Farming Connect Management Exchange

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Portugal

Intensive Beef production/Dairy Beef
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1 Background

We have been contract-finishing cattle for Dunbia for four years now and have always struggled with profitability. The main factor in this has been our ability to achieve the 1.5kg daily liveweight gain (DLWG) needed to achieve the low cost of gain required to make it profitable.

We are currently finishing 400 black and white Holstein-Friesian steers per year for Dunbia. They arrive with us at around 180kg liveweight from dedicated rearers. Our aim is to return these animals to be processed at 600kg liveweight after 280 days on feed. The calves are fully vaccinated for respiratory diseases on arrival and go onto a Dunbia specific feeding programme. To put the importance of achieving good performance into perspective, a 100g per day of reduced growth will result in a reduction in our margin of approximately £60. With 400 cattle, this equates to £24,000 annually straight off the bottom line.

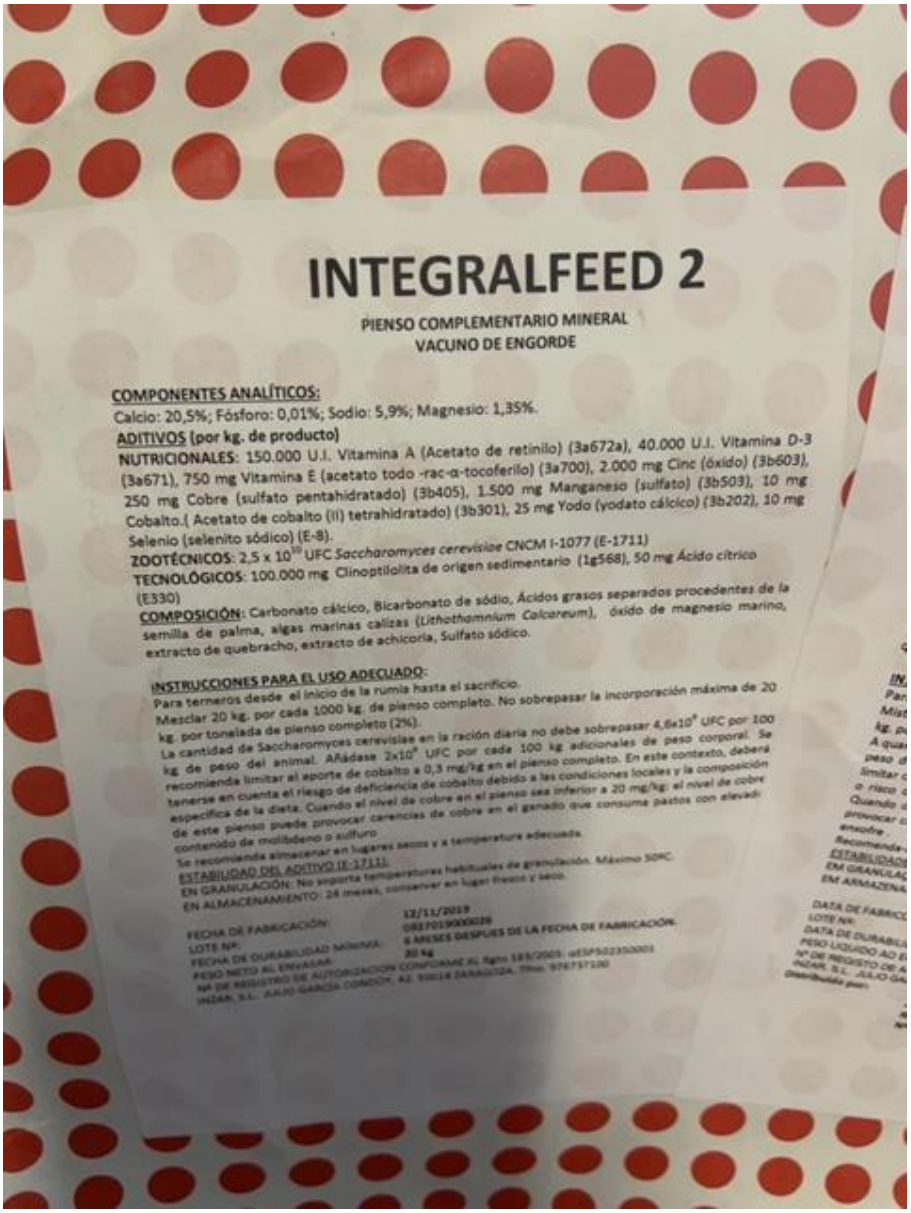
Dunbia use a company called Inzar who provide all the premixes and produce all the diets. As a business, we have always challenged the ability of the cattle to achieve the desired growth rates and Dunbia always maintained that farms in Spain and Portugal consistently achieved it.

