TMR MIXERS- MANY OPTIONS TO FIT ANY PURPOSE

BY HEATHER SMITH THOMAS

The advantage of feeding a TMR (total mixed ration) diet is that each cow can consume the necessary level of nutrients in each bite. The mixed ration should include good quality forages, a balance of grains and proteins, vitamins and minerals. There are many different mixing strategies available and several companies that sell TMR mixers.

Alltech Farming Solutions

(Ireland) - Mick Keogh (Manager, Distribution Markets) says their KEENAN products are unique and sold around the world. "Our KEENAN Systems have the only two-chamber system for TMR mixers on the market. Feed is mixed in the larger chamber, which contains a paddle system—which is not very common. Globally, most mixers today utilize a vertical auger and some use horizontal augers. Paddle mixers are seldom seen," he explains. KEENAN is the largest manufacturer of the paddle mixer worldwide.

The second, smaller chamber is the discharge chamber which contains the feed-out auger that carries feed from the paddle chamber to the discharge point at the front left-hand side of the machine. This puts it into feed troughs or onto a conveyor system or whatever the farm is using for feeding/distributing the feed.

"Our mixing system is all about ensuring the best mix for the animals. Most mixing systems focus on ability to grind down forage and packing a lot of feed into the machine, but we focus on animal performance, and how the feed going into that animal affects performance. We start at that point (animal performance) and work backward to see how we can get the mix best suited to the animal at hand whether it's a dairy cow, feedlot steer or cow-calf herd."

It's important to have a physically-effective fiber in the diet with some structure, mix consistency, and even-

ness of discharge, with no variation from the start of feed-out until the end of feed-out.

"These are the areas we focus on, and the mix that comes from the KEENAN mixer is a patented mix called Mech Fiber. Our philosophy over the past 40 years has been centered on physical appearance of the mix presented to the animal and ensuring that it optimizes the performance of that animal." In grower systems, in terms of rumen development in young animals and transitioning to finishing phase, the producer wants them to efficiently gain frame size so they can put on the needed weight in the finishing stage. The young, growing animal needs a different ration than a finishing animal.

"The KEENAN is a very simply-built machine, operating off a chain-driven system. The input shaft drives a primary drive-chain, which in turn drives a secondary chain. The primary one drives the discharge auger and the secondary chain drives the main rotor sprockets. They turn very gently, so the rotor that turns the paddles is only doing about 7 to 8 revolutions per minute. This non-destructive mixing action is how we protect the physical structure of the TMR," says Keogh.

"Because of the drive system and gentle mixing action--lifting up the feed and letting it fall--the power requirement is low. For the smaller-capacity machine you need only 90 horsepower, which is easy on the tractor. The machine is running at low revolutions, with slow-moving mixing action. We generally tell farmers that the mixing time is one minute after the last ingredient has been loaded, to allow that last ingredient to be mixed in," he explains.

These machines come with blades for cutting the material and these blades are fixed to the bottom of the machine. The paddles have indentations (like the top of a castle) and as they push the feed across those knives this produces the cutting/shearing action. "The material is cut rather than torn like you'd see in other mixers. Ours creates a crisp, sharp, straight edge on the cut material, which stimulates rumen function."

These machines have just a few bearings which are all externally mounted and easily accessible for greasing and maintenance. The maintenance requirements are low. "On the larger machines and newer ranges, these moving parts are working in a constant oil bath, keeping chains lubricated. The greasing points are all brought to an externally-mounted central manifold so you have only one point to grease all those driveline elements—at the front of the machine—without having to open up the machine."

Regarding size, these machines range from 280 cubic feet up to 1000 cubic feet. A customer can get the proper size to fit a certain operation—everywhere from feeding 30 dairy cows a mix for 24 hours, to

feeding 200 cows from one load. The standard model is suitable for most operations and can be adapted to suit just about any farm situation. "If you have low buildings or need to feed into a concrete trough or a conveyor system, we have the option to adapt the machine to suit the situation," says Keogh.

