

后期饲养战略对于早期断奶牛生产速度的影响

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摘要:[目的]为探索适宜当地的犊牛早期断奶时间,促进犊牛早期生长发育和使母牛尽快恢复体况,进入下一个繁殖周期。[方法]选择体格大小一致、健康无疾病、体重接近,父本相同,3月龄西杂犊牛20头作为试验牛,随机分成A组和B组,每组10头(公、母数量相同)。A组经过1个月断奶精料、粗料和多汁饲料的过渡性适应,4月龄断奶,并根据犊牛生长发育逐渐增加精料、多汁饲料,B组按照养殖场饲喂方法饲养,并于6月龄断奶,A组与B组犊牛6月龄断奶后自由采食粗饲料、按体重1%饲喂精饲料,分别在犊牛6,12,18月龄称重。[结果]结果表明:肉牛18月龄时A、B组犊牛的平均体重分别为638 kg,546 kg,A组高于B组92.00 kg($P < 0.01$),表明犊牛早期断奶、在满足营养需要的前提下,后期的生长速度比6月龄断奶高。[结论]犊牛早期断奶技术是一项实用技术,值得在养殖场和规模养殖户中大力推广的应用。

关键词: 犊牛; 早期断奶; 生长速度

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犊牛早期断奶技术在畜牧业生产上是一项可行的具有推广价值的增产技术,能使其在以后的生产性能的发挥中带来更理想的效果,在奶牛、大中型肉牛育肥场应用较多。在定西市犊牛出生后一般都是和母牛同圈饲养,6月龄左右才断奶,此时,母乳不能满足犊牛,特别是改良的杂种犊牛的营养需要。由于断奶较晚,犊牛的瘤胃和消化道发育相对迟缓,断奶过渡期长影响了犊牛的生长发育和断奶后的育肥。同时,影响母牛体质恢复较慢,产后发情时间延长,影响了繁殖利用率和肉牛养殖的综合效益。该试验通过对犊牛在不同月龄断奶后增长效果和断奶后增重速度的比较,探索定西市犊牛早期断奶较为适宜的时间,以期而定西市肉牛生产实践提供一定的借鉴和参考。

1 材料与方法

1.1 试验牛的选择与分组

选择体格大小一致、健康无疾病、体重接近西杂F1代经产母牛50头,用来源地相同且同一头公牛号的西门塔尔冻精配种,产犊后按照犊牛预试期哺乳与补饲方案饲养管理,3月龄时选择初生日期基本相近、体格和体重基本一致的原则,随机选择20头犊牛作为试验牛,分成试验A组、B组,每组10头

(公母数量相同)。调整至两组平均体重差异不显著后,进入断奶试验。

1.2 试验时间和地点

2017年3月至2018年6月,定西甲天下农业科技有限公司肉牛养殖场。

1.3 试验牛的饲养管理

安排责任心强并有实践经验的技术人员和饲养员共同负责,对犊牛精心饲养和护理。

1.3.1 预试期饲养管理 在早喂初乳的基础上,早期补饲植物性饲料:10日龄开始,在犊牛栏补饲槽饲喂苜蓿和少量玉米青贮料,训练其采食。20日龄,每头犊牛饲喂精料10~20 g(初期将精料煮成粥状,在喂完乳后2~3 h内饲喂),后增至150~500 g。20日龄开始,在混合精料中加入20~25 g切碎的胡萝卜,以后逐渐增加至250 g。从2月龄开始饲喂青贮饲料,每天从100~150 g,3月龄达到500 g。饲料的饲喂顺序是2月龄前先喂奶,依次喂给精料、胡萝卜和青贮料,自由采食干草,2月龄后,为了让犊牛多采食植物性饲料,先喂粗料,再喂精料和奶。

1.3.2 6月龄前的饲养管理 A组犊牛从3月龄开始逐渐增加精料、多汁饲料、青贮饲料饲喂量,至4月龄完全断奶;B组犊牛从5月龄开始逐渐增加精料、多汁饲料、青贮饲料饲喂量,至6月龄完全断

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奶,详见表 1。

1.3.3 6 月龄后的饲养管理 刚断奶的犍牛,日粮以混合精料为基础饲料,15 d 内逐步过渡到以粗饲料为主。6 月龄后尽可能多喂玉米青贮料和苜蓿。精饲料按体重 1% 饲喂。

1.4 试验期精料配方

6 月龄前的精料配方:玉米 40% ,豆粕 40% ,麦麸 10% ,小米 7% ,石粉 0.4% ,磷酸氢钙 0.35% ,微量元素及添加剂 1% ,食盐 0.5%。6 月龄后的精料配方,详见表 2。

1.5 主要测定项目

试验期内分别在 3,6,12,18 月龄称重,并连续取 2 d 早晨空腹称重的平均值。

表 1 6 月龄前饲喂配方						
组别	试验时间(月龄)	混合精料/kg	胡萝卜/kg	玉米青贮/kg	优质干草	断奶时间
A 组	3	0.5~1.0	0.25~0.5	0.5~1.0	自由采食	哺乳
	4	1.0~1.5	0.5~1.0	1.0~2.0	自由采食	
	5	1.5	1.0~1.5	2.0~3.0	自由采食	完全断奶
	6	1.5	1.5	3.0~4.0	自由采食	
B 组	3	0.5	0.25	0.5	自由采食	哺乳
	4	0.5~1.0	0.25~0.5	0.5~1.0	自由采食	
	5	1.0~1.5	0.5~1.0	1.0~2.0	自由采食	
	6	1.5	1.0~1.5	2.0~3.0	自由采食	完全断奶

表 2 6 月龄后混合精料配方										%
饲料组成	玉米	豆饼	菜籽饼	麸皮	碳酸氢钙	食盐	小苏打	添加剂	总计	
6~12 月龄	62	15	8	10	2	1	0	2	100	
13~18 月龄	75.2	5	10	5	1.5	1	0.3	2	100	

2 各月龄体重结果与分析

从表 3 可以看出,4 月龄时 A、B 组的体重分别为 122.5 kg,137.2 kg,B 组高于 A 组 14.70 kg($P < 0.01$),表明早期断奶对犍牛断奶后生长有一定影响;6 月龄时 A、B 组的体重分别为 180.4 kg,177.5 kg,A 组高于 B 组 2.90 kg($P > 0.05$),表明试验组犍牛经过一个阶段的适应与过渡,生长速度基本赶上了对照组犍牛;18 月龄时 A、B 组的体重分别为 638 kg,546 kg,A 组高于 B 组 92.00 kg($P < 0.01$),表明 A 组犍牛生长速度比对照组快。

表 3 试验牛各阶段体重						kg
组别	3 月龄	4 月龄	6 月龄	12 月龄	18 月龄	
A 组	105.1±6.5	122.5±7.2	180.4±12.7	432.5±21.5	638±26.3	
B 组	105.4±6.1	137.2±6.8	177.5±13.4	367.5±22.6	546±25.5	

3 结 论

(1)在良好的饲养条件下,犍牛生长发育快,但是随着月龄的增加,犍牛仅仅依靠乳汁已经不能满足生长需要,尤其是瘤胃发育的需要,必须进行早期补饲。从试验结果可以看出,在 4 月龄时提前断奶,并补饲精料、胡萝卜,充分采食优质干草的情况下,生长速度较快,与对照组增重无明显差异。

(2)犍牛早期断奶技术是一项值得大力推广的应用型实用技术。犍牛早期断奶也是适应肉牛养殖向规模化、集约化方向发展的需要,通过本试验发现,犍牛在 6 月龄断奶,后期生长速度较慢;犍牛在 4 月龄断奶,其体质健壮,后期生长速度较快,综合效益较高。根据定西市肉牛饲养水平,在饲养水平高的养殖小区、养殖场建议开展 4 月龄断奶的中型试验,进一步观察试验效果。有研究报道,在犍牛生长期不同精粗比可以改变瘤胃微生物的活性,影响瘤胃容积的发育,从而影响瘤胃微生物的合成效率和消化代谢,本试验对照组粗料饲喂不足,影响了后期的生长发育。

(3)犍牛提前断奶并补饲优质草料,可以提高犍牛采食量和消化吸收能力,增强犍牛瘤胃发育,增大瘤胃容积,为断奶后育肥打下良好基础,而且可以促进母牛尽早恢复体质,早发情、早配种,缩短生产周期,显著提高经济效益。

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TMR Feeding was Compared with the Traditional Feeding in Simmental Cattle

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Abstract: [Objective] The beef total mixed ration is a breeding technique that it was mixed with roughage, concentrated feed, minerals, vitamins, and trace elements, the water is 45% to provide sufficient nutrients to meet the needs of beef cattle. [Method] To compare the TMR feeding of Simmental cattle with traditional feeding methods, 120 Simmental bulls were randomly selected as experimental cattle in Ruikefeng agricultural and animal husbandry technology Co., Ltd. in Guyuan city. The TMR diet feeding was used in the test group. The traditional feeding was used in the control group and the control group and the experimental group each had 60 heads. The growth and development and the change of body weight were observed. [Results] The results showed that the average weight of beef cattle fed with TMR (547.9 kg) was 7.6% higher than the average weight of traditional feeding (509.24 kg) ($P < 0.01$). The average daily weight gain (1 331.6 g/d) of TMR feed increased by 11.5% ($P < 0.01$) compared to the average daily weight gain (1 194.5 g/d) of traditional feeding. The average weight of traditional feeding was 752 kg, TMR feed 785 kg, weight gain 33 kg, an increase of 4.4% ($P < 0.05$); the profit of the TMR feeding increased by 1 529.5 Yuan than that of traditional feeding. [Conclusion] The advantage of TMR feeding is more obvious than that of traditional feeding of Simmental, and it should be vigorously promoted in beef cattle production.

Key words: Simmental cattle; TMR; traditional feeding

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Effects on the Production Speed of Early Weaning Cows by Late Feeding Strategy

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Abstract: [Objective] In order to explore the suitable weaning time of calf, promote the early growth and development of calf and cause the cows to restore as soon as possible, and enter the next breeding cycle. [Method] Twenty 3-month old western hybrid calves with the same size, health and disease-free, similar body weight and the same father and mother were selected as treatment cows. And they were randomly divided into group A and group B, with 10 heads in each group (the same number of males and females). Group A was weaned at 4 months of age after a transitional adaptation of crude weaning concentrate and succulent feed for 1 month, and the succulent concentrate feed was gradually increased according to the growth and development of calves. Group B was raised according to the feeding method of the farm, weaned at 6 months of age. Calves of group A and group B were raised coarse fodder freely after weaning at 6 months old, and fed with fine fodder at 1% of body weight, and weighed at 6, 12 and 18 months old respectively. [Result] The results showed that the average body weight of the calves in group A and group B was 638 kg and 546 kg at 18 months of age, and that in group A was 92.00 kg higher than that in group B ($P < 0.01$). It indicated that the growth rate later of the calves weaned in early stage is higher than that of calves weaned at the age of 6 months on the premise of meeting nutritional needs. [Conclusion] The early weaning technology of calves is a practical technology that deserves to be promoted in farms and scale farmers.

Key words: yak; early weaning; speed of growth