

Colostrum and the Neonate Lamb & Goat

WHAT THE PRODUCER NEEDS TO KNOW ABOUT
NEWBORNS AND COLOSTRUM



Colostrum Part 1:

What It Is (and What It Is Not)

By Tim from Linessa Farms

Colostrum is one of those words everyone uses, but very few people actually stop to define.

It's often talked about like it's "really good milk" or a supplement you give just in case.

Neither of those descriptions is accurate, and that misunderstanding causes more downstream problems than most people realize.

Colostrum is not milk in the way most people think about milk.

Milk is nutrition.

Colostrum is biological instruction.

At birth, lambs and kids enter the world with an immune system that is essentially untrained. Unlike some species, small ruminants do not receive meaningful antibody transfer in utero. They are born immunologically naïve. Whatever early protection they will have must be delivered after birth—and colostrum is how that happens.

The primary purpose of colostrum is twofold: to deliver antibodies relevant to the species and environment the dam lives in, and to provide early biological support for the newborn.

Once gut permeability closes, continuing to feed colostrum misses the point. At that stage, it functions as nutrition—not immune programming.

That distinction matters.

Colostrum is a dense, time-sensitive package that contains:

- Immunoglobulins (primarily IgG, but also IgA and IgM)

- Growth factors that stimulate gut development
- Immune signaling compounds
- Energy in a form the newborn can actually use

This combination does two critical things at the same time:

1. It provides passive immune protection
2. It programs the gut and immune system for what comes next

That second point is often overlooked.

The newborn gut is temporarily permeable. This allows large immune molecules to pass directly into the bloodstream. As colostrum is absorbed, that permeability begins to close. This process—often referred to as “gut closure”—is normal and necessary, but it is one-directional. Once it progresses, it does not reverse.

This is why colostrum is not interchangeable with milk, supplements, or “something later.”

Once that window begins to close, you can still feed the animal—but you are no longer delivering the same biological message.

Another common misconception is that colostrum is a single event. In reality, it’s better understood as a sequence:

- Early intake establishes passive protection
- Continued intake supports gut maturation
- Transition to milk occurs only after that foundation is laid

When colostrum fails—due to poor quality, inadequate intake, delayed nursing, cold stress, dystocia, or simple mismanagement—the effects are not always immediate.

Some lambs and kids appear normal for days or even weeks.

These are often the animals that don't grow as expected, struggle to tolerate routine challenges, and seem to need repeated intervention just to stay on track. This isn't bad luck. It's biology playing out exactly as designed.

Colostrum isn't a supplement.

It isn't optional.

And it isn't something you can fix later.

Colostrum doesn't change exposure. It changes how the animal tolerates it.

In the next article, we'll talk about timing, why colostrum is a one-way door, and why "more later" does not compensate for "missed early."



Colostrum Part 2:

Timing, and the One-Way Door

By Tim from Linessa Farms

In the first article, we talked about what colostrum is — and what it is not.

This article is about when it works.

Because with colostrum, timing isn't a preference. It's a constraint.

From the moment a lamb or kid is born, a biological clock starts. That clock is not controlled by nursing behavior, environment, or human intervention. It's driven by physiology — and it only runs one direction.

Gut Permeability: Why the Window Exists

Newborn lambs and kids are born with a gut that is temporarily permeable. This allows large immune molecules to pass directly from the digestive tract into the bloodstream.

That permeability is intentional. It's how passive immune protection is transferred.

As colostrum is absorbed, the gut begins to change. The cells lining the intestine mature, tighten, and close off that pathway. This process — commonly referred to as gut closure — is normal, necessary, and irreversible.

Once it progresses, it does not reopen.

Gut permeability is highest in the first few hours after birth and begins to decline rapidly within the first 6–12 hours. By 24 hours, meaningful systemic absorption of antibodies is minimal to absent in most lambs and kids.

This isn't a switch that flips at a set time.

It's a slope — and that slope gets steeper with every passing hour.

This is why colostrum is fundamentally different from milk or supplements. Its value is tied to timing, not just intake.