Time is a big factor for farmers today, and labor can be an issue. "They are often looking for larger, faster machines. We still believe that even though we may not have the largest capacity machines available on the market, the animals' performance is worth more to the farmer in the long term than saving 5 minutes every day." The end product—the animal performance, is what the farmer is getting paid for.

"The more consistent the feed, the more contented the animals, and the better they produce milk or meat, or growth. We've had our own in-house nutrition team since the early 1990's, supporting farmers and providing advice in terms of optimizing the mix and getting best results. We also get feedback from farmers using our machines," he says.

"In the early 2000's we started some research ourselves, and then appointed a scientific advisory board with members from the US, Europe and Australasia who analyzed our data over a number of years and looked at the effects of our Mech Fiber system on animal performance—specifically in the dairy industry. They published a paper in 2011 in The Professional Animal Scientist looking at the positive effects of the KEENAN Mech Fiber system on production efficiency, herd health and environmental impact in terms of reducing greenhouse gas emissions," says Keogh.

When milk production was energy-corrected to values of 4% fat and 3.3% protein the system resulted in 4.05 pounds extra milk per cow per day, from 1.72 pounds less dry matter intake. This was about 10% improvement in efficiency, due to the machine's gentle mixing action, and a consistent mix every day with the Mech Fiber mix.

"Taking this a step farther, we also reduce potential impact of human interaction on the mixing process. We now have a system that fits onto the KEENAN controller which advises the operator how to load the machine and what order to load ingredients and how long to leave it mixing. This optimizes the mixing process and the ingredients at hand, and can repeat it every day, regardless of who the operator is—because the controller is guiding them through the feeding process," he explains.

"With this software the manager can also input feed costs and see exactly how much feed is used each day, and its cost, compared to what they should have used, and the impact of any deviations that may occur." These machines have been fine-tuned over the years, in terms of the mixing process and ability to feed the animals the same every day. If you have variations, changing the diet of the animals, you are changing the environment for rumen bacteria—and we try to keep that as consistent as possible."

KEENAN sells mixers into 80 different countries, with a core market of about 30 countries on a regular basis. "We've come across just about every type of feed and forage, and our

machine has been shown to handle these, no matter where we go. It can mix everything from rice straw and elephant grass to more typical forages, silages and concentrates and create consistency of mix," says Keogh.

"Our focus is not on producing a piece of metal, but more on performance of the animal, and ultimately profitability for the farmer," he says.

Highline Manufacturing

(Saskatchewan) - John Maltman, M.SC, P.Ag, Highline's Corporate Ruminant Nutritionist, says self-loading TMR technology has been around for about 10 years in Europe. "Highline took a look at this, since some producers in North America are starting to realize that these machines can fit their own operations. These mixers contribute not only to quality mixes but also can improve efficiency on the farm. So our company began to figure out how we could modify that machine and make it even better, from a North American perspective," he says.

The AccuMix™ AM1000s loads itself, which turns a two-person two-tractor job into a one-person job. This saves labor, and improves accuracy. "This is what's really nice about it. Highline has an independent mixing tub sitting on load cells which means that the arm is not part of that weigh system. We are weighing exactly what's going into the mix. The material still sitting on the conveyer and the arm is not being included in that mix weight, so we gain accuracy," he explains.

"We can also reverse that conveyer so we can unload the material when or if it's not required to bring that weight to exactly what we're looking for. This is how our self-loading machine works, and we're also looking at machine mobility."

In North America, unlike European situations, producers don't put much concrete in facilities if they don't have to, because concrete is expensive. "We simply put big tires on our machines, like we would on any other piece of equipment that has to go through mud, snow or water. This allows us to get to silage bags that might be on the far edge of a field, or a pile we had to make that doesn't have a concrete access," says Maltman.

