

## **BLACK GOLD- Incentivizing Elite Murrah Buffalos for Germplasm and Higher Yields**



*Milk recording competition amongst elite murrah buffalos in a Government Veterinary hospital in Haryana*

### **Background and Objectives**

In spite of being one of the smallest States (1.3 % of total area) of India, Haryana has a prominent place in the dairy map of the country. Animal husbandry activities in the state play a pivotal role in the rural economy through a variety of contributions in the form of income generation, draught power, socio-economic upliftment, employment avenues and better nutrition to human population through livestock products like milk, eggs & meat.

Haryana possesses 2.5% of the bovine population of the

country but produces more than 5.0% of the nation's total milk production. Similarly, per capita milk availability of the state is quite high at 680 gm against the national average of 236 gm. Haryana is the home of world famous 'Murrah' buffaloes popularly called the 'Black gold of India' and the all purpose 'Haryana' cow. The state has long been the prime source of Murrah germplasm for other states as well as abroad for up gradation of their low producing buffaloes. The demand for superior germ plasm of Murrah is ever increasing in the rest of India and other countries. In Haryana, the livestock sector is contributing an impressive 36.1 percent of Agriculture GDP (at current prices).

Murrah buffaloes are heavy milk producers with high fat content in addition to being efficient feed converters even when fed poor quality roughage. Buffaloes contribute more than 90% of total milk produced in the state. In addition, they are a source of quality lean meat and valuable draught power. Murrah has also a central position in the rural economy as it contributes the lion's share of the income of the rural households.

Fast genetic improvement of Murrah is not only the top priority for Haryana but is also a national concern. The state had taken up an ambitious programme to identify the top quality Murrah germplasm through field performance recording, which serves as an in situ germ plasm bank for further preservation and propagation. This programme of national importance has been substantially strengthened through RKVY.

### **Intervention**

Basic approach for identifying superior Murrah germ-plasm includes screening of the Murrah buffalo population possessing true breed characteristics. Minimum cut off yield for such a superior Murrah for one lactation period is 2600 litres of milk. Once such buffalos are identified, their

production performances in lactation are tracked. Male progeny of these recorded buffaloes are procured and are reared under scientific management at rearing stations or in situ as future bulls.

Initial yield is arrived by recording milk production for four consecutive timings with first recording being ignored as “emptying milk”. This first recording is followed by monthly recordings by employing contractual milk recorders for accurate assessment of the lactation yield. Individual yield records are pooled and compiled at the sub division, district and state level using suitably evolved computer programmes. Upon identification, these elite animals are insured at the spot with at least 50% of the premium being borne by the Govt. The list of these elite buffaloes and their progeny, being regarded as prized national wealth, are displayed on the departmental website for easy access of all those who need it.

To motivate the owner (through an affidavit) not to sell his/her recorded buffalo and its male progeny at least for one year