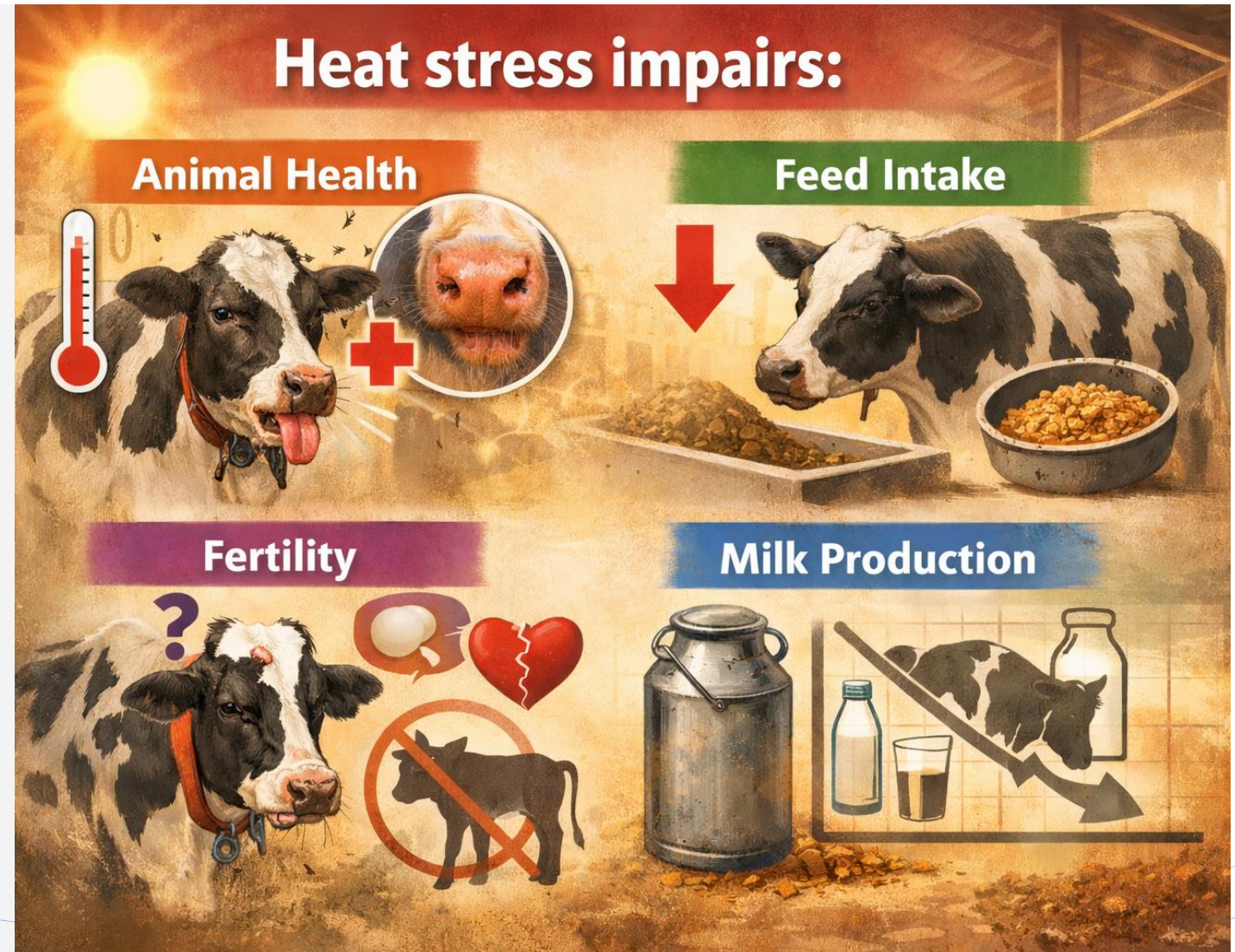
CC COWCOOL

Efficient against heat stress - increases animal welfare and performance

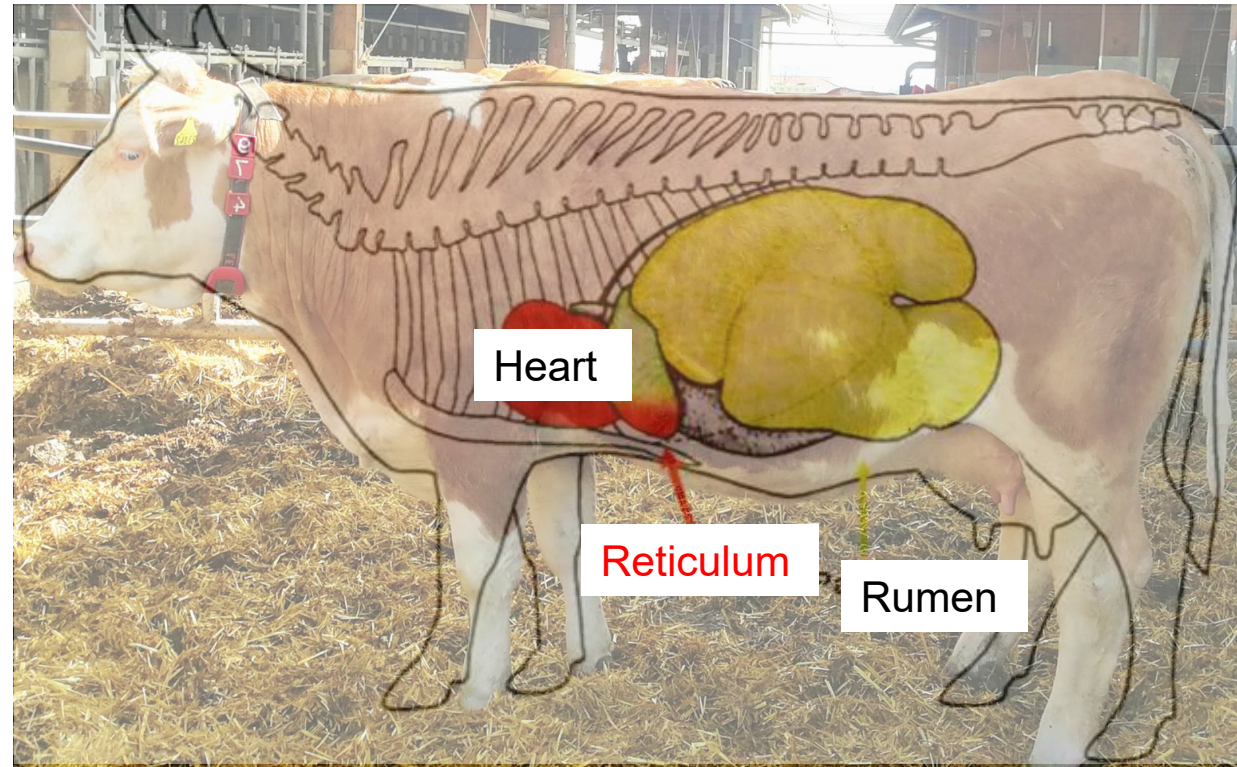


- **Heat stress affects:**

- ➔ Animal welfare
- ➔ Feed intake
- ➔ Fertility
- ➔ Milk production

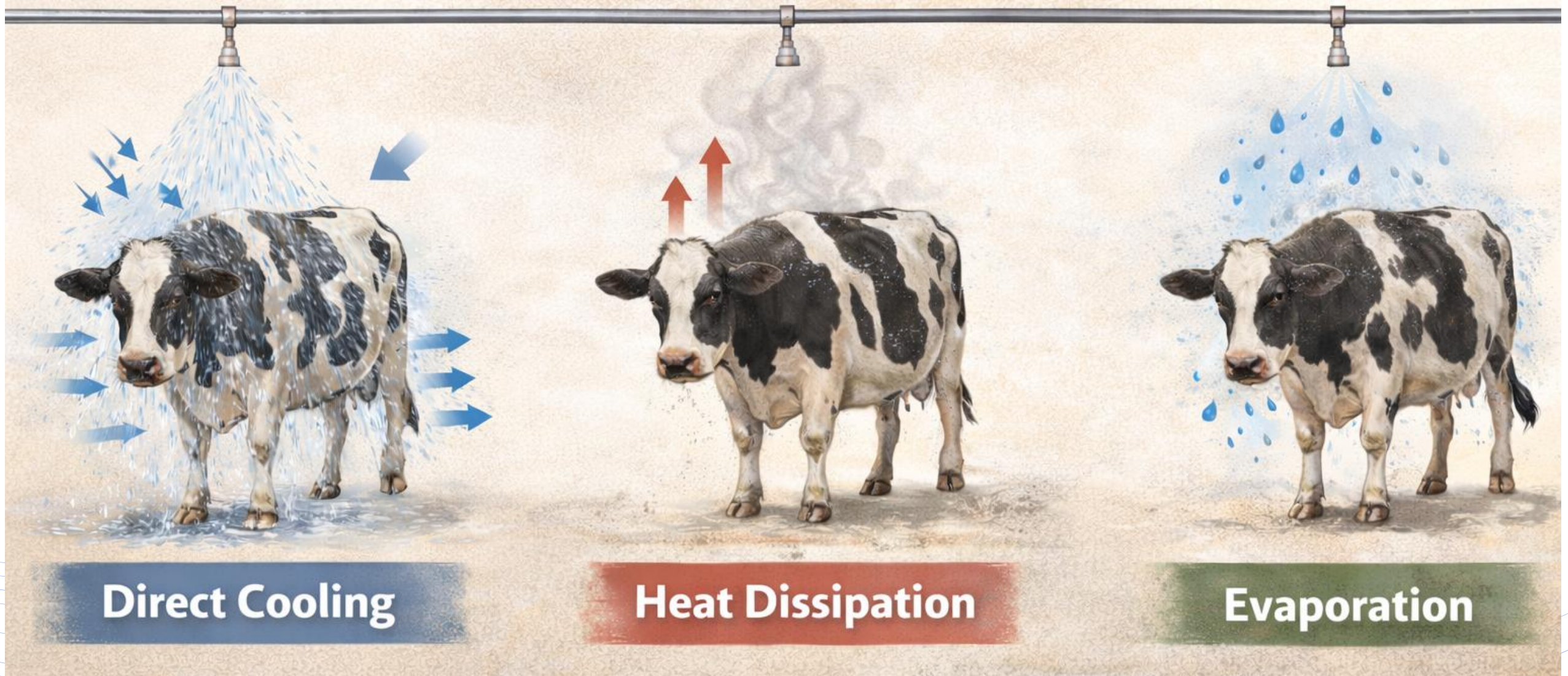


- **CowCool: Targeted cooling**
 - ➔ The cow's back
 - ➔ Especially in the area of the heart and digestive tract



COOLING PRINCIPLE – THREE COOLING MECHANISMS