Regarding steering, the operator needs to be able to move this big machine in tight spaces and in a barn. "That's where the 4-wheel-drive 4-wheel crab steering comes into play and allows us to move a very large, heavy piece of equipment around in a very small area," he says.

Another element that was important in developing the machine was keeping the operator in mind. "That person may be in the cab for many hours each day and we want that person to be comfortable and have easy access to the control screens," he says.

The unload options are also nice. "Our unload conveyer is right in front and directly under the operator cab, allowing visual contact with it at all times. You can unload to the left or right, or out the back on the left side of the tub. This provides options for whatever feeding situation you might have." This can generally fit the facility, rather than having to modify the facility to fit the machine.

"In some cases, however, facilities may need to be modified to fit the newer technology. A producer who has been in business a long time may not have a high enough door opening, for instance, or maybe the eaves of a building are in the way."

In developing their self-loader, Highline® looked at many things including the time it takes to load and accuracy of loading ingredients, which affects quality of the mix. "What the producer is primarily concerned about is quality—particularly for lactating dairy cows. We want a

specific cut length; we don't want it shorter or longer than ideal length for palatability and quality," explains Maltman.

"We want all those ingredients thoroughly homogenized even with a wide range of ingredients. Some are fluffy and light and some are heavy and dense. Some are dry, some are wet, some are long and some are short."

To deal with these discrepancies, some producers pre-process some ingredients, but some don't. "For the ones who don't, we have knives on the twin screws in the mixing tub, which can be used if the forages are put in first—to reduce particle size down to what the producer wants, and then we can add all the other ingredients. We can make a very quick mix that is accurate and consistent," he says.

"We've tested this a number of times in farm situations, but farm conditions are always dynamic, with new ingredients coming in." Many things today are used in cattle rations including food byproducts like citrus pulp, and outdated foodstuffs like bread, candies, etc.

Highline's AccuMix™ self-loading TMR is available in the US and being tested for processing many different feedstuffs. "We run into ingredients in the U.S. that we don't see in Canada so testing products of similar densities is helpful. Our primary focus is dairy producers and larger beef units or feedlots, and we want to make sure the transition from whatever technology the producer is currently using, to this one, is a smooth one—with no interference with milk production or growth, and, the cows are happy with what they are eating," says Maltman.

Doug Seland, one of Highline's Territory Managers, says the AccuMix™ 1000s has a 1000 cubic foot tub. "It has a big cab, similar to a combine cab, with good visibility and easy access to get into it. You can easily see the feed being unloaded in front of you. It's powered by a 300-horsepower CAT engine, with North American-built drive trains, hydraulic pumps and local access to parts. It's built here in Saskatchewan and easier to access parts than having to get something from overseas. This is a major factor for many producers, knowing that their support is local, with better turnaround time and easy access to parts," he says.

The cab is spacious, and easy to operate. "The touch screen is friendly and they can easily figure out what they are doing with it. It's a lot like driving a combine, but the self-loading part takes a little practice and getting a feel for how it goes. Depending on your mix ingredients, sometimes you are loading this 1000-cubic-foot tub in 7 or 8 minutes. As its being loaded and mixed into the tub, then you are mixing and driving to where you'll unload. The operator can stay in the cab and doesn't need to jump out and go to a loader tractor; everything is right there, which saves time," he says.

As an example, one producer with a small feedlot operation was able to change from a towed TMR and pay-loader and cut feeding time in half and also take one guy out of the equation. "Their normal feeding time had been 4 hours daily, and with the self-loading machine it only took 2 hours a day and feeding was accomplished with just one person," says Seland. Not having to continually get in and out of various machines is also easier on the operator. One person can do all the feeding without leaving the cab.

Another thing that's built into this machine is flexibility. The loading arms, for some of the larger operations, may not be needed if they already have Pay-loaders or are feeding several thousand animals. The self-loading arm is optional, if they don't need it.