The aim of the management exchange was to travel to Portugal to see what the day to day management of the cattle was like and how the diets were formulated, even down to how the cattle were fed to achieve 1.5kg of daily liveweight gain per day.

2 Itinerary

Farm 1

On day one I visited a farm in the Alfeizerao region of Portugal. The farm had the capacity for 800 cattle, all continental cross cattle and fed to Inzar's specific protocols. This particular farm was using an Inzar premix called Integralfeed. This premix allowed all of the cattle on the farm to be fed a straight cereal diet with no forage being offered at all, not even straw. The key focus of this regime was to maintian healthy rumen function by ensuring animals had access to fresh feed at all times.



INTEGRALFEED 2

PIENSO COMPLEMENTARIO MINERAL
VACUNO DE ENGORDE

COMPONENTES ANALÍTICOS:
Calcio: 20,5%; Fósforo: 0,01%; Sodio: 5,9%; Magnesio: 1,35%.

ADITIVOS (por kg. de producto)
NUTRICIONALES: 150.000 U.I. Vitamina A (Acetato de retinilo) (3a672a), 40.000 U.I. Vitamina D-3 (3a671), 750 mg Vitamina E (acetato todo -rac-α-tocoferilo) (3a700), 2.000 mg Cinc (óxido) (3b603), 250 mg Cobre (sulfato pentahidratado) (3b405), 1.500 mg Manganeso (sulfato) (3b503), 10 mg Cobalto.(Acetato de cobalto (II) tetrahidratado) (3b301), 25 mg Yodo (yodato cálcico) (3b202), 10 mg Selenio (selenito sódico) (E-8).
ZOOTÉCNICOS: 2,5 x 10^{10} UFC *Saccharomyces cerevisiae* CNCM I-1077 (E-1711)
TECNOLÓGICOS: 100.000 mg Clinoptilolita de origen sedimentario (1g568), 50 mg Ácido cítrico (E330)
COMPOSICIÓN: Carbonato cálcico, Bicarbonato de sódio, Ácidos grasos separados procedentes de la semilla de palma, algas marinas calizas (*Lithothamnium Calcareum*), óxido de magnesio marino, extracto de quebracho, extracto de achicoria, Sulfato sódico.

INSTRUCCIONES PARA EL USO ADECUADO:
Para terneros desde el inicio de la rumia hasta el sacrificio.
Mezclar 20 kg. por cada 1000 kg. de pienso completo. No sobrepasar la incorporación máxima de 20 kg. por tonelada de pienso completo (2%).
La cantidad de Saccharomyces cerevisiae en la ración diaria no debe sobrepasar $4,6x10^9$ UFC por 100 kg de peso del animal. Añádase $2x10^9$ UFC por cada 100 kg adicionales de peso corporal. Se recomienda limitar el aporte de cobalto a 0,3 mg/kg en el pienso completo. En este contexto, deberá tenerse en cuenta el riesgo de deficiencia de cobalto debido a las condiciones locales y la composición específica de la dieta. Cuando el nivel de cobre en el pienso sea inferior a 20 mg/kg: el nivel de cobre de este pienso puede provocar carencias de cobre en el ganado que consuma pastos con elevado contenido de molibdeno o sulfuro
Se recomienda almacenar en lugares secos y a temperatura adecuada.
ESTABILIDAD DEL ADITIVO (E-1711):
EN GRANULACIÓN: No soporta temperaturas habituales de granulación. Máximo 50ºC.
EN ALMACENAMIENTO: 24 meses, conservar en lugar fresco y seco.

FECHA DE FABRICACIÓN: 12/11/2019
LOTE Nº: 082T019000020
FECHA DE DURABILIDAD MÍNIMA: 6 MESES DESPUES DE LA FECHA DE FABRICACIÓN.
PESO NETO AL ENVASAR: 20 kg
Nº DE REGISTRO DE AUTORIZACION CONFORME AL Rglto 183/2005: oESP502350001
INZAR, S.L. JULIO GARCIA CONDOY, 42. 50018 ZARAGOZA. Tfno. 976737100

Figure 1. Inzar's IntegralFeed 2 premix data sheet

The main reasons for this was the massive cost of growing forage in Portugal due to the climate and also the reduced requirement for infrastructure in forage stores. Furthermore, a reduction in forage usage reduced the need for machinery, therefore, reducing over-head costs.

This particular farm had 800 cattle at any one time and apart from a state-of-the-art feed mill, the only other machine was a telescopic handler and an auger bucket. All cattle were fed in under an hour. The main breeds were Charolais and Limousin, with a few Angus and native cattle from the Azore islands. Cattle come in at approximately 8 months of age at 350kg and are slaughtered around 14/15 months of age at 650kg. All cattle are kept as bulls in this production system.

