

ORIGINS OF A CHICKEN

A look inside a laying house at Hillside



That juicy chicken thigh you scooped from the braai and loaded onto your plate has a longer history than most people realise. To get a chicken that is the perfect balance of size and tenderness is the result of a highly complex programme that starts two-and-a-half years earlier.

Melinda Shaw quizzes **County Fair** on the process



Ross 308 is a popular breed across the world

ASTRAL'S HILLSIDE BREEDING FARMS near Hermanus in the Western Cape are part of a network of facilities where the science of breeding the perfect broiler for its County Fair brand is constantly being refined.

It all starts with the arrival of great-grandparent (GGP) Ross 308 birds that are bred by poultry-genetics experts Aviagen in Scotland, and brought to South Africa as day-old chicks via air, explains Alewyn Carstens who is the operational manager for broilers at County Fair. The Ross 308 breed is then further refined by Astral's breeding division, Ross Poultry Breeders, for the specific requirements of the South African market. Selective breeding and testing include considerations for temperature, humidity, disease prevalence, and other factors that could impact the performance and health of the birds.

According to Carstens, breeding companies often work closely with local poultry producers to understand the specific challenges and requirements of the region. "Through selective breeding and testing, they aim to develop strains that thrive in the given environment and meet the needs of the local poultry industry." (See "Why Ross 308?" alongside.)

The GGP birds produce the next generation of

WHY ROSS 308?

The Ross 308 is a popular broiler breed globally, known for its excellent growth rate, feed-conversion efficiency, and overall performance. Its suitability for South Africa can be attributed to several key factors:

- 1. Rapid growth rate:** Bred for rapid growth, the Ross 308 reaches market weight quickly. This characteristic aligns with the demands of the modern poultry industry, where efficiency in meat production is essential.
- 2. Feed efficiency:** These chickens are known for their efficient conversion of feed into meat, making them cost-effective for producers. This is crucial in ensuring economic sustainability in poultry farming.
- 3. Adaptability:** While the Ross 308 is not specifically native to South Africa, its adaptability to different environments and production systems makes the breed suitable for a variety of climates and management practices.
- 4. Disease resistance:** Poultry breeds like the Ross 308 often undergo selective breeding to enhance resistance to common diseases. This can be particularly important in regions with specific disease challenges.
- 5. Industry standard:** The Ross 308 has become an industry standard in many parts of the world, including South Africa. Its widespread use allows for the availability of technical support, expertise, and a consistent supply of breeding stock.
- 6. Meat quality:** The breed is known for producing high-quality meat with good yield, meeting consumer preferences for quality poultry products.
- 7. Breeding programme expertise:** Aviagen, the company behind the Ross 308, is a well-established and reputable poultry-breeding company internationally. Its expertise in genetic selection and breeding programmes contributes to the success of its breeds in various regions, including South Africa.

It's important to note that while the Ross 308 is a popular choice, there are other broiler breeds and genetic lines used in the poultry industry, and the selection of a particular breed depends on various factors such as market demands, production goals, and local conditions. ■

THE SCIENCE OF BROILERS



grandparent (GP) birds, which are bred to lay the eggs from which the parent-stock broiler breeders hatch. These finally produce the eggs that will hatch to become the broilers that we all know from the County Fair packaging in stores.

BREEDING 101

At a breeding facility both male and female chicks are placed, calculated on a 1:10 male to female ratio, Carstens

explains. Males and females are reared separately before this, as the feeding regimes are different to optimise

Hens start laying at 23 weeks and then start breeding

performance. Hens start laying at 23 weeks and at this point they start breeding with the roosters to produce fertilised eggs.

A hen reaches her peak performance at 28-30 weeks, and can lay up to six eggs per week after which her productivity slowly tapers off from 35 weeks onwards. In her commercial life of 40 weeks, a hen will lay on average 198 eggs, from which 153 chicks will result, according to Carstens.

"Eggs are collected daily, by hand, from the nesting boxes provided in each house. Some eggs are laid in



THE GROWTH OF HILLSIDE

ASTRAL STARTED THE HILLSIDE breeding project back in the '80s specifically to produce broiler eggs for County Fair in the Western Cape. Phase 1 of the project was built in 1986 and a site alongside on the same property was simultaneously identified for future expansion into what would be known as Hillside 2.

Civil works and an environmental impact study was completed to prepare Hillside 2 for future expansion and the site lay ready for 20 years until it became needed. That time came in 2022 when concerns about urban encroachment near County Fair's other layer farms in the Western Cape drove Astral to provide a safer new home for its broiler breeder flock (also read "Urban sprawl & the threat to farmland" on page 32).

"With encroachment came an increased risk for avian flu and other diseases and therefore we took the strategic decision to move operations to a low-risk environment," says Carstens. At Hillside 2 four new laying houses were constructed with an immediate capacity of 45 000 broiler breeders, as well as the necessary infrastructure for phase 3 of the project, which will eventually bring the farm's capacity up to 130 000 broiler breeders.

Setting up a breeding facility is a very specialised construction process, explains Carstens. "Building on sandy soil presents threats of erosion, so initial work is required to maintain stable ground. Steep slopes further exacerbate these concerns, which also demand careful planning and management.

"Then there are the logistical complexities involved in importing building materials and equipment, which can affect timelines, and on top



A team of over 20 subcontractors worked together to create the best possible home for a breeding flock at Hillside 2

of all of that we had to adapt to local environmental conditions such as heavy rains and strong winds."

It takes a team of combined expertise to build the best possible home for a breeding flock, and over 20 different subcontractors were involved in setting up and kitting out Hillside 2, says Carstens. For a building of this nature, he explains, materials used have to be resistant to corrosion, chemicals and ammonia, it needs to insulate sufficiently to protect against heat,

ingress of wild birds, litter beetles and rodents, and it has to be UV resistant to ensure durability in the long run.

Once the infrastructure was in place, the best possible lighting, feeding, drinking and ventilation equipment was installed by Big Dutchman to control the environment inside the houses.

The new houses were officially opened in August 2023, the farm was stocked with point-of-lay birds, and production got underway. 📺



The four laying houses at Hillside 2 have a capacity of 45 000 broiler breeders

the litter on the floor, but we discard floor eggs as we don't want any contaminants in contact with our hatching eggs. Our aim is to produce broiler eggs of a hitherto unmatched quality standard," he says.

From Hillside, Carstens explains, the eggs are transported to County Fair's own hatcheries, and the resulting broiler chicks are then placed at the company's various broiler farms. It takes 32 days to raise these chicks to commercial size, when they are slaughtered and processed.

The laying hens are commercially productive until they reach 62 weeks of age, following which they are directed to the cull trade, and the farm is

restocked with new point-of-lay pullets.

And so the cycle continues, with economies of scale that ensure the best-quality, most affordable chicken remains available to South African meat lovers.

The houses are fitted with nesting boxes for the hens to lay the eggs, which are collected manually every day



HOW BROILERS ARE BRED

