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Late-maturing suckler bull production



Key external stakeholders:

Suckler beef farmers, Teagasc advisory, meat processors, ICBF, UCD and An Bord Bia

Practical implications for stakeholders:

The outcome/technology or information/recommendation is.....

- Late-maturing spring-born suckled bulls can be slaughtered at 18/19-months of age following a 3-month second grazing season and ~3 month finishing period indoors.
- Live-weight gains of 1.2-1.4 kg/day are achievable at pasture from turn-out until early July.
- Target live-weights at turn-out to pasture and re-housing are 400-420 kg and 530-550 kg, respectively, will ensure a carcass weight of at least 400 kg at 18/19-months of age.
- Performance at pasture, even with concentrate supplementation, is less than achieved indoors on an *ad libitum* concentrate diet.
- Producers of bull beef must know the market outlet for their stock.
- As such animals are bulls, there are additional safety issues to consider in their management

Main results:

Late-maturing suckled male animals, which account for over 70% of the national suckled male progeny, may be slaughtered at 18/19-months of age when reared as bulls, thus negating the need for a second winter. The research has developed a blueprint for suckled bull production. The production of bulls should be seen as a specialised enterprise where management standards are high and where the market outlet is known.

Opportunity / Benefit:

Late-maturing spring-born suckler bulls may return to pasture for part a second grazing season, thus offering an opportunity to reduce the cost of production. In addition, these bulls can be slaughtered before their second winter, thereby negating the need for winter accommodation and feed. When properly managed, bulls offer the opportunity for greater weight gains, feed conversion efficiency, carcass weights, conformation scores and lean meat yield, but are leaner than equivalent animals reared as steers.

Collaborating Institutions:

University College Dublin, Kepak Group

Teagasc project team: Dr. A. Black (PI)
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External collaborators: UCD
Kepak Group

1. Project background:

Suckler beef cows account for approximately 50% of the national cow population. Within the beef cow herd late-maturing breeds predominate where they account for >75% of the population. Likewise, late-maturing sires are predominately used on the suckler herd. Thus, the progeny from the suckler herd is primarily late-maturing. Traditionally, the majority of male animals were slaughtered as steers. However, there has been an interest in retaining the males intact and rearing them as bulls. In practice bulls have a higher daily gain, better carcass conformation and higher lean meat yield and better feed conversion efficiency compared with steers. Most bull production systems have focused on intensive indoor finishing on high concentrate diets (typical of feedlots in Europe or USA) and once housed in the autumn, yearling bulls seldom return to pasture. In these latter systems, bulls are typically slaughtered at a younger age (than steers). Because of the potential beef production efficiency advantage and younger age at slaughter, there has been recent interest in suckled bull production in Ireland. Replicating European intensive concentrate-fed young bull beef may not be attractive for Ireland as our competitive advantage lay with pasture production and its use by livestock. Thus, if young bull beef production is to be relevant (and cost effective) the opportunities of bulls returning to pasture for a second grazing season needed to be explored. The current study examined the role of grazed pasture, as a feed source, for yearling bulls.

2. Questions addressed by the project:

When returning to pasture for a second grazing season:

- What level of performance may be achieved with yearling suckler bulls at pasture?
 - Was there an optimum length to the grazing season for yearling bulls?
- Was there a response to concentrate supplementation at pasture?
- How did bull performance outdoors compare with indoors?

3. The experimental studies:

A number of studies were carried out to address the questions raised.

4. Results:

- Performance of young yearling bulls at pasture was variable. In one particularly wet April and May gains over a 3-month period were ~1 kg live-weight/head/day. However, when later housed for finishing, on an *ad libitum* concentrate diet, animal performance reached ~1.9 kg daily gain over a 3-month finishing period, suggesting some compensatory growth was achieved.
- In three subsequent years, daily gains of 1.2-1.4 kg/day were readily achieved on rotationally grazed un-supplemented pastures.
- Daily gain was highest over the first 3-months at pasture and gains decreased with increasing season length. If the intention is to finish bulls at or before 18-months of age, then housing by early-July will ensure animals are ready for sale following a 3-month finishing period on *ad libitum* concentrates.
- A target housing live-weight of ~530-550 kg was desirable to achieve a final carcass weight of over 400 kg at 18-months of age. Such carcasses were deemed suitably finished with regards to fat cover.
- A knowledge of the market outlets is an important factor for finished bulls at this age.
- When pasture supply is adequate (pre-grazing mass 1200-1500 kg DM/ha), the economics of concentrate supplementation in the spring to early-summer period is questionable.
- Bull performance on an *ad libitum* concentrate diet indoors was superior to performance on spring pasture even when the latter was supplemented with 50% concentrates.

5. Opportunity/Benefit:

While on-going, the grazing and production study was used for frequent in-service training sessions organised through Teagasc. In addition, both grassland and animal data generated during the study were

frequently used at in-service training days at Grange. During the course of the study many visitors to Grange were exposed to the study and to the data generated.

6. Dissemination:

Main publications:

Moloney, A.P., Black, A., Dunne, P. and Monahan, F.J. (2009) 'Grazing or Concentrate Feeding for 11 months Prior to Slaughter: Influence on Colour and Sensory Characteristics of Beef' (Abstract) *Journal of Animal Science* 87, E-Supplement 2, p248-249.

Weldon, B., Black, A. and Laidlaw, S. (2009) 'Phosphorus Loss from Dung Patches by Weanling Bulls Grazing Pasture During Winter' In: *Proceedings of the Agricultural Research Forum*, Tullamore, 12th March, p1.

Weldon, B., Black, A. and Laidlaw, S. (2009) 'Do Weanling Cattle Need to be Moved Every Day When Break Grazing Pasture During Winter' In: *Proceedings of the Agricultural Research Forum*, Tullamore, 12th March, p56.

Popular publications:

O'Riordan, E.G. (2010) Beef Update - Beef Research Notes, 18th July 2010. *Teagasc*, 4 pages.

O'Riordan, E.G., Crosson, P. and McGee, M. (2011) 'Finishing Male Cattle From the Beef Suckler Herd' *Irish Grassland Association* 45:131-146.

O'Riordan, E.G., Crosson, P. and McGee, M. (2011) 'Finishing Male Cattle From the Beef Suckler Herd' *Proceedings of the Irish Grassland Association*, Beef Conference, Trim, Meath, p4-19.

7. Compiled by: Dr Edward G O'Riordan