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Advantages

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Ideal for evaporative cooling on animals

Targeted application

Covers two cows at the same time

Easy to maintain: removable dosing orifice

Robust materials, durable construction

Easy installation & modification

Application in the low-pressure range

Mounted above the feed fence: feed and cubicles stay dry

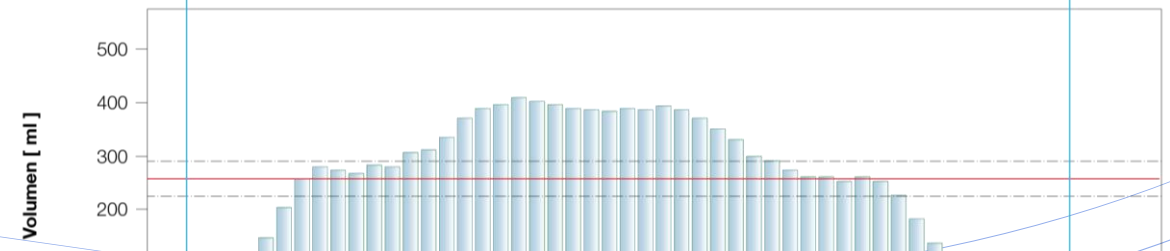
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Efficient against heat stress

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- **Targeted cooling for cows**
 - ➔ CowCool soaking nozzle cools cows specifically on their backs
 - ➔ Complete soaking of the coat with ultra-coarse droplets
- **Efficient water application**
 - ➔ Sprühbreite von ca. 2,5 m bei 3 bar
 - ➔ Cools two cows at the feed fence at the same time
- **Dry environment**
 - ➔ Feed and cubicles stay dry



