

Smooth Transition

Backgrounding calves can help them get past weaning stress.

by Heather Smith Thomas



The term “backgrounding” covers a broad spectrum that includes preconditioning calves after weaning. Ron Gill, professor and Extension livestock specialist at Texas A&M, says, “Preconditioning is from weaning until 30 to 45 days (sometimes 60) post weaning. Backgrounding is putting those calves on a grower ration until they reach 750-900

lb. Most producers in the South don’t do much backgrounding by that definition because we can graze year around and call that a stocker program.”

Terry Klopfenstein, professor emeritus at the University of Nebraska, has conducted several research studies on backgrounding calves. He says most calves are weaned at about 7 or 8 months of age from being with their mothers on pasture. “In feedlots across the country, cattle are fed a high concentrate diet to put more weight on the frame that grew after the calf was weaned,” Klopfenstein says. “Backgrounding is the phase that varies most.” It can be vastly different from region to region and from one operation to another, depending on climate and what’s available to feed calves.

“At the feedyard phase, research is working on nutrition, health and management,” Klopfenstein says. “People on the cow-calf side are looking at nutrition, reproduction, etc. There is less emphasis on backgrounding studies, yet this phase is the most complicated and, in some ways, needs the most attention. For example, the

Nebraska Cattlemen Association has a cow-calf council and a feedlot council, but doesn’t have a backgrounding council.”

Preconditioning

If a producer retains calves long enough to get them past weaning stress to receive a premium for weaned, preconditioned calves when sold or retains ownership through harvest, it’s important for calves to be transitioned as smoothly as possible to minimize health problems. How a person weans calves can make a big difference in future health and performance.

“Two-stage weaning (with nose flaps) is the least stressful way to wean,” Gill says. “Next best is fence-line weaning. You can keep the cows and calves on pasture and a fence between them. Don’t process the calves or cows the day you separate them. Pre-weaning vaccinations should be given prior to this, because you want them

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to be as quiet and calm as possible when you put them across the fence from one another.”

With corral weaning, Gill recommends spending time with the calves. “This not only gets them accustomed to seeing people, but it’s also distracting,” he says. “Calves are curious about the person and not just worrying about where mom went. You are the surrogate; calves start looking to you for comfort. This calms them down a lot quicker.”

After a minimum of 21 days in a low-stress preconditioning system, where calves can be worked with and started on feed, calves can be turned back out on pasture if good grass is available. “It works best if you can go 45 days before you move them and stress them again, but it depends on your situation and their stress level,” Gill explains. “If you are selling them or moving them to different pasture or putting groups of weaned calves together, we recommend 45 days. Then you have time to have both vaccinations in them, and time to establish immunity.”

It pays to work with calves by walking through them quietly when they are in for weaning. “They are panicked and looking for guidance,” Gill says. “You give them something to focus on, and can stop the walking and bawling if you understand this process. You can get them to stop pacing the fence and work for you.” These methods were taught by the late Bud Williams, showing ranchers and feedlot employees how to “settle” calves at weaning or upon arrival at a new place or feed yard.

“It takes a little time, but pays big dividends in less sickness, reduction of pull rates, etc.,” he says. “We don’t have research data, but we have a lot of observational and personal experience. I used to own a preconditioning facility, and when we started acclimating calves upon arrival, health problems and death losses dropped dramatically.”

Gill says if individuals took time to get the calves calmed down and comfortable in their environment, consumption and average daily gain was a lot higher.

“Most calves that get sick, it’s because they’re not eating or drinking enough,” Gill says. “Interaction calms them down so they will eat and drink, and this allows the immune system to function better.”

Gill adds many cattlemen worry about injections involved in preconditioning — vaccinations or antibiotics. “We need to shift that focus to handling and management,” he says. “Vaccinations and antibiotics are important tools, but if we don’t manage those calves properly, those tools don’t have a chance to be as effective.”

