

Water is a nutrient.

Meter it like one.

Five breeder guides — SEGES, PIC, Hypor, DanBred, Topigs Norsvin — read straight from the tables.

The daily requirement roughly doubles as the pig grows

DanBred, litres per day		TN70 where it differs
Weaned piglet	1-5 L/day	
Grower 15-45 kg	4-8 L/day	
Finisher 45-100 kg	6-10 L/day	
Gestating sow	12-20 L/day	20-40 L/day
Lactating sow	35-50 L/day	25-50 L/day

A pig that cannot drink enough will not eat enough — water intake caps feed intake. The sows are the extreme: a lactating sow needs 4 L of water for every 1 L of milk.
⚠ DanBred and Topigs Norsvin disagree on gestation: 12-20 vs 20-40 L/day.

Flow rate is a requirement too — and the guides split

Weaner / nursery	0.5-0.8 L/min	SEGES · DanBred (PIC 0.5, Hypor to 1.0)
Grower-finisher	0.8-2.0 L/min	DanBred span (PIC 1.0, Hypor 1.0-1.5)
Lactating sow	≥ 4.0 L/min	DanBred & TN70

Set one flow for the whole herd and it is wrong at both ends: too slow, a big pig won't stand there long enough to drink its fill; too fast, a small pig wastes it. Check it with a litre cup and a stopwatch — SEGES: catch 15 s, ×4. PIC: a 125 mL cup should fill in 8 s.

Water-to-feed is 2-3 : 1 — but that is water DRUNK

Water drunk : feed eaten	Water that LEAVES the pipe
2-3 : 1	set by the drinker
by mass — PIC, DanBred, Hypor (≥2 L/kg)	The rest becomes slurry, not pig. Wednesday's paper puts a number on it.

Set the drinker to the smallest pig, and share it fairly

Drinker height (smallest pig)		Pigs per drinker	
Nipple 90°	at shoulder	Nursery	10 (PIC, Hypor, SEGES)
Nipple 60°	5-8 cm above shoulder	Grow-finish	10-12 · DanBred 10-15
Bowl	lip = 40% of pig height	Always	≥ 2 per pen, 60 cm apart

Quality is the invisible half — and the limits disagree

DanBred 'Good' vs Hypor 'Normal', mg/L			
Sulphate	Sodium	Manganese	Nitrate
DanBred <100	DanBred <400	DanBred <1.0	DanBred <25
Hypor <250	Hypor <200	Hypor <0.05	Hypor <45

The rule this deck is arguing for

Water is the cheapest input and the easiest to under-deliver without knowing. Match the daily litres AND the flow rate to the pig's weight, not once at housing; set the drinker to the smallest pig; test your own source. And find out what each pen actually drinks.

Based on SEGES H5, PIC Wean-to-Finish §3, Hypor Manual Tables 5-6, DanBred Nutrient Spec p.11, Topigs Norsvin TN70 §4.2. Water:feed-by-drinker ratios: Brumm et al. (2000).

The daily litres, stage by stage

DanBred Nutrient Specifications p.11, with Topigs Norsvin TN70 Table 1 alongside

Why the number is litres per day, not a percentage

A pig's water need is set by what it is doing — growing, gestating, milking — and by heat, diet salt and health. DanBred: in poor health, or on high-salt/toxin feed, the need can double. The stage table is the starting point; the barn's temperature moves it up.

STAGE	DanBred L/day	TN70 L/day	FLOW L/min
Suckling pig	1-2	1-5*	—
Weaner / piglet	1-5	1-5	>0.5
Grower 15-45 kg	4-8	6-10†	>1.0
Finisher 45-100 kg	6-10	6-10†	>1.0
Rearing gilt	—	7-12	>1.0
Gestating sow	12-20	20-40	>1.5
Lactating sow	35-50	25-50	>4.0
Boar	8-10	—	—

* TN70 groups suckling + weaners. † TN70 groups growers + finishers.

The disagreements, published not smoothed

Gestating sow: DanBred 12-20 vs TN70 20-40 L/day — TN70's own note says intake can reach 40 L at the end of gestation. Lactating sow: 35-50 vs 25-50. When guides split, take the wider range as the design envelope, not the average — the plumbing must meet the peak.

The rule of thumb behind the sow row

A lactating sow needs about 4 litres of water to produce 1 litre of milk (Topigs Norsvin). A big litter on a hot day is the highest water demand on the whole unit — and the row where a slow drinker or a blocked line costs the most, fastest.