Nozzle in cap with bayonet system MULTIJET



2– 4 bar



Ultra coarse



POM



1.5 m

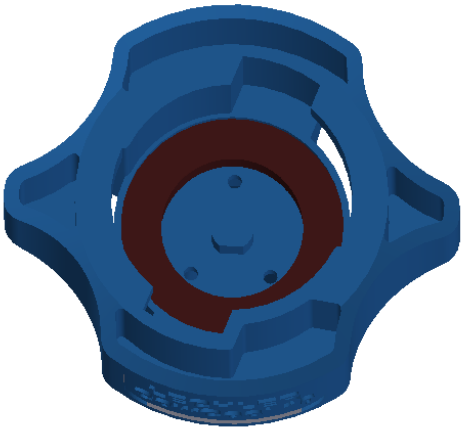


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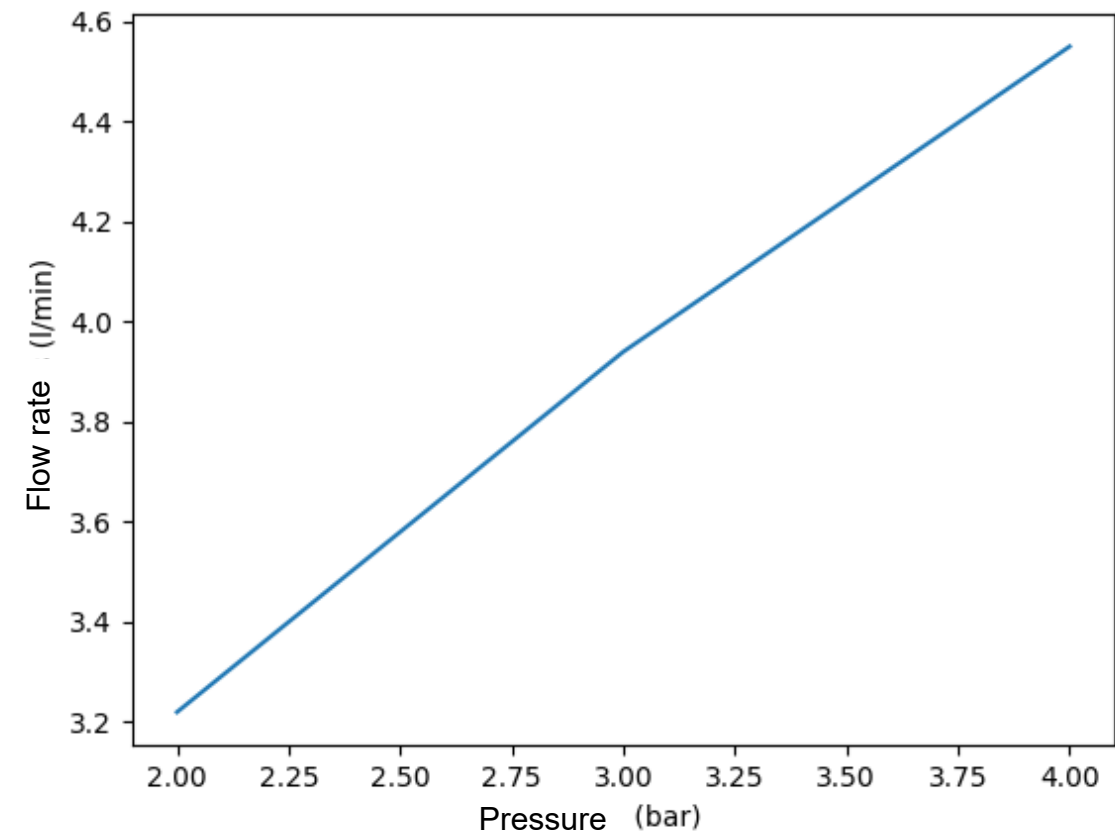


