Focused Efficiency

Buck Island Ranch embraces heterosis for economic and environmental sustainability.

*by **Katie Maupin Miller***

Buck Island Ranch, near Lake Placid, Fla., and located in the headwaters of the Everglades, is one of Florida's top 25 cattle ranches. Its location, coupled with its visionary owners across decades, also makes the ranch a valuable research hub benefitting the cattle industry.

Today, the 10,500-acre ranch — typically home to about 3,000 head of cattle — is owned and managed by Archbold Expeditions Inc. Archbold is a nod to its namesake, Richard Archbold, who appreciated adventure, discovery and conservation, according to Buck Island Ranch manager Gene Lollis. In fact, Archbold was a noted explorer and philanthropist.

"He loved to travel the world and discover things," Lollis notes of Richard, who founded Archbold Expeditions. When Richard purchased land on Florida's Lake Wales Ridge, he also dove headfirst into conserving the region's unique ecology and landscape, establishing the Archbold Biological Station in 1941. "There are plants and animals there that exist nowhere else in the world," Lollis adds.

Not far from Archbold's original Lake Wales Ridge property sits Buck Island Ranch. Archbold Biological Station leased the ranch from the John D. and Catherine T. MacArthur Foundation in 1988, ultimately purchasing the ranch in 2018.

Since the original 30-year lease began, Lollis explains environmental research was the focus with the initial goal of delving deeper into the unique region, its birds and wildlife. Soon, Buck Island Ranch also proved to be the perfect testing ground for agricultural research.

"Over time, we got involved with the Florida Cattlemen's Association (FCA), wildlife organizations and others to start looking at the impacts of agriculture, at that time predominately citrus groves and cattle ranching," Lollis says. "During that timeframe, we did a lot of research on cattle stocking rates, water quality, and over time, we've gotten into carbon sequestration research. We have five methane towers across the ranch, where we're doing non-grazing and grazing studies."

This unique mix of working ranch and real-world research creates Archbold's Agroecology Program, where scientists and stockmen collaborate to better understand the environmental impacts of ranching and its sustainability. Today, Buck Island Ranch is one of 18 of the USDA's Long-Term Agroecosystem Research (LTAR) sites. Each LTAR site provides valuable research and data that help discover ways American agriculture can boost production while improving the environment.

Bald-faced genes

Buck Island Ranch utilizes strategic, complementary rotational crossbreeding in its sprawling commercial cow herd.

"Our goal is to be economically viable, and to be able to continue to be here and to continue to do the research we do, it takes a lot of money, so we have to generate dollars. Any way we can do that with our breeding program keeps us sustainable," Lollis says. "The number of calves on the ground, the number of pounds, that's what matters."

Many breeds are represented in their herd, but Lollis notes the Hereford influence has existed at Buck Island Ranch since it first began.

"When John D. MacArthur originally purchased the ranch in 1968 from the Durrance family, they had been

Buck Island Ranch has a long history of cattle ranching and dedication to research, conservation science and education.

ranching in California, moved to Colorado and then moved to Florida. Their Herefords came with them, from California to Colorado to Florida," Lollis says. "So, Hereford genetics, I would say, have always been the backbone of Buck Island Ranch. I put the value in the maternal traits of the Hereford. They're good, durable mothers, and they cross really well with the Brahman-type cattle we need here in Florida."

Travel south of Highway 50 and east of Interstate 4 in Florida, where there are a large number of cattle. Lollis explains the heat, humidity and insects of the tropical/sub-tropical environment demand cows have some Brahman influence.

"The Brahman influence gives us the environmental characteristics and some mothering ability — they're great mothers in this type of environment. Then with Herefords, you put some meat quality into them, plus their mothering ability, so it's a great cross. If they're a tiger stripe F1 and they're good, they stay here at home," Lollis says.

He believes that Hereford's inherent durability and sustainability, even in this extreme environment, is due to breeders selecting sound stock with balanced traits, rather than chasing a single trait, like carcass merit, for example.

"When you focus solely on one thing like carcass, carcass, carcass, you can lose that fertility," Lollis says. "I believe at that point you're making females that are meant for the hook, not the pasture."

Longevity pays dividends

Perhaps the biggest testament to Hereford's contribution to Buck Island's program is the longevity of the bald-faced cows in the herd. Walking through the operation's pastures, you will see 14-, 15- and 16-year-old bald-faced dams.

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>
> **— Gene Lollis, Buck Island Ranch**

Buck Island Ranch utilizes disciplined, complementary crossbreeding to build cattle suited to its tropical/subtropical environment, located at the headwaters of the Everglades, about 15 miles northwest of Lake Okeechobee.

This is no small feat in the Indian Prairie, which Lollis describes as big, flat, open grassland with lots of water. Typical annual rainfall is 51 inches but can be significantly higher. Seasonally, though, conditions transition between extremely wet and extremely dry.

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Regardless of moisture, the temperatures will be high. By mid-summer, the thermometer may still be reading 90 degrees at 5:30 p.m., and while black cattle are still hunkered under shade trees, the red baldies and tiger-stripe cows make their way out to graze.

"I bring a lot more of those red baldies and brindles back home than I do the solid black cattle," Lollis says.

Likewise, the purebred Hereford bulls used to cover the Buck Island Ranch's herd hold up. Lollis says the Hereford sires often last eight or nine years before they are replaced. He prefers to buy yearling bulls but will sometimes purchase 2-year-olds.

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Lollis notes running bulls of any breed in this tough environment demands a watchful eye. Buck Island Ranch utilizes two 90-day breeding seasons each year. Bulls sometimes need to be swapped at 65-70 days.

Similarly, Lollis says, "We wean our calves based on our cows' condition. If our cows start falling off, we'll pull calves off and get them over to our weaning facilities to get them on a good plane of nutrition."

Buck Island calves are frequently early-weaned and grown in incremental steps. Lollis uses the example of a three-weight calf. "We put him on a ration to gain 1 to 1.25 pounds per day for 60 to 90 days. When they're a five-weight or mid-five-weight, we tune them to gain 2.25 to 2.5 pounds per day for a short time. Then when they're 700 to 750 pounds, we'll transition them to gain 3 to 3.5 pounds per day," he explains.

Ultimately, Lollis and his crew can balance inputs with animal value, whether they sell a calf, feeder or finished animal.

Operating sustainably

While sustainability has become a bit of a buzzword, often getting grouped in with talks of environmental initiatives, Lollis reminds that a sustainable cattle operation, first and foremost, is an economical one.

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Lollis, a past FCA president and current board member of the U.S. Roundtable for Sustainable Beef is a longtime, tireless advocate of cattle as a solution in all areas of sustainability.

"Number one is economics. We have to be economically viable. If you can't generate a positive at the end of the day, we're not going to be here," Lollis says. "Number two is the environment, but they go hand in hand because the more dollars you make, the more you can do environmentally. And social responsibility — we treat our employees well."

All of that is why Buck Island Ranch has long embraced the power of direct and maternal heterosis to decrease costs and increase efficiency.

"I'm grateful and thankful there are people breeding purebred Herefords," Lollis says. "The number one way to maximize heterosis will always be bringing a purebred bull back to your crossbred cows. That added heterosis means a lot." **BA**