Stocker cattle and confinement backgrounding

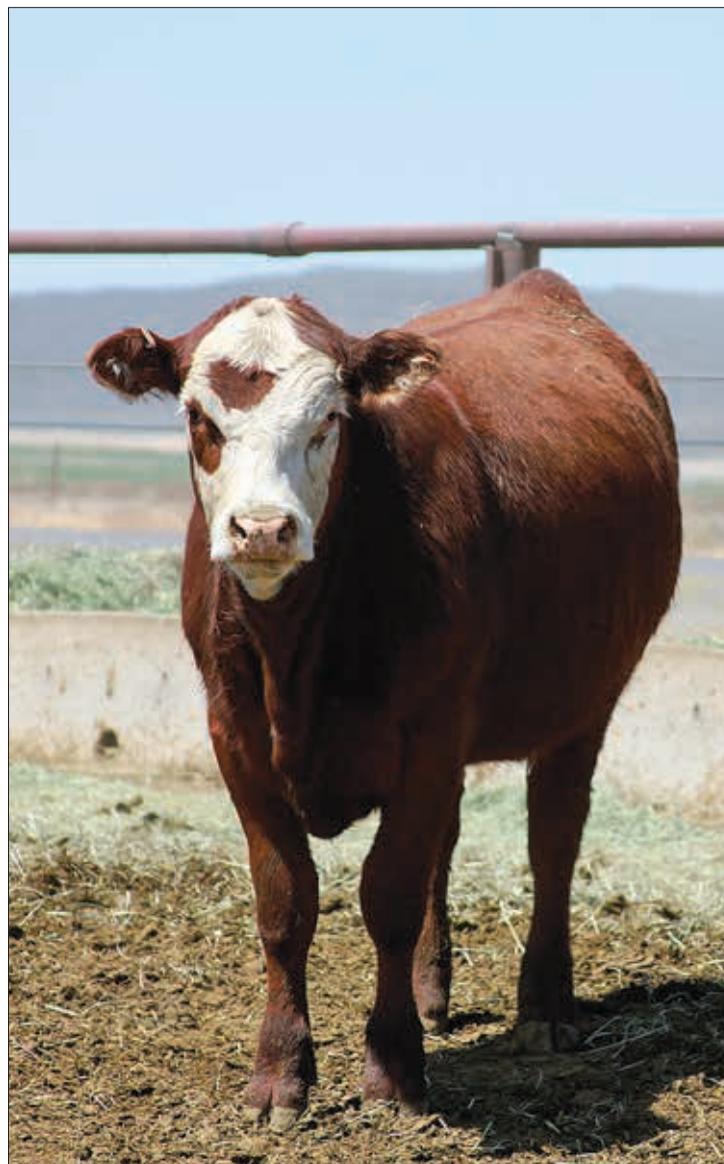
After weaning, calves in some regions go back to grass. “In the South, they go into a stocker program, whereas in the Midwest and upper Midwest they may go into a confinement backgrounding program,” Gill says. “The diets would be high in roughage, with added soluble carbohydrates such as wheat midds, soybean hulls, distillers grains, and other by-product feeds to go with that ration. It won’t be high in starch because you are not trying to get them fat at this point — you are trying to get them to grow more frame. This is the same goal in the stocker phase — putting calves on high quality forage. You want them to grow the frame and not put the fat on yet.”

Backgrounding can be done in a feedlot, though it’s normally cheaper to keep them on grass from a cost-of-gain standpoint. The method depends on whether grass is available, what the byproduct feeds or harvested forages might cost — there are many different strategies.

“In our area, if the cost of gain outside the feedyard is less than inside, people keep calves on grass as long as possible,” Gill says. “If not, or if they don’t have enough high quality forage, they’ll go straight to the yard. Once you get calves weaned, you have a lot of flexibility on what you can do with them, but it can be a challenge to determine the best option. It comes down to cost of gain, which includes medicine, etc. If you don’t have them preconditioned, going into backgrounding or straight to a feedyard is risky.”

Klopfenstein says it’s important to take advantage of the resources in the local area. “Certain kinds of by-products might be utilized. Grazing situations are great, and if you are in Texas, Oklahoma or Kansas, grazing wheat pasture is the norm. I’ve looked at rental rates for wheat pasture and this is an economical way to background cattle, but it limits you to a certain time of year,” he says.

Summer grazing on grass is also limited to certain times. “Here in Nebraska we have two really good resources; corn residue that can be grazed and distillers grains that are a great supplement with corn residue,” Klopfenstein says. “Distillers grains are relatively inexpensive because we have the ethanol plants here.”