140°

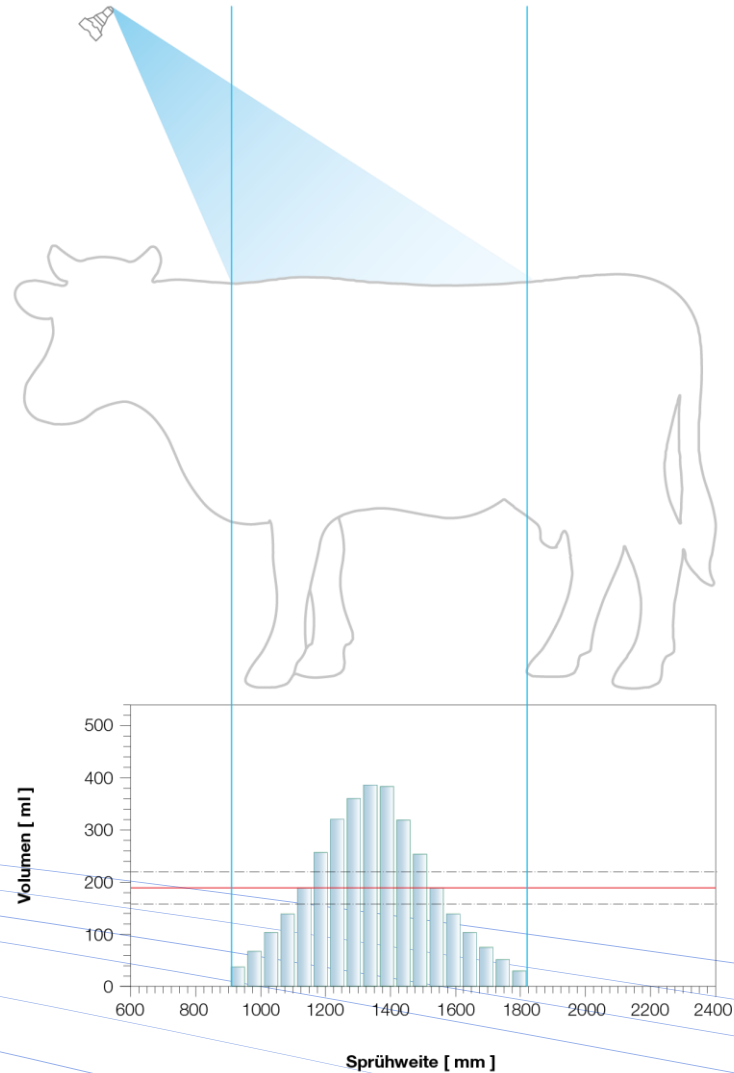
Pressure [bar]	Flow rate [l/min]
2	3.22
3	3.94
4	4.55