A Short Note on Antibodies (and What They Do — and Don't)

Antibodies, or immunoglobulins, are proteins designed to bind very specific targets.

They are not general protection, and they are not interchangeable.

Just as important as what they target is where they end up.

During the brief window of gut permeability, antibodies consumed in colostrum can enter the bloodstream and provide temporary, passive protection. Outside that window, antibodies remain in the gut and do not become systemic immunity.

This is why:

- Timing matters more than volume
- Late colostrum is biologically different from early colostrum
- Oral “immune support” products cannot compensate for missed windows

Antibodies do not create immunity.

They do not form memory.

They provide temporary support, and only when the biology allows them to.

A Familiar Example: CDT Boosters in Late Gestation

Most producers are familiar with giving CDT boosters to ewes or does in late gestation.

This is a useful example because it highlights the same timing principle.

The booster does not vaccinate the lamb or kid. Antibodies do not cross the placenta in sheep or goats in any meaningful way.

What the booster does is stimulate the dam’s existing immune memory and concentrate specific antibodies into colostrum. Those antibodies only reach the newborn if colostrum is consumed early, while the gut is still permeable.

The shot prepares the colostrum.

The colostrum prepares the newborn.

If intake is delayed or missed, the benefit of the booster is largely lost.

Cold Stress Does Not Pause the Clock

A common question is whether chilling or shutdown extends the colostrum window.

It does not.

Cold can suppress the suck reflex and delay intake, but gut closure continues on its own timeline. In fact, cold stress often makes absorption less efficient by diverting energy away from gut and immune function.

So instead of gaining time, you lose ground:

- Less colostrum intake
- Poorer absorption
- Narrower margin for error

You can restart nursing.

You cannot rewind physiology.

This is why warming and feeding early go together — and why delays compound risk instead of buying time.

Why “More Later” Doesn’t Fix “Missed Early”

Once gut permeability declines, feeding colostrum still provides calories and nutrients — but it no longer accomplishes immune programming.

At that point:

- Antibodies stay in the gut
- Passive transfer does not occur
- The biological opportunity has passed

This is why colostrum management is not about volume alone. It’s about early, appropriate intake during a non-repeatable window.

The Takeaway

Colostrum works because of timing, not because it’s special milk.

The window opens at birth.

It begins to close whether the animal nurses or not.

And it closes on a slope, not a schedule.

In the next article, we'll talk about source and specificity — why species matters, why some substitutes help in a pinch, and why none of them replace timely intake of the dam's colostrum.



Colostrum Part 3:

Colostrum Is Specific — Why Source, Species, and Environment Matter

By Tim From Linessa Farms

One of the most common responses I see when we talk about colostrum is this:

“Tetanus is tetanus. Clostridium is clostridium. If a cow or horse is vaccinated against these, those antibodies should still work for lambs and kids.”

On the surface, that sounds reasonable.

Biologically, it's incomplete.

Colostrum is not a generic immune booster.

It is highly specific biological information, shaped by species, exposure, and environment.

Antibodies don't recognize names — they recognize targets

Antibodies don't respond to disease labels.

They bind to very specific molecular structures on pathogens.

Even when two animals are exposed to something we call by the same name — like clostridium — the reality is:

- strains differ
- toxin profiles differ
- routes of exposure differ
- and the way each species encounters risk is different

A ewe or doe living on your farm is producing antibodies based on:

- the organisms present in your soil
- the microbes circulating in your barns and pastures
- the way lambs and kids actually become exposed

That antibody profile is not interchangeable with one produced by a cow in a feedlot or a horse in a stall.

Species specificity matters — even for “the same disease”

Yes, clostridial organisms exist across species.

But lambs and kids do not experience them the same way calves or foals do.

Differences in:

- gut physiology
- immune development

- timing of exposure
- and dominant disease pressures

all matter.

Colostrum works best when:

- antibodies match the pathogens the neonate will actually face
- delivery happens during the gut permeability window
- and the signals are aligned with small-ruminant physiology

That's why the dam's colostrum is always the gold standard.

