

Super-sophisticated County Fair

Chicken consumption has increased dramatically in SA. According to ACNielsen, it has been the key driver in the whopping 19% annual growth of perishables in the past year. Gearing up to cope with this demand, a leading Western Cape producer – County Fair – has just spent R70 million on a high-tech upgrade of its primary processing plant. Brenda Neall reports.

SOUTH Africa, which has long had a sophisticated poultry industry, can now claim one of the most advanced poultry primary processing plants. This is thanks to the R70 million recently invested by the Astral Foods Group in its County Fair abattoir and processing plant at Fisantekraal on the outskirts of Cape Town.

County Fair is arguably the best-known chicken brand in the Western Cape – and so it should be, as it's the dominant fresh chicken producer in the province, supplying all the major retailers and independents. It also has a notable presence in the freezer section of stores, as some 60% of its volumes are



marketed in IQF (individually quick frozen) form and it has built valuable brand equity with its frozen value-added range.

Chicken is a high-volume, low-margin business. Profitability rests on driving efficiency and continuous process improvement. 'In 1996, County Fair was processing some 600 000 chickens a week, with a staff of just over 700 at the abattoir. Ten years later, our headcount is virtually the same, but we now process 1,2 million chickens a week – primarily as a result of productivity improvements as well as the employment of world-class automation, processing equipment

and operating systems,' says Gerrit Visser, County Fair's chief operating officer. ▶

The latest Stork auto-cut up system where up to six tons of meat/hour is processed for various IQF products.





In the early 1980s, County Fair was the first company in South Africa to install a spiral freezing system for IQF processing. Pictured here is the infeed section of the new Jackstone spiral freezer.

The IQF product is driving market demand, especially from the country's emerging middle class and this largely prompted County Fair's recent capex outlay to increase its IQF capacity by a further six tons/hour to a new total of 18 tons/hour, or the equivalent of 900 000 birds per week.

'The commercial benefit of this project is not only about increasing capacity and quantity, but also about flexibility,' comments Visser. 'It allows us to capitalise on product mix



In Scanvaegt's largest IQF poultry processing solution in South Africa, the frozen meat is conveyed to the three auto-weighing and batching systems. Shown here is the product-identification carousel. These new lines complement the existing four single and two twin-processing lines for grading and batching IQF products.

benefits – to alternate between fresh and frozen as required by market fluctuations. In addition, the entire installation abets low-cost/high-volume processing with minimum handling of product, which equates to more hygienic conditions and a better-quality finished product.'

The IQF expansion

This aspect of the upgrade project accounted for R40 million of the total and apart from civil work in extending the plant, County Fair allocated the processing aspects of the installation to five key suppliers: Stork for an automatic cut-up system; Jackstone for two new three-ton spiral freezers; Scanvaegt for three new auto weighing and batching systems; MRE, which handled the refrigeration plant; and Fomaco, which supplied the flavour-enhancement equipment.

Each stage of the process is monitored electronically by computerised weighing and transfer equipment that assists the processing manager to effectively plan and monitor the complete system of auto grading, auto transfer, auto cut-up, spiral freezing, batch make-up and weighing of up to 900 000 frozen chickens per week.

The project took ten months from initial concept to final commissioning in January.

Expansion of the rendering plant

At a cost of R26 million, another ambitious project that



Individual packets are packed into a baler bag before palletising and despatching to the cold store for national distribution.

Leaders in
process equipment



DAS
FOOD SYSTEMS

TEL +27 (0)21 552 9165 WEB www.dasfs.co.za

County Fair embarked on during 2006 was the upgrading and expansion of its entire rendering facility and protein recovery plant. The previous rendering plant, with limited capacity, consisted of four batch cookers that were used for the sterilising and hydrolysing of feathers, blood, protein recovery and soft offal to produce a single type of rendered meal.

In conjunction with DAS Foods Systems and Atlas Stord, the rendering plant has been converted to a facility comprising a feather and blood meal line, as well as a separate carcass meal line and oil extraction process.

‘Our rendering capacity has been increased to comfortably cope with the equivalent of 1,5 million birds slaughtered per week, which is sufficient for our medium- to long-term capacity planning for the primary processing plant,’ remarks Visser.

The batch cookers were retained and are loaded from a batch-weighing system that accurately measures the raw material make-up before sterilisation commences. ‘This is an important feature of the upgrade, as exact measurement of material per recipe allows us to produce a top-quality rendered meal,’ he explains. ‘In conjunction with the batch cookers, in-line disk dryers and air coolers were installed to further contribute to optimum meal quality.’

The new process produces high-quality poultry and feather



The in-line conditioner for soft offal is continuously supplied with raw material. In this process, moisture is removed before the partly processed material is discharged into the batch cookers for sterilisation.

meal that are sold to a sister Astral company, Meadow Feeds Mills in Paarl, for use as ingredients in animal feeds.

Chicken fat is extracted from the poultry meal by mechanical press; this fat is sold to a third-party company for further processing as bio-diesel, adding to County Fair’s revenue stream. ▶

The M3 injectors from Fomaco



*Created with **passion...**
...designed for **success***



We are proud to be associated with County Fair / Astral



One of two new Formaco flavour-enhancing systems, which are key contributors in producing the County Fair range of IQF products.