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2	3,22
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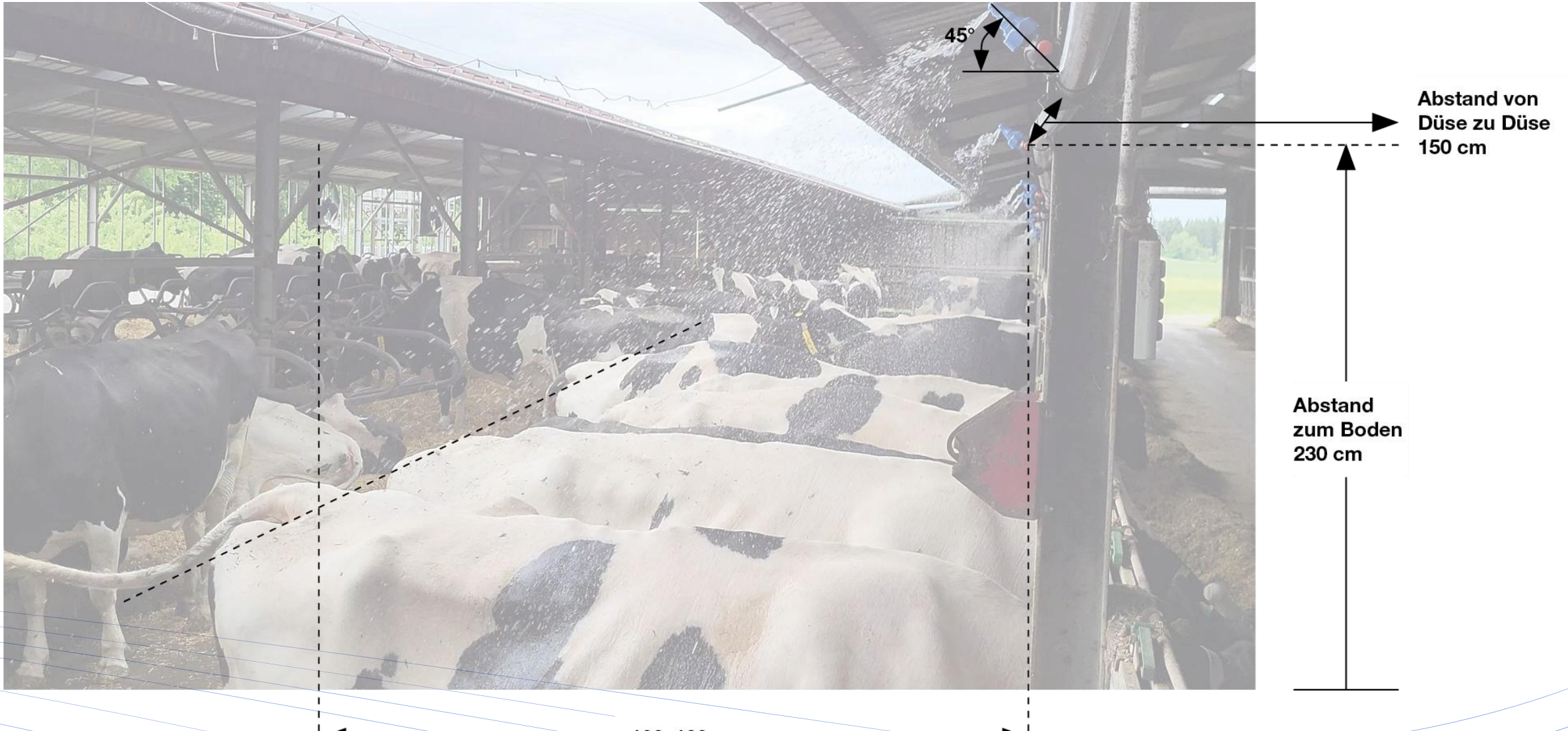
Flat spray nozzle with high spray depth