Why substitutes sometimes help — and why they don't replace the dam

This does not mean substitutes are useless.

Cow colostrum, goat colostrum, and commercial products can:

- provide bulk immunoglobulins
- offer short-term gut-level protection
- help bridge cases of failed passive transfer

But they cannot recreate:

- the dam's full antibody diversity
- environment-specific exposure history
- or maternal immune prioritization late in gestation

They are bridges, not replacements.

Why narrowing colostrum to CDT coverage misses the point

Focusing only on tetanus or clostridium narrows the field too much.

Ewes and does are passing antibodies for far more than one disease:

- enteric bacteria
- respiratory organisms

- environmental microbes
- opportunistic pathogens unique to that farm

Colostrum isn't about one threat.

It's about stacking protection during the most vulnerable window of life.

Timing still beats everything else

Even perfectly matched antibodies fail if:

- intake is delayed
- the lamb or kid is cold
- or gut permeability is already closing

No substitute — regardless of species — fixes late delivery.

Coming next

In the next article, we'll talk about timing and quantity:

- how long colostrum is actually produced
- what “enough” really means
- why chasing exact numbers can backfire
- and when intervention helps versus hurts

Because colostrum success isn't about finding the right product —

it's about getting the right information into the right animal, at the right time.



Colostrum Part 4:

Timing, Quantity, and Intervention — When Helping Helps and When It Hurts

By Tim From Linessa Farms

One of the hardest parts of lambing and kidding isn't knowing what to do.

It's knowing when to step in — and when to let the process work.

Most of the questions I'm getting sound like this:

- How long do I wait?
- How much colostrum is enough?
- Should I tube “just to be safe”?
- How hard should I push mom if she's stressed?

Those are fair questions.

They're also the point where good intentions can create new problems.

There is no magic number

People want a volume because numbers feel safe.

The truth is, colostrum success isn't decided by a syringe. It's decided by:

- timing
- body temperature
- vigor
- suck reflex
- repeated intake

Two lambs can receive the same amount and have completely different outcomes.

That's why package directions exist — but they're guidelines, not guarantees.

What “enough” actually looks like

Instead of asking “how many cc's,” better questions are:

- Is the lamb warm?
- Is it alert?
- Is it getting up and searching?
- Is it latching and swallowing repeatedly?
- Does it settle afterward?

A lamb that is up, nursing, and content is telling you far more than a measured dose ever will.

Waiting versus delaying

There's a difference between giving an animal time — and letting time pass.

Healthy lambs and kids are clumsy at first. That's normal. Watching them figure it out is part of the process.

But multiples, cold lambs, weak lambs, or stressed ewes don't have much margin.

Waiting too long in those cases is often what costs them.

Delay usually looks like:

- trying a little of everything
- hoping the next attempt works
- backing off because mom is upset
- telling yourself you'll check again later

That's not kindness — it's uncertainty.

Tube feeding: tool, not default

Tube feeding can save lives. It has a place.

But tubing "just to be safe" often creates new problems:

- delayed nursing behavior
- confused ewes
- missed bonding issues
- false confidence that the problem is solved

Tubing should be used when a lamb cannot nurse — not when it simply hasn't yet.

Stressing the ewe versus losing the lamb

This is where many people freeze.

You don't need to terrorize mom — but you do need to be decisive.

A ewe being stressed for a short period is not the same as a lamb failing to get colostrum. A ewe can recover from stress. A lamb that misses early intake often cannot.

A small pen, a corner, or brief restraint is often enough to let lambs nurse and move on.

What intervention is really telling you

When intervention is needed over and over, it's usually pointing upstream:

- nutrition
- mineral balance
- genetics
- environment
- management pressure

Fixing the moment doesn't fix the system — but it can buy you time to address it.

The takeaway

Colostrum success isn't about finding the perfect product, volume, or trick.

It's about:

- preparing the dam
- reading the lamb
- acting early
- and knowing when to step in without taking over

Intervention is part of good stockmanship.

Over-intervention is how problems get hidden until they show up again.