New Direction Equipment Company

(South Dakota) - Ron Weiss, factory representative at New Direction Equipment Company says NDEco offers both vertical and horizontal mixers. "The parent company does custom fabrication for different companies, but our high-performance vertical mixers and readily available parts are the main reasons we've been able to grow the company so much in the past 20 years. We currently have 15 different models and are coming

out with 2 new models soon. These include a variety of discharge door, conveyor, and axle, configurations," says Weiss.

"Our machines range in capacity from 350 cubic feet up to 1700 cubic feet. We only have a couple horizontal mixers, and they range from 360 cubic feet to 570 cubic feet," he explains.

"One of the biggest advantages of using a vertical TMR mixer is that you can put a high proportion of long-stemmed material in the ration and continue mixing while processing that feedstuff down to shorter lengths. Long hay or bales do not need to be pre-cut before being placed in the mixer although doing so will speed up ration preparation time. This provides versatility because it can process the long-stemmed material as it mixes, or just mix pre-chopped ingredients."

"The material can be dry or wet—many kinds of commodities—and it will mix even when the mixer is completely full, because it pulls feed from the bottom and pushes it up into the middle. Some mixers start to have dead spots when you fill them up (more characteristic of the horizontal mixers). A vertical mixer won't have this problem if it's working properly," says Weiss. "Our brand has a few trade secrets that help ours work better. It's just a little different design that allows it to work better when it's full."

The discharge door is also different. "We have the largest front door that we know of, available in a vertical mixer. The big advantage is unloading a fluffy, high-roughage ration, which applies more to cow-calf operations or feeding dairy heifers but also quickly unloads dairy lactation or feedlot rations that are higher density," he says.

The side door offers the option of eliminating any conveyor, which means fewer moving parts, or utilizing discharge conveyors up to 9' long. "These allow you to feed into portable self-feeders, feed carts, bale rings, turned tires, or in certain muddy conditions where you need

extra length or reach to hit a variety of bunk heights and widths. This is an option our mixer has, that many others don't," says Weiss. There is a lot of versatility in unloading and feed delivery.

"The advantage of the TMR is that you are putting all the ingredients together, feeding the cattle what they need, versus them choosing what they like." You've selected ingredients to create a balanced diet for that particular class of animal, making a palatable mix that they can't sort. You can utilize marginal quality forage, chop it and mix it with higher-quality ingredients in a balanced diet, to increase cattle production.

"If you get it cut to a certain shorter length, calves and younger animals can eat it. They have smaller mouths and don't like coarse feed so you need to get it down to a smaller particle size," he says.

Duratech Haybuster

(North Dakota) - Bob Strahm, Vice President of Sales says his company in central North Dakota builds tub grinders and bale processers and decided to get into the vertical mixer business. "These mixers can grind, mix and feed all in one process. We started with a couple of models and now have 6 different sizes," he says.

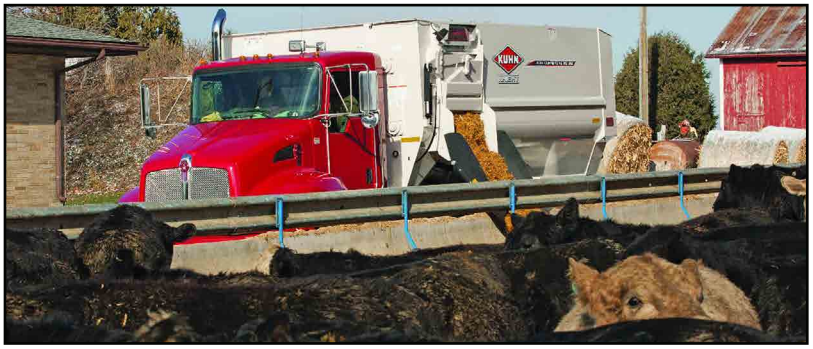
"We also have a variety of conveyers—standard conveyers with hydraulic conveyor, for putting feed into bunks, and a dogleg, fixed conveyer that can be moved out to the side, with a taper up that can reach certain bunks or for feeding on the ground. We also have some single-screw units available (430 cubic feet capacity, and 590). Our 710, 830, 980 and 1150 all utilize twin screws, with more capacity." The customer can choose a unit that best fits their own operation.