COWCOOL 10

Installation

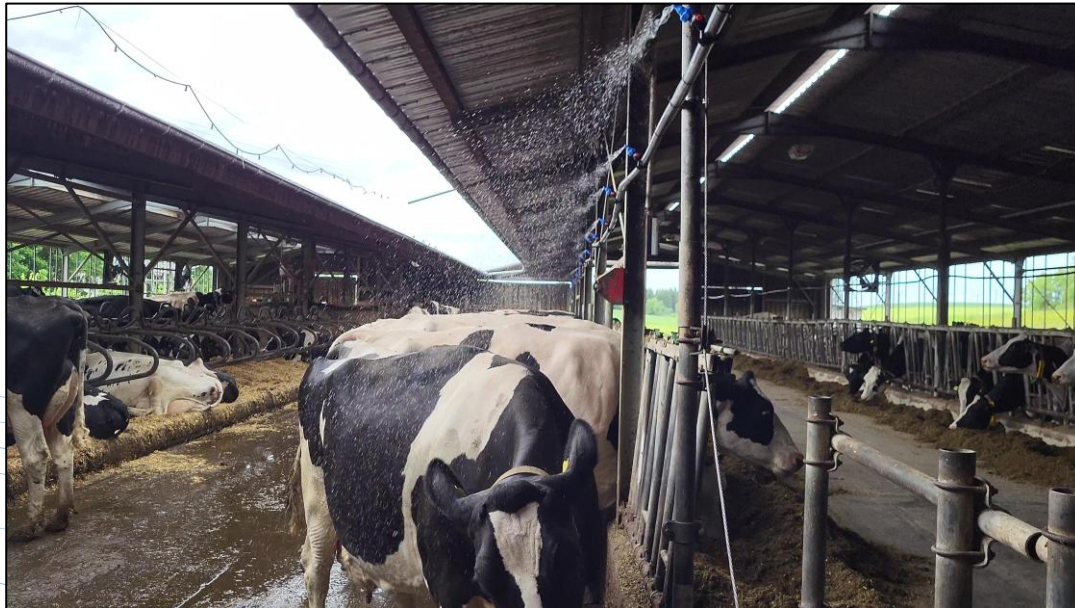
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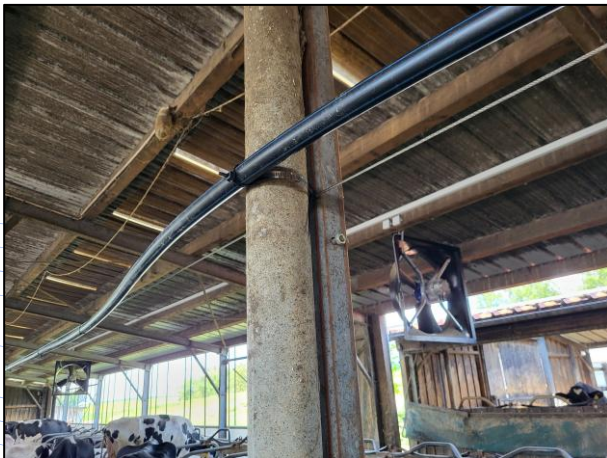
Installation