In the backgrounding phase, a person has to match the program to whatever the resources are, so it is more complicated than either cow-calf or feedlot. “Availability and price may vary, even from year-to-year, on what you can feed calves,” Klopfenstein says. He explained their grass rental in Nebraska became high and was no longer the more economical option. They have now compared feeding weaned calves harvested crop residue and distillers’ grains in the feedlot versus grazing grass.

Lisa Surber, WestFeeds livestock nutritionist, says backgrounding is a way to economically add value to calves and to increase profit by using an inexpensive feed such as homegrown grains and forages to increase weight before entering a feedlot. “Backgrounding allows retained ownership of calves past weaning when prices may be higher and allows lightweight or later-born calves to add weight before marketing,” she says. Surber notes a backgrounding program allows for skeletal and muscle development and adds a higher potential for compensatory gain.

She has been involved in a variety of research programs including cereal forage development, beef cattle feedlot and backgrounding. “Home grown forages and cereal forages provide an excellent option to capitalize on developing alternative cropping systems that will provide added value through backgrounding cattle,” she says.

In mid-2000, Montana State University, along with researchers at North Dakota State University in Hettinger, conducted a series of backgrounding experiments utilizing spring cereals along with an experimental forage winter wheat variety. Based on these data, winter wheat and other winter cereal forages were very competitive with barley and other spring cereals in backgrounding rations. “With the gains we documented in backgrounding trials (+2.5 lb. per day), we realized that cereal forages can provide an excellent source of feed for backgrounding rations,” Surber says. In several northern states, across most of Montana and in some areas of the Dakotas, winter cereals consistently produce more forage than spring-seeded crops.

Many feed companies market a variety of feeds and supplements that can complement homegrown feeds in backgrounding rations. “Calf starters and grower pellets are highly palatable, to get young cattle going to the bunk and on feed quickly,” Stuber says. “Some pelleted feeds can be a complete package with added protein, energy, vitamins and minerals

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needed for optimal gains. They are designed to match a variety of feeds, feeding systems, and cattle feeding programs.”

Many feed companies have a nutrition team to help manage a successful feeding program. These individuals can evaluate feeds, balance rations, provide feeding guidelines and make on-site visits.

Jim MacDonald, associate professor of animal science at the University of Nebraska-Lincoln, says each backgrounding program is unique, depending on facilities, location and feed availability.

“The key is trying to develop a program that optimizes the resources already available on a certain operation,” he says. “My research addressed questions regarding when to feed and what to feed, the best time to invest in additional feed inputs and what type of feed inputs are the best investment.”

Often the first limiting nutrient is protein. “Depending on forage quality, the type of protein that limits calf growth is amino acids absorbed in the small intestine,” he explains. “We call this bypass protein, or rumen undegradable protein, or undegradable intake protein. It has several names, but one of the supplemental inputs needed in most backgrounding programs is some form of protein that gets amino acids into the small intestine.”

Protein tends to be more expensive, especially bypass protein sources. “In our research program, it has been difficult to find a more economical feed resource to provide both energy and bypass protein that meets the needs of the calf than distillers grains,” MacDonald says. “Producers wonder if they can use corn, if they grow it or can easily get it. They also wonder if they can add some degradable rumen-available protein to corn. We did that in a study, and it was quite clear that you give up some gain when you use corn, or corn with supplemental protein, in this case urea.”

Other protein sources include corn gluten meal and Soyypass, typically used in the dairy industry, but these are all much more expensive per unit of protein and per unit of energy than distillers’ grains. MacDonald says, “Distillers’ grains work very well in a backgrounding program because their energy value is approximately 130% the energy value of corn, and they also bring in the right type of protein that bypasses the rumen.”

A starch source, like corn, can have negative effects on fiber digestion because the rumen microbes change. “For most backgrounding programs you generally have a forage resource, so reducing the digestibility of fiber may not be beneficial,” he says. “You always start with the forage resource and build the ration from there.”