"If you have 1000 head to feed and your budget for a machine is $40,000 (for a smaller unit) you may have to spend a lot of time feeding. If you don't have time to feed all day, you can buy a larger, more expensive piece of equipment with more capacity and just feed one or two loads per day," he explains.

"We call this our CMF series, which means cut, mix and feed. These machines basically cut up the hay and mixes in the other ingredients like silage, distillers grains, etc. Whatever your ration calls for, whether you are feeding dairy or beef cattle, this will chop it all up and thoroughly mix it."

"We have a four-point scale system on all our mixers which we think is more accurate than a three-point system. This keeps it from fluctuating and is easier to read and you know exactly what the weight is," says Strahm. This is important; farmers wants to make sure they are feeding only what the cows will eat and not wasting any feed.

"These are all pull-type machines; we don't offer anything in a truck mount at this time. We are not a huge company and we want to figure things out and walk before we run.



We are very reactive to our customers and what they need. We have customers in the Dakotas, Nebraska, Kansas, etc. with cow-calf herds, feedlots, etc. and dairies in Wisconsin and California," he says.

"We build a lot of grinders and other feeding equipment and make them strong and durable. Some of our machines have 1500 pounds more steel than our competitors' machines and we do a lot of demonstrating and show people what we have. We put the weight where it needs to be, and these machines will last a long time. When a person buys one of our vertical mixers it will probably be the last one they will ever need."

Kuhn North America

(Wisconsin) - Mike Tranel, Mixing Technologies Product Specialist with Kuhn North America, says his company offers several different TMR mixer options. "We offer multiple different mixer options including reel mixer, 4-auger Botec® mixers, as well as vertical and self-propelled mixers," he says.

With the most complete TMR mixer line on the market today, Tranel says KUHN has the right mixer to meet your needs, whether you are mixing 100% hay or 100% grains or any ration in between.

Reel mixers provide a fast, gentle mix of pre-processed feedstuffs while maximizing efficiency and minimizing expense. "On our reel mixers, one thing many of our customers like is the helix reel. This has a patented 5-star design with a little twist in it. As the reel goes around it is picking up material providing a gentle tumbling action, while a mix bar is eliminating dead spots. This method works very well," he says.

The Botec 4-auger mixers work well for rations with less roughage—in the 20 to 40% range for roughage. These work nicely for a feedlot or backgrounding operation, for people who are not breaking down entire round bales.

"KUHN Knight vertical mixers offer versatility to process and mix the widest variety of feedstuffs. These feedstuffs include whole round bales, square bales, forages, small grains and other hard-to-handle materials. KUHN Knight vertical mixers provide a uniform mix with no dead spots. Consistent processing of long-stemmed material, along with a uniform mix ensures the animal is getting the nutrients it needs," says Tranel.

The self-propelled mixers are a 4-in-1 solution. A single operator can face and load ingredients, mix a full TMR and feed the ration, all without ever leaving his/her seat. "With this type of mixer the producer can cut down on the number of machines he uses to feed livestock, which can help cut costs," he says.

KUHN offers a variety of configurations to customize mixers for each operation. Customers can choose between trailer, truck mount or stationary units, multiple discharge options, and a vast range of sizes—whatever best fits each unique operation. "Having the correct configuration is critical to decrease inputs-whether time, labor, or fuel, allowing producers to increase their bottom lines and become more profitable," says Tranel.

"Longevity and durability are features farmers look for when purchasing a machine. Our machines are rigorously tested to ensure many years of use. To make our mixers last even longer, we have additional high-wear options available such as stainless steel liners and heat-treated augers," he says.

"At Kuhn North America we care about our customers, their livestock, and their bottom lines. We build machines to fit their needs and wants, while providing a high-quality TMR for their livestock."