- Easy installation above the feed fence
- Number & position of nozzles depends on the size of the stall and pipe length
 - ➔ Note: Pipe dimensioning (diameter) depends on pipe length & number of nozzles
 - ➔ Take pressure drop into account



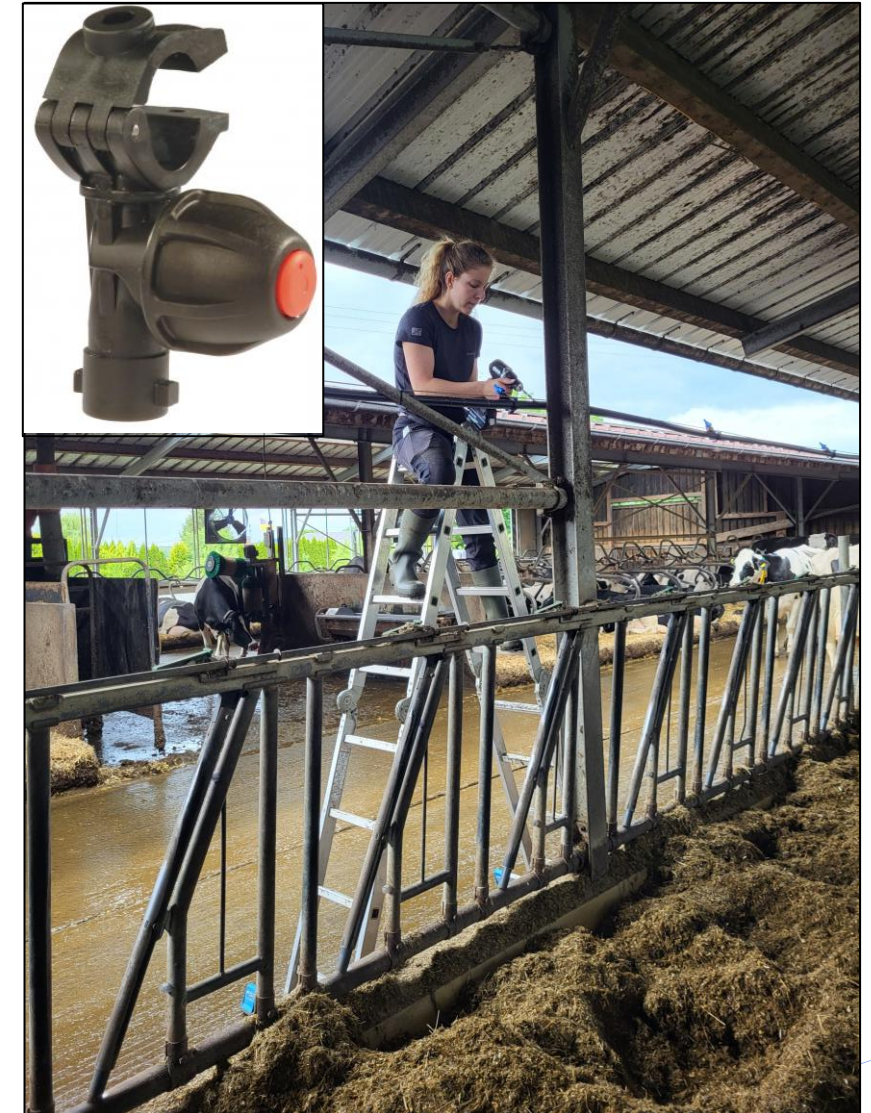
Pipeline

- Pipe height: approx. 230 cm from the barn floor (out of reach of the cows)
- Steel cable as a guide cable for stability:
 - ➔ Anchoring to walls or pillars
 - ➔ Additional attachment to support elements in the barn
- Fastening the cable to the steel cable with cable ties
- As an alternative to rolls: Pre-assemble bars & then connect with fittings (more precise alignment possible)



Nozzle assembly

- Attach the nozzles to the pipe at a 45° angle
- When aligning the nozzles, pay attention to the wind direction and fans:
 - ➔ No spraying of the feed table or cubicles
- Aim: even moistening of the cow's back from shoulder to pelvic bone
- Use of a nozzle holder with drip stop recommended



Controller

- Climate-based control recommended Showering at intervals
 - ➔ e. g. 45 seconds on, 5 minutes off
 - ➔ Staggered increase in shower duration with rising temperature / Temperature-Humidity-Index (THI)
- Upstream elements
 - ➔ Water filter
 - ➔ Separate solenoid valve for each soaking line for separate control
- **Please note:**
 - ➔ Good air exchange in the barn is essential!

TH-Index		Luftfeuchtigkeit (rel %)																	
		20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	
Temperatur (°C)	16	60	60	60	60	60	60	60	60	60	60	60	60	60	61	61	61	61	
	17	61	61	61	61	61	61	61	61	62	62	62	62	62	62	62	62	63	
	18	62	62	62	62	62	62	62	63	63	63	63	64	64	64	64	64	64	
	19	63	63	63	63	63	64	64	64	64	65	65	65	65	66	66	66	66	
	20	64	64	64	64	65	65	65	65	66	66	66	67	67	67	67	68	68	
	21	65	65	65	66	66	66	67	67	67	67	68	68	68	69	69	69	70	
	22	66	66	66	67	67	67	68	68	69	69	69	70	70	70	71	71	72	
	23	67	67	67	68	68	69	69	70	70	70	71	71	72	72	73	73	73	
	24	68	68	68	69	69	70	70	71	71	72	72	73	73	74	74	75	75	
	25	69	69	70	70	71	71	72	72	73	73	74	74	75	75	76	76	77	
	26	70	70	71	71	72	72	73	74	74	75	75	76	76	77	78	78	79	
	27	71	71	72	72	73	74	74	75	76	76	77	77	78	79	79	80	81	
	28	72	72	73	74	74	75	76	76	77	78	78	79	80	80	81	82	82	
	29	73	73	74	75	75	76	77	78	78	79	80	81	81	82	83	83	84	
	30	74	74	75	76	77	77	78	79	80	81	81	82	83	84	84	85	86	
	31	75	75	76	77	78	79	80	80	81	82	83	84	84	85	86	87	88	
	32	76	76	77	78	79	80	81	82	83	83	84	85	86	87	88	89	90	
	33	77	77	78	79	80	81	82	83	84	85	86	87	88	89	90	90	91	
	34	78	79	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	
	35	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	
	36	80	81	82	83	84	85	86	87	88	89	90	91	92	94	95	96	97	
	37	81	82	83	84	85	86	87	88	90	91	92	93	94	95	96	97	99	
	38	82	83	84	85	86	87	89	90	91	92	93	95	96	97	98	99	100	

kein Hitzestress milder Hitzestress mäßiger Hitzestress starker Hitzestress Gefahr

Adaptiert nach Thom (1959); Zimbelmann und Collier (2009)



With CowCool, you get a sophisticated, tried-and-tested solution for improved animal health and productivity - efficient, resource-saving and durable.

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