Protein recovery

The rural location of the Fisantekraal plant means it has never had access to any municipal effluent disposal system. This raw effluent has to be treated, and at the same time as the other changes, County Fair also decided to upgrade the water treatment/protein recovery plant's capacity.

At a cost of around R6 million, the new system comprises a K-Pack DAF unit (dissolved air flotation system), which can process $\pm 230\text{m}^3$ of water/hour. During this stage of treatment, ▶

Facts 'n figures

- County Fair is a division of Astral Operations Limited, a fully-integrated chicken producer with key activities in animal feeds, animal feed pre-mixes, broiler genetic breeding and broiler operations, the production and sale of day-old broilers and hatching eggs as well as value-added poultry products.
- South Africa produces 17 million broilers per week, of which Astral with its Earlybird and County Fair operations accounts for some 3,7 million birds (a combined market share of about 22%).
- Imports make up a large percentage of chicken consumed in South Africa, largely originating in Brazil. It's believed 1,5 million bird equivalents enter this country from Brazil every week.
- The local chicken market is estimated to have grown by 11,1% to R13,6bn for the year to end-March 2007.
- South Africa's per capita consumption of poultry meat has increased 14% over the past six years from 19,74kg in 2000 to 22,41kg in 2006. This is still well below the 30kg in Western Europe and 40kg in North America.

MDS engineering cc (reg.no. 1987/025681/23)

MDS water treatment

5A Aulax Close, Durbanville 7550

Phone: 021 975-1272

Fax: 021 979-3514

Mobile: 083 977-1205

Mail: aart@mdswatertreatment.co.za

Proud to be associated with County Fair Foods



K-Pack DAF System PLC 300



K-Pack Flotation Bio Reactor



REKO Rotary Screen / Equalization Tank



Biogas Reactor / Holder & Digester 3136 M³

TURN-KEY INSTALLATIONS FOR:

- MODULAR, UP TO 750 M³/H, AND CUSTOM MADE PHYSICAL/ CHEMICAL, OIL-WATER- AND SOLIDS SEPARATION SYSTEMS.
- BIOLOGICAL WASTEWATER TREATMENT PLANTS INCL. SEQUENTIAL BATCH- AND FLOTATION BIO REACTORS
- SLUDGE DEWATERING SYSTEMS
- PRE-FABRICATED STORAGE TANKS & SILOS WITH VOLUMES UP TO 6500 M³ FOR A WIDE VARIETY OF WET AND DRY STORAGE APPLICATIONS
- BIOGAS PLANTS INCLUDING STEAM- AND/OR POWER GENERATION.

DarfreshBloom technology now available



New meat packaging enables joint use of vacuum and MAP processes. By Kim Cochrane.

DarfreshBloom is ideally suited for all case-ready MAP applications covering a range of meat.

CRYOVAC, a subsidiary of Sealed Air Corporation, has launched DarfreshBloom, a new packaging specially designed for fresh red meat that brings vacuum skin and modified atmosphere packaging (MAP) processes together in the same pack so as to reap the benefits from both technologies and extend product shelf life.

While DarfreshBloom is available in SA, stock will have to be sourced in, advises Rob Stockdale, Sealed Air Africa country leader.

The DarfreshBloom pack comprises three webs: a rigid barrier bottom web is formed on line into a tray, then a semi-barrier top skin web serves to keep the meat close to the bottom web with hermetic seals, and lastly, a top-lidded barrier web maintains the gas mixture inside the pack and provides a flat surface for promotional materials.

Between the top two webs, a MAP compartment holds the gas mixture that enables the meat to retain its bright red colour while preventing product degradation.

DarfreshBloom is ideally suited for all case-ready MAP applications covering a range of meat (beef, veal, pork and lamb). Bone-in products may also be suitable depending on bone sharpness.

The pack is designed for rollstock packaging technology and is suited to run on the Cryovac Multivac RCD equipment range dedicated to the Darfresh concept. A specific re-injection lidding station is added to the conventional equipment.

Benefits for meat processors and retailers include:

- Reduced headspace offering optimal pack size and ensuring more profitable logistics, optimised retail shelf utilisation and less waste.
- A drip-proof secure pack for vertical display, thanks to the skin technology.
- An easy-opening seal providing enhanced convenience for end-consumers.
- An appealing red meat colour due to the MAP process and the presence of an adjusted quantity of oxygen, which prolongs meat blooming.
- Excellent promotional options: all three webs can be printed on, and materials such as leaflets can be inserted into the MAP compartment.
- On-going maturation as a result of the active packaging, which improves the organoleptic quality of meat after being packed.
- Shelf-life at least equivalent to that achieved by standard tray lidding. 🐔

◀ continued from page 34

Super-sophisticated County Fair

the COD (chemical oxygen demand) levels of the water are reduced by between 70% - 80%. The protein produced by the DAF unit is further processed through a decanter where the moisture levels are again reduced before being processed in the by-products plant.

'In total, the upgrading and expansion of the rendering facility and protein recovery plant has been a highly successful strategic decision, with added revenue streams resulting in a shorter payback period than would otherwise be the case,' says

Visser. 'At the same time, it limits any negative environmental impacts that could emanate from the activities of a major poultry processing plant.'

County Fair Foods can most certainly stand proud as a world-class poultry player . . . 'The project has incorporated great teamwork both within our management group and with our preferred suppliers,' notes Visser. 'We hold our heads high as a leader in quality of IQF and fresh chicken products in South Africa.' 🐔