Flow rate: the number set once and forgotten

SEGES, PIC, Hypor, DanBred, Topigs Norsvin — nipple/drinker output by stage

STAGE	SEGES	PIC	Hypor	DanBred	TN70
Weaner	0.5-0.8	0.5	0.5-1.0	0.5-0.8	>0.5
Grow-finish	—	1.0	1.0-1.5	0.8-2.0	>1.0
Gest. sow	—	—	—	—	>1.5
Lact. sow	—	—	—	≥4.0	>4.0

All values L/min. SEGES weaner figure is 'regardless of the type of drinker.'

Read the split, don't average it

For a finisher the guides run from 1.0 (PIC) through 1.0-1.5 (Hypor) to 0.8-2.0 (DanBred). That is not noise — it reflects drinker type and how each breeder trades intake against waste. A nipple a big pig can empty quickly encourages a full drink; too slow and it gives up short.

How to check it — two published methods

SEGES: tap the valve into a container for 15 seconds, read the litre cup, multiply by 4.
PIC: a 4-ounce (125 mL) cup should fill in 8 seconds; audit 5-10% of drinkers weekly.
Check again with the whole barn drinking and the washer running — pressure sags under load.

Pressure is the other half of flow

PIC: nursery under 20 PSI (<1.4 bar); grow-finish 15-40 PSI (1.0-2.8 bar) — Hypor agrees.
In the nursery, aim ~500 mL/min: PIC and Hypor both warn that above 1 L/min the jet is hard to drink and piglets take LESS water. Faster is not always more.

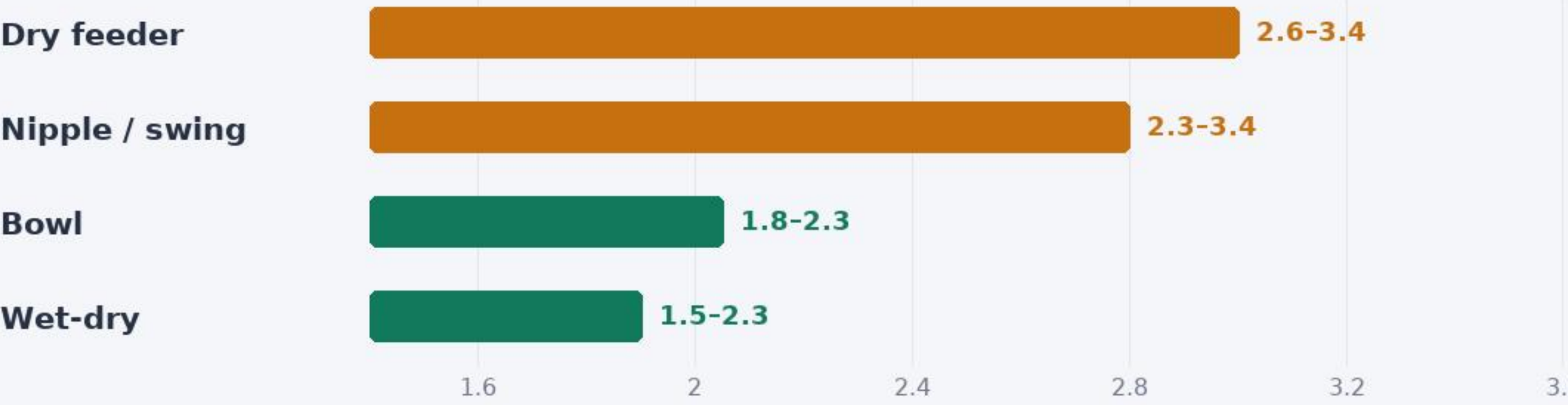
Two litres per kilo — of the water she actually drinks

PIC / DanBred / Hypor / TN70 intake ratios, and where the rest of the water goes

The intake ratio the guides agree on

PIC and DanBred: pigs drink 2-3 times more water than feed, by mass. Hypor: at least 2 L per kg of feed — 2 kg of feed a day means about 4 L of water. Topigs Norsvin puts rearing gilts a little higher, 2.5-4.0x. This is water that goes INTO the pig.

Water : feed by drinker type — Brumm et al. (2000), reprinted in PIC



Same pigs, same feed: the drinker sets the ratio. A nipple runs high, a bowl or wet-dry runs lean.

Why a nipple's number is bigger

The higher the ratio, the more water passes the pig without being drunk — spillage, play, and a jet that overshoots the mouth. On a bowl or wet-dry feeder more of the draw is ingested, so the ratio falls. The drink is similar; the WASTE is not.