Figure 2. Cattle at the farm in the Alfeizerao region

The IntegralFeed finishing diet is detailed in Table 1 below with inclusion rates expressed as g/kg. Cattle will consume on average 10kg/per day of feed per head during their time on the farm.

Constituent	**g/kg**
Barley	458
Maize	200
Soya Hulls	121
Maize Distillers	136
Oat Husk	35
Protected Fat	10
Integral Feed	40

Table 1. IntegralFeed finishing diet

Figure 3. The IntegralFeed premix

The farm Key Performance Indicators (KPIs)were performance and cost related with health assumed as good. The concentrate only diet has been shown to increase kill out percentage by 2%, mainly due to the lack of gut fill caused by forage rations.

KPIs	
Killing out %	60-61%
Liveweight at slaughter	650kg
Age at slaughter	<16 months
DLWG	Continental – 1.50kg / d
	Angus – 1.65kg / d
Diet cost	230 Euros / t
Straw (bedding)	100 Euros / t

Table 2. Key Performance Indicators of Farm 1

Figure 4. The specialist mill at Farm 1. The small hoppers are used to add small volume additives into the mix.

Farm 2

The second farm that I visited was in the Torres Novas region.

This farm was finishing 8,000 black and white Holstein-Friesian bulls a year on multiple sites. The site we visited had 1,500 bulls on it. Every pen had a centre feed auger running to it from the mill, filling adlib hoppers. The only real machinery that was on the farm was a bobcat used to clean out the pens and fill straw feeders.

Bulls on this farm were housed in pens of 50. The cattle on this farm were averaging 1.5kg daily liveweight gain. They were achieving a 200kg carcass at 9 months old.

Figure 5. Holstein-Friesian bulls at Farm 2

Pens of cattle were drafted for slaughter in two or three drafts until the pen was cleared. Pens of cattle were never mixed as this would cause the disruption of social rank within the pens. Once cattle are mixed, it can take up to three weeks for them to regain social rank in a pen and for liveweight gain to recover. If this is done towards the end of a finishing period, it can be the difference between profit and loss. Reared calves arrived on the farm at an approximate weight of 160kg. They were on the farm for approximately 150 days. They aimed to slaughter at 280 days at 400kg. The 400kg market was much more preferred by the farmer due to feed conversion efficiency gains.

None of the farms we visited fed any green forage. To achieve this high liveweight gains, the consistency of the diet needs to be spot on every day. This can be very hard to achieve when feeding forage. You can have variation between fields. Intakes can also sometimes be an issue. It's important that we focus on the cost of gain, not the cost of the diet.

3 Next Steps

One of the biggest things I learned was to keep systems simple. The second farm we visited was feeding 1,500 bulls with little more than a bobcat. Every pen was fed with a centre feed auger dropping into an adlib hopper. The Bobcat was used to fill feeders with straw for the cattle to eat. Fixed costs are often over looked but can have a massive effect on business profitability.

We also need to look at water quality and bio film in the tanks. All these tiny factors can have an impact on cattle performance. The first farm that we visited had an issue with water that was causing losses.

With the price of straw increasing at the moment the opportunity to switch to Integralfeed based system could be a big bonus. It would also speed up the feeding process for us as it would save a pass with the diet feeder and also the time spent pushing straw back to cattle and chopping it.

There is no single thing that will improve performance it's just a case of making a lot of improvements on as many things as you can control, make continuous improvement and as team Sky used to say "make the wheels rounder".

There are challenges and opportunities where ever you are in the world. The air was certainly drier in Portugal which is better for the cattle as it doesn't carry pathogens as it does here in Wales. But our cattle wouldn't have to deal with the extreme heat that they have to deal with in the summer, which can reduce performance.

4 Key Messages to the industry

1. The quality of the calves is paramount. They need to be well bred and received adequate colostrum.

2. The rearing process is essential. Calves need to get on hard feed and off milk as soon as possible to lower the pathogen load on the gut.

3. High health status of the calves must be achieved alongside a comprehensive vaccination programme.

4. There has to be a connection through the entire process so that information and data can be shared in order to make better decisions

5. When calves move from rearing to finishing stage its essential that there is no nutritional stress. Ideally, they should receive the same diet for a month after the transition and a gradual change to the new diet.

6. Stack effect ventilation does not work effectively. Yes, hot air does rise but the input of fresh air to the livestock does not happen quickly enough or in the correct volume. The air in the shed should be changed every 5 minutes so that the cattle immune system is not being challenged if they are breathing bad air.

7. The quality of the straights (individual feed ingredients) being fed is critical. Variation from load to load will have an impact on the cattle and will compromise growth rates.

8. As beef farmers, we need to become technically better. We can't control price but, as we can see, performance can have a big effect on profitability. We may have a high price, but if we are inefficient we still won't be profitable.

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