Getting Closer to the Market

NORTH CAROLINA FEED MILL PART OF A COMPLEX PRODUCING POULTRY FOR EAST COAST

Sanderson Farms Inc.
Laurel, MS • 601-649-4030

Founded: 1947
Broiler production: 7.5 million birds per week
Feed production: 74,000 tpw at seven locations
Annual sales: $1 billion+
Number of employees: 8,500

Key personnel at Kinston:
- Randall Boehme, division manager
- Brad Boyd, plant manager
- Jason Norris, first shift production supervisor
- Greg Jones, first shift delivery supervisor
- George Wethington, second shift production supervisor
- Krystal Southard, second shift delivery supervisor

Supplier List

Batch control system.....CPM Beta Raven
Bearing sensors ... Maxi-Tronic, Inc.
Bin level monitors..... Monitor Technologies LLC
Bucket elevators ... Hayes & Stolz Ind. Mfg. Co. Inc.
Contractor ..... Todd & Sargent Inc.
Conveyors ..... Intersystems
Distributors ..... Hayes & Stolz
Dust collection system ..... MAC Equipment Inc.
Elevator buckets ..... Maxi-Lift Inc.
Engineering .... Todd & Sargent Inc.
Gates/diverters.. Tom-Cin Metals Inc.
Hammermills ..... CPM Roskamp Champion
Manlift..... Schumacher Elevator Co.
Microingredient system .. CPM Beta Raven
Mixer ..... Hayes & Stolz
Motion sensors ..... 4B Components Ltd., Maxi-Tronic Inc.
Pellet cooler ..... CPM Roskamp Champion
Pellet crumbler ..... CPM Roskamp Champion
Pellet mill..CPM Roskamp Champion
Truck scales.. Cardinal Scale Mfg. Co.

Sanderson Farms Inc.'s newest feed mill, part of a complex in Kinston, NC that also includes a hatchery and poultry processing plant. The new mill currently produces 8,000 to 9,000 tpw of poultry feeds but has space for expansion. Photos by Ed Zdrojewski.

North Carolina is the center of the U.S. poultry industry, but Sanderson Farms Inc., the nation's fourth largest chicken producer, had other reasons for wanting to build a feed mill there, part of a complex that also includes a hatchery and chicken processing plant.

"It gives us a closer proximity to the huge urban poultry markets on the East Coast," says Bob Billingsley, vice president for development and engineering. "Prior to that, our nearest processing plant was in Georgia."

The company's newest slipform concrete feed mill, on the western edge of Kinston, NC (252-208-0511), began production in November 2010. Currently, the mill has a capacity of 8,000 to 9,000 tpw, all of it fed to Sanderson Farms birds within a 30-mile radius, but the plant was designed with space to more than double that.

Plant Manager Brad Boyd (left) and Corporate Director of Engineering James Evans.

"We looked at a lot of communities up and down the East Coast," says Billingsley. "We needed reliable rail service, which they

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The plant's CPM pellet mill with double-stack steam conditioner, generally operating at 85 tph.

have here. Kinston had good existing infrastructure. It's a strong farming area, with a good contract grower base, and a good labor force. Above all, Kinston and Lenoir County has progressive leadership, and they understood the value of a project like this."

To construct the new mill, Sanderson Farms brought in Todd & Sargent Inc., Ames, IA (515-232-0442). According to James Evans, director of engineering, Todd & Sargent has built five feed mills for the company since 1993 and renovated a sixth, so the track record is there.

Todd & Sargent broke ground on the mill in the fall of 2009. The cost is confidential.

Mill Specifications

The new feed mill is a 160-foot-tall slipform concrete structure on a 100-acre site about a mile from the new hatchery. The site includes an 8,000-foot loop track off the NS main line, long enough to accommodate 75- or 80-car unit trains bringing corn from the Midwest. The track also includes a spur long enough to store 10 loaded railcars, says Plant Manager Brad Boyd.

Grain and other bulk ingredients are deposited in a pair of enclosed receiving pits, one for rail and one for truck, each feeding a 22,500-bph Hayes & Stolz leg outfitted with Maxi-Lift CC-MAX buckets. Boyd notes that the receiving system can unload a covered hopper car in about nine minutes.

Grain storage includes a pair of 230,000-bushel slipform concrete tanks with hopper bottoms plus one 65,000-bushel tank. From storage, corn is ground on a pair of 400-hp Champion hammermills, one set for coarse grind for breeder birds, one for fine grind for broilers. Another pair of tanks hold 750 tons each of soybean meal, which is sourced from local processors.

Additional storage inside the slipform structure includes 16 ingredient bins holding 3,600 tons and 22 loadout bins holding 2,800 tons of finished feeds. Liquid storage is housed adjacent to the mill in a concrete basin which includes four 8,000-gal. fat tanks and five liquid tanks, four holding 10,000 gallons and one 8,000 gallons.

All manufacturing processes from receiving to loadout are under the control of a Beta Raven automation system. Beta Raven also supplied a 20-bin microingredient system.

Ingredients are mixed in a 125-hp, 12-ton Hayes & Stolz double-ribbon mixer, with an average mixing time of 3 minutes 20 seconds. Boyd comments that this is very close to the mixer's design capacity. Liquid ingredients can be added at the mixer.

Virtually all of the poultry feeds manufactured at Kinston are pelleted on the mill's single CPM pellet line. Only certain breeder feeds are left in mash form.

Pelleting is done on a 600-hp CPM pellet mill at 85 tph. Steam is supplied by a 400-hp Cleaver Brooks boiler to the pellet mill through a CPM double-stack steam conditioner mounted atop the pellet mill. From there, pellets are cooled in a 54-foot-long CPM double-pass horizontal cooler. A CPM pellet crumbler is available for producing starter feeds.

The Sanderson Kinston operation runs a fleet of 13 trucks for deliveries to producers throughout the eastern third of North Carolina. Trucks are loaded on a pair of 110-foot Cardinal scales utilizing a shuttle spout that is automated utilizing the Beta Raven system. Evans notes that this is the first completely automated shuttle in the company.

The plant contains plenty of space for a second production line, whenever volume justifies it, and the board of directors approves. Ultimately, Evans says, the plan is to have a capacity of about 20,000 tpw, enough to serve a second hatchery.

Ed Zdrojewski, editor

Liquid tank farm adjacent to the slipform concrete mill holds approximately 56,000 gallons of liquid ingredient and fat storage.