Where this goes on Wednesday

A commercial-farm trial metered it: a swing nipple drew 7.27 L/pig/day against 2.5-2.7 on a bowl — a water:feed of 13.85 vs ~6 at the DRINKER, and 6.5 vs ~1.7 L/pig/day of extra slurry. That draw-off number is not the intake number. Nobody logged what was actually drunk.

Height to the smallest pig, one drinker per ten

PIC Table 3.2 and Hypor drinker-height diagram; SEGES / DanBred pen numbers

DRINKER	HEIGHT (based on smallest pig in pen)	SOURCE
Nipple, 90°	Equal to shoulder level	PIC · Hypor
Nipple, 60°	5–8 cm (2–3 in) above shoulder	PIC · Hypor
Bowl	Lip height = 40% of pig height	PIC · Hypor

Height is set by the smallest pig, not the average

The biggest pig can always reach down; the smallest cannot reach up. Set to the smallest and adjust as the group grows. A nipple angled at 60° sits a little higher than one at 90°, so it clears the back and the pig drinks with its head up — less spill down the neck.

PIGS PER DRINKER	NURSERY	GROW-FINISH
PIC / Hypor	10	10–12
DanBred	10–15	10–15
SEGES, nipple (dry feed)	max 10	—
SEGES, bowl	15–30	—

Always two, spaced apart

SEGES and DanBred: at least two drinkers per pen, so one blockage does not cut the pen off and a low-ranking pig is not held off the only nipple. DanBred: place them ≥60 cm apart. TN70 cites 5–7 pigs per drinker (Norwegian rule) at the strict end — fewer pigs, less queueing.

Quality: you cannot see it, and the limits disagree

DanBred 'Good' vs Hypor 'Normal' — test your own source, at the drinker

PARAMETER	DanBred 'Good'	Hypor 'Normal'
pH	5.5–8.5	6.5–9
Nitrate, mg/L	<25	<45
Sulphate, mg/L	<100	<250
Chloride, mg/L	<250	<250
Sodium, mg/L	<400	<200
Iron, mg/L	<0.5	<0.2
Manganese, mg/L	<1.0	<0.05
Coliforms	<100 cfu/mL	0 / 100 mL

Where they disagree, and why it matters

Sulphate <100 vs <250 (loose dung risk). Sodium <400 vs <200 — reversed. Manganese <1.0 vs <0.05, a 20-fold gap. Hypor adds total dissolved solids <1500 and hardness <800 mg/L CaCO₃; DanBred calls hardness good under 60 ppm. Different bases, both published — so borrow neither.

Test your own water, at the pig

Quality varies by source, region and season. DanBred: test 4× a year; Hypor: at least once, and check at the SOURCE and at the pig's drinker — biofilm and scale build up in the last metres of pipe. Keep it cool: PIC targets 16–18 °C. Warm, furred pipe is where scour starts.

Clean the line, not just the tank

Iron and manganese feed biofilm; biofilm shelters bacteria and blocks nipples. Flush and disinfect between batches, rinse with clean water before pigs arrive, and check nipple function so every drinker in a section is tested within a 14-day cycle (SEGES).

Metered at the barn. Never at the pig.

Every figure on this deck assumes a number no unit measures per pen

The gap under the whole deck

The daily litres, the flow rate, the water:feed ratio — every one is per pig or per pen. Yet the only water number most units log is one meter for the whole barn: thousands of pigs behind a single figure, hiding the pen on the blocked line and the pig that stopped drinking at 2am.

Flow drifts

A nipple part-blocks, pressure sags, a header empties — and nothing tells you.

Intake is a proxy

The barn meter is a silo-average for water: right on the mean, blind to the pen.

Drinking is behaviour

A pig off the drinker at its usual hour is the earliest sign of enteric trouble.

What it would take to close it

Not a better table — the tables are good, once you match them to the pig's weight. It would take knowing what each pen actually drank, continuously, so a flow that drifts shows up as behaviour changing at the drinker — not as a feed chart falling a week later.

Save this and check three things this week

1. Time the flow with a litre cup under the drinker your BIGGEST pigs use.
2. Set every drinker to the SMALLEST pig in the pen, and count pigs per drinker.
3. Test your own water — sulphate, sodium, manganese, coliforms — at the pig, not the mains.

Based on SEGES H5, PIC Wean-to-Finish §3, Hypor Manual Tables 5–6, DanBred Nutrient Spec p.11, Topigs Norsvin TN70 §4.2. Full provenance: 01-monday/SOURCES.md