MacDonald says he has also looked at when to feed supplemental protein and energy sources. “You have to be aware of compensatory gain in any backgrounding program,” he says. “If you are investing money in a supplement program, but those calves would have overcome any difference in body weight without it, you haven’t made any money.”

In his studies, MacDonald focused on a long-yearling program, taking fall-weaned calves through the winter in a backgrounding program and then to a summer grazing program before they go into the feedlot. “We’ve evaluated supplementation programs focused on winter feeding, and supplementation in summer,” he says. “When you provide additional supplement, calves gain

more. Calves do require supplement on a low-quality forage during winter, whether it’s dormant range grass or corn residue (cornstalks). In this situation we have to provide supplement or they may lose weight.”

A low level of supplement, targeted for calves to gain less than a pound per day, was compared with about 1.5-2 lb. per day of gain during winter. Some cattlemen winter calves on hay and add some high-quality alfalfa with the same target of 1.5-2 lb. of gain on the calves.

“The calves that only gain about a pound per day will compensate when they graze grass in the summer and gain more,” MacDonald says. “When calves go into the feedlot we may see, what I call, reverse compensation in the calves that were given the greater amount of supplement during winter.” Calves gained less during summer but then turned around and gained more when they hit the finishing ration in the feedlot.

“When we do the math, there’s a \$50 to \$60 advantage per head benefit (through the whole system, if you retain ownership of the calf) when you target 1.5-2 lb. of gain during the winter period,” he says. If a person is trying to maximize profits retaining ownership on calves, distillers’ grain would be the first choice, if it’s available.

“Alfalfa is also a good choice, if it is what’s available, because it supplies some supplemental protein. Some will bypass the rumen and you get some additional gain from alfalfa, as well. The 1.5-2 lb. a day of gain seems to be the optimal range, during the winter,” MacDonald says.

This approach may be different if calves will be going directly into a feedlot at that point, but if they are going to grass, bringing them up from 1 lb. to 2 lb. per day seems beneficial. Thus, the method chosen depends on the program, feed availability and goals.

“Summer supplementation can displace some grass,” MacDonald says. “If you can capture that value, it may be helpful. Grass prices (pasture rent) have increased substantially over the past 5 years. If you are running yearlings and can supplement them during summer, they will gain more, and eat less grass. You can run more animals on the same amount of grass. If you do that, and account for the value of the grass, the economics look good. If you only account for the value of gain, the economics don’t look very good, and in fact, the cattle that were not supplemented would probably compensate about 80% in the feedlot. So if you make up a 100 lb. difference by supplementing in summer, the ones that were not supplemented will make up 80 lb. of that difference by the time they are finished.”

MacDonald says this approach would not be economical, from a gain-only standpoint. “However, if you account for the cost of forage, and reduced intake of forage, and can run more animals on the same amount of land, then supplementation looks pretty good,” he says. “It has to fit your situation. In my experience with most summer yearling stocker programs, producers are not very interested in summer supplementation. They don’t want to add labor (feeding cattle) during summer. The data suggest that if you can run more animals on the same amount of grass, however, you can make it pay. A pound of distillers’ grains will displace about 0.6-0.75 lb. of grass. We can now predict what the forage displacement rate is, during the summer.” **HW**

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Importance of health

“The biggest value of preconditioning, stocker and backgrounding programs is to establish good health so that when we do put calves on feed they perform predictably,” says Ron Gill, professor and Extension livestock specialist at Texas A&M. “This is a critical phase of our industry that needs more focus, because if calves get sick they never perform up to their genetic potential. Illness will decrease performance and quality grade, and increase cost of gain. Yield grade may go up a little because they never get as fat, but the grade difference may end up costing about \$90 per head,” he explains.

It’s worth spending some time at the front end to keep calves healthy and to prevent problems. “Everyone is cost-conscious during the backgrounding and stocker phase but sometimes we don’t put emphasis on getting them started out right,” Gill says. “At \$90 a head, you could afford to put some effort into preventing that loss. Unless you are actually tracking and measuring this loss, you’ll never see it, so people tend to overlook it. The industry also suffers some death loss; a feedlot usually budgets for a 2 to 3% death loss. In Tom Brink’s data, it actually averages about 4 to 5%. He has seen everything from zero to 30% death loss.” **HW**

