The effect of level of concentrate feeding and roughage on meat production

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h1rty Jries1an aale-ealves averagiDg 15’ kg in L.BI••• w1th 258 dqs old, and th1r1:7-tlv8 Friesian aal.-ealves averaging 184 kg in L.B.W. with 344 dqsoldl trOll herd ot Sakha (Karada), A.niJIlalProduction Rese h 81;.1;1011(ll1n1stry ot Agriculture)were used illtwo successive experiments conducted throughout the SUIImer o’t 1982 and 1983, respectively. Thestud3 was conducted to examine the eftect otiDg Rapier grass, Sordan grass and Darawa88 su.aer tor 8S alODgwith t.o different levels o’t CODCentrateon the pertoraance of growing calves in the two experlllenta. In each of the feediDg experiAents, ’the an!aale weredivided into five 811lilar groups and were raDde-q &8a1gDed to five teed1Dg treataents. .&.11calves were 1ndlvidualqted accordiDg to their bocl7 weights. During a green teed- 1ngperiod ot 112 dq8, two level. ot CODCentrate (1 and ~ot L.B•••) were t8sted with both Napier grass and Borden grass in the 1st teediDg trial, and w1th both --.pier gru. 8DdDar_a in the 2Dd teediDg trial, in coapariaon to a controlration conta’niDg 1$ rioe au. aDd 2J COJICentratea of L.B... DariDsa ti.n18b1ag period of 98 4..,., all groupe in bo~ feeding trials received a ~atteD1Dg ration COD- , ta1jn1ng rice straw and concentrates at a rate of 1 and I 2.~ of L.B•••• respectively.~o digestibility trials were conducted to deteraiDe the feeding values of the different rations used in the feeding trials • At the end of the 2nd feediDg trial. two aniaala were randoaly chosen trom each group and were slaughtered to investigate the ef:tect of feeding treatments on care 88S characteristics.The results and conclusions could be 8uwaa.rlzed as follows, 1) Average DIId1gestibi1it7. during the 1st digestibility trial. was ?’5.87. 75.24. 75.20. 77.09 and 66.1~ tor A. B. c, D and E rations, while the average DII dig •••• tibility was ~.61. 71.6’5. 64.19, 71.87 and 6’5.5. tor I, II, III, IV and V rations, during the 2nd digestlhilit7 trial. Rations containing sUIIIlerforages and supplea.ntedwith cODCentrate has sign1f’icantly higher digestibility coefficients than those of the control ration in the 18ttrial. The digestion coe:ttic1ents tor all nutrients, except CP had 1Dcreased with increasing the concentrate levelin the diet in both 1st aDd 2Dddigeatlbl1it;y tr1.als. 2) .lverllgeIX;P tor ratlona A, B, C. D aDdB w_ 15.42, 16.16, 1’.49, 14.42 aDd 9.~ reapectlveq, duriDg the 18t trial, while 1ihe oorreapODdiDg ’Yelues tor ratlou I. II, III, IVand V during the 2nd trial was 10.24. 11.79 5.24, 9.07 and 8.3~. There was a teDdeDC1 for all the d18estib1e nutrients, except the digestible CJl, ’to 1Dcre$. 8ewith increasing the concentrate level froa 1 to ~ !of L.B.W. in the diets in both 18t and 2Dddigest1b1-1i1O’ trials.3) Average feeding values as TDN, BE aDd DE for I ra~ioDSA, B, C. D and E, during the 1st trial. were 70.39,?2.~. 73.80. ?6.33 and 64.7]$ TD!l;61.99, 64.45, 64.68, I6?~7 and 53.5~BEand 3.0?, ’.21, ’.56. ’.69 and 3.29.IIc,*/kg D.II, r8sp8ctivel1. Averagefeeding values as TD., BErna- DEfor the rations I. II, III, IV and Vwere 61.99, 69.?1. 61.89, 70.83. and 62.?~ TDli;52.46. 61.14. 53.55, 6’.~8 and 52.47% SB aDd 2.55, 3.”. ’.08, ’.48 aDd2.84 .IIcal/kg DIl, respectiveq, during the 2nd trial. 4) Average dail1 D.IIcODSWlptlon was 7.74, 8.43, 8.159.10 and 6.72 kg tor calves ted rations A, B, C. D and E , respecttve17, during the whole period, in the 1st feed1Dgtrial, while the correspoDd:1ngvalue., expressed as kg/100 kg L.B.I. were ,.23. ’.55. 3.43, 3.’11 aDd 2.88 kg. In ’the 2nd feediDg trial, the 8:Y8rege da1l7 DIIcODBUIlpt1onwas8.44, 9.24, ?.80. 8.96 IIDd 8.18 q tor calve. ted. I, II. III, IV, aDd V rat1oDS, respectiveq, duriDg 1;he wholeperiod. uta 1;he correepcmeU lIS ’Value., expressed as kg! 100 !q L.B••• nre 3.0’. 3.37. 2.80, 3.21 aDd. ’.05 kg. fte 111oJ~tiOD froa SordaD gnas ••• 81gDUiclldl;q higherth_ thai; of Rapier sr-, c1ur1Dgthe ls1; tee41Dg 1;rial,

”h1~. ~h. DKoODBlmpt’1on~roa Kapler graBS 4ur1Dg the 2nd fe~irJg trial was signUicant17 higher than that of Darawa. 5) .lvereg. daily body weight gains were O.SO, 0.83,0.84 and 0.7? kg tor calves fed .1, B, C, D and B rat ODS, respectively, during the whole period in the 1stfee 1Dg -erial, while the average daily gains were 0.88, 0.9~, 0.92, 0.90 and 0.?9 kg tor calves fed rations I,ll, III~ IV and V, respective1.7. during ’the whole period in the i2nd feeding trial. The differences _ong groups in daiq body .eight gains were not sign1ticant in the 181; teeding trial. The calves which were fed control ratioD (V) in 1;he 2nd feeding trial had slgnU’icant17 (P< 0.05)lower daiq body weight gain than the other groups. 6) Average teed efficiency values expressed as kggain/kg BE intake were O.lBO, 0.166. 0.167, 0.151 and 0.213 kg for calves fed A, B, C, D and B rations, respect1ve~, dur1.Dg the whole period in the 1st feeding trial, while thecorrespoDding averagestor teed etficiency expressed as kg BErequired per kg weight gain .ere 5.562, 6.046, 5.998, 6.640 and 4.720 kg. Average kg gain/kg SB intake tor the calves fed lt II, III, IV and V rations .ere 0.202, 0.185, 0.229, 0.172 and 0.189 kg, respectively, during the .hole period in the 2nd feeding trial. Corresponding average. for kg SB requ1red/kg .eight laiD .ere 5.067, 5.481, 4.458, 5.8898Dd 5.515 kg. The difterenee. in teed eff1c1eDC7.ere blgbq significant (P< 0.01) between calve. fed cODtrol ration &lid thoee ted the other ra1;i0D8 duriDg the 1st feecl1Dg”trial. aDdalso be-..n Cal’Y1l8 fed ration nI aDd’those t_ ~he o”ther rat10ns dur1Dg the 2nd f.eding trial.