

Seesion S.01”Local breeds:What future?

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Potential of milk production of Iranian Water buffaloes

Sanjabi , M.R., Naderfrad, H.R., Moeini, M.M., Lavaf, A., Ahadi, A.H.

Department of Animal Science, Agri Institute,

IROST, IRAN

msanjabii@gmail.com

Introduction:

There are about 400000 of buffaloes in the Islamic Republic of Iran which are being raised by farmers in the rural areas of six provinces : Khuzestan(S.W) ,West and East Azarbaijan ,Ardebil(N.W) , Gilan and Mazandaran(North of iran , south of Caspian sea).

Materials and Method:

Milk production and fat percentage of 65534 individual milk records of Iranian water buffaloes has been studied on 473 herds in 6 provinces. The Data were analyzed by SAS software in GLM procedure and heritability and Breeding Value has been calculated by DFRML Procedure. In this procedure animal, sire and rest of pedigree were considered as random effects. And herd, year, season and lactation were considered as fixed effects.

The used model was as follow :

$$Y_{ijklmno} = \mu + A_i + B_j(A_i) + F_m + G_n + C_k + D_i + E_{ijklmn}$$

In this model :

Y =Amount of observations

μ =Mean of population

A_i =Effect of ith province (i=1.....6)

B_j =Effect of jth herd nested in province

(j=1,2,.....473)

F_m =Effect of mth year of recording

(m=1994.....2004)
 Gn =Effect of nth season (n=1,2,3 and 4)
 Ck =Effect of kth parturition (k=1,2.....10)
 Dl =Effect of lth time of milking (l=1 and 2)
 Eijklmn= Residual effects
 Calculation of breeding value :
 The milk records of 804 male and female animal with
 records of their own milk ,daughters , sisters or mothers
 were analyzed by DFRML procedure.

Result and discussion:

The Average milk yield per lactation, days of lactation, fat percentage and LSM of fat percentage were 1513 Kg, 202 Days, 5.04% and 6.77 respectively. The effects of province, herd, parity, milking times, year and season were significant on milk production, and on fat percentage, too. ($P \leq 5\%$). The estimated heritability of milk was 0.16. The LSM of average milk production of in the provinces of Gilan, Mazandaran, E.Azarbaijan, W.Azarbijan, Khuzistan and Ardabil were 1452, 1586, 1382, 1183, 2135 and 1189 Kg respectively. The results indicated that the potential of milk production of Iranian water Buffaloes are economics and acceptable especially on those farms who are using proper diet formulation and using concentrate. The top five highest breeding value bulls have been introduced to A.I Station of Uromia.

5-4-Table -1-comparision of average milk yield of Iranian buffaloes in per lactation in a period of ten years

| <u>Province</u> | <u>average milk yield(kg)</u> | <u>average fat%</u> | <u>No of observation</u> |
|-----------------|-------------------------------|---------------------|--------------------------|
| Gilan | 1236 | 4.99 | 3970 |
| Mazandaran | 1410 | 6.75 | 10804 |
| E.azarbaijan | 1711 | 7.50 | 4466 |
| W.azarbaijan | 1141 | 8.12 | 6074 |
| Khuzestan | 2107 | 6.23 | 58206 |
| Ardebil | 1474 | 7.03 | 36705 |



Figure 1- Shomali buffaloes (Mazandaran province)



Figure 2- khuzestani buffalo