Jaylor

(Ontario) - Jaylor is a Canadian equipment manufacturing company in Orton, Ontario, northwest of Toronto. Dr. Alan Vaage (Ruminant Nutritionist) provides sales training and technical support to the Jaylor Sales and Dealer network, as well as to users of Jaylor TMR mixers.

Owners are Jake and Lorraine Tamminga, the "Jay" and "Lor" of Jaylor. "Jake started making mixers in 1993, specializing in vertical mixers, so this was one of the first manufacturers of vertical mixers in Canada," says Vaage.

"We've grown the company since then, selling mixers to 50 different countries. We weren't the first; I think the first one was in Italy and then in Holland. They became popular in Europe before that idea came to North America."

One of the biggest advantages of the vertical mixers is simplicity. "There is very little adaptation required, to fit various production systems. It was initially developed due to the advent of round bales, and a need to develop a way to process those bales," he explains.

Some of the first mixers were

called cutter/mixer/feeders and were not as good for actual processing compared to other processing equipment, but were more effectively developed over time. "A lot of the interest at first was in the cow/calf market, but this technology was quickly adapted to dairies and feedlots. Any operation that feeds large amounts of forage using round bales is where you'll see feed mixers," he says.

"We are seeing vertical mixers now into the feedlot industry because of their capacity, especially the stationary mixers. These can be double the capacity of horizontal style mixers," says Vaage. If they are set up as stationary mixers, the feed can be dumped into delivery trucks or smaller mixers.

Every feeding situation is different, and the farmer/feeder is looking for strategies and technologies that work best for that particular operation. "In the dairy industry 95% or more of the mixers now are vertical mixers. In a high grain/concentrate feedlot diet, people still use a lot of reel-type mixers and also the four-auger type horizontal mixers. Jaylor manufactures a very heavy-duty one, primarily for the feedlot industry where they are feeding 8 to 12 hours per day, delivering feed to pens containing 100 to 500 head. Feedlots can size the mixer for what they are doing, in terms of size of pens and numbers of pens," he says. Usually all of the feed is preprocessed.

"The Jaylor is probably the leading mixer globally, in terms of processing bales into feed mixes. One of the main technology differences is that Jaylor has a square cut auger and holds about 6 patents on its augur including this one with square edges, which increases processing capability. This allows the bales and material to fit down more in the auger and the square edges turn and compress the material; it uses a knife that is shaped to slice through the bale rather than sticking out and chopping. This led to a huge reduction in horsepower requirements, and the ability to make the mixer run faster and increase the speed of mixing. Thus it is more efficient and more consistent."

This is a significant innovation that Jaylor has brought to the market. "With other mixers, especially vertical mixers, you are basically talking about an undercarriage and enough strength to carry the weight; the ability of the mixer is very much related to the design of the augers," he explains.

Jaylor also has a range of sizes. "We have mixers that go all the way down to a 50-cubic foot and 100-cubic foot single and a twin that can be self-propelled or trailer or truck mounted. We also have mid-size mixers and very large mixers," he says.

"One of the biggest challenges people face with vertical mixers, especially when doing processing in the cow-calf industry or feed industry, is big bales. Many farmers are making bigger and bigger bales, because of the efficiency of baling. Now the 5 by 6 foot bales are predominant in the industry, especially with cow-calf operations, but then you become limited to the size of mixer that can handle those. You just about need to have a 650-cubic foot twin mixer to handle those directly," says Vaage.

"There are also a lot of farmers who only have 20 to 100 head of cattle and don't need that big a mixer. Getting the right technology and matching the technology of the hay production to the size of mixer is becoming more important, especially for smaller operations. There are mixers that will fit them, and now we have technology that will cut bales (bale shears) to fit parts of bales in smaller mixers, and there are some cutter balers with knives in them that will precut hay to about 6-inch lengths. This enables the bigger bales to be cut open and parts of those bales loaded into the smaller mixers," he explains.

It is important to match the forage production system with the size of mixer that's ideal for each operation. "For smaller beef operations or for sheep or goats, Jaylor has a line that includes a 150-cubic foot single mixer and a 300-cubic foot twin. We still call them mini mixers, and the smallest one (the 150) only needs a 35-horsepower tractor. The 300 twin can operate with a 45-horsepower tractor. These have a good fit for smaller operations that don't have big tractors. The 150 will take a 4-by-4-foot bale and the 300 twin can take up to a 4-by-5-foot bale. These are great for the smaller producer," he says.

The larger units go up to 1250 cubic feet. "We don't do the triples (with capacity up to 2000 cubic feet); they are much more variable in their mix because of the characteristics of adding feed and the challenges of horizontal mixing and getting it even across the whole mix. Research has shown that they are 6 to 7 times more variable in their mix, but they are popular in very large operations because of efficiency in labor."

Jaylor is a family operation that has grown a lot and is still growing. "We now have about 7000 mixers operating on various farms. Even today, the first mixer Jaylor sold in 1993 is still operating, on the farm that bought it. This shows the simplicity of operation (not so much to go wrong) and longevity of these machines."

Anderson Group

The advantage of feeding a TMR (total mixed ration) diet is that each cow can consume the necessary level of nutrients in each bite. The mixed ration should include good quality forages, a balance of grains and proteins, vitamins and minerals. There are a number of different mixing strategies available.

Anderson Group is an international agricultural products manufacturer that has been making haying equipment since 1988, and more recently started making TMR mixers. "We have vertical mixers in single, double and triple auger configurations, from 280 cubic feet up to 1600 cubic feet capacity," according to Patrice Desrochers, CEO of Anderson Group.

"We have mixers with side discharge, track or front conveyor discharge, or dual discharge on either left or right of the machine. Many manufacturers offer these options, but where we stand out of the crowd is that we have some patented unique features that can increase the farmers' profits due to the better mixing homogeneity," he says.

"We have been in the mixer business for 5 years now, and everywhere we've sold them, our mixer has proved to be faster in processing round bales. Ours are the fastest, cutting processing time by 30 to 40%," he says. This saves time, labor and fuel.

"All the nutritionists we've been working with, and comparing the mix with that of other brands and companies, have shown the superior homogeneity of our mix, which aids performance of the animals, whether dairy or beef."

Anderson Group's mixers are more expensive than some because they use high-grade hardox type steel on the floor of the auger and sidewall. "As far as I know, we are the only manufacturer in the industry that uses this steel. This adds 5 to 10% more to the cost of our machines but gives a longer lifespan. Instead of only lasting for 8 years, the farmer can probably run ours for at least 12 to 14 years. We almost double the longevity of the product," he says.

"The second point where we outperform the competition is that for our round bale processing we have a triangular-shaped auger which makes the pattern around the auger irregular. This breaks down the bale and takes it apart a lot faster. The third main feature is our self-sharpening knives on the auger. The knives are tungsten treated and reversible versus all the other brands on the market, and don't wear out; the others get worn and have to be flipped over. Ours outperform any other knives," he explains. With other machines you usually have to replace the knives fairly often.

The Anderson Group machines are a little more expensive up front, but ultimately save money in fewer repairs and longer life. "Some people only look at purchase price when comparing products, and don't look at the costs on down the road. With ours you might pay 10% more but it lasts almost twice as long. Thus the ownership cost is a lot lower than for a machine that you might buy cheaper but only lasts a few years," he says.

"Here in our area in Quebec we have one of the most famous dairy farms in the world, called Comestar. They sell a lot of genetics worldwide, with embryos. The owner of that farm was entered into the Holstein Wall of Fame last January as the most influential Holstein producer of the last 25 years worldwide. They started using our feed mixer three years ago and said they'd never seen any better mixer on the market in terms of feed homogenizing, resulting in higher milk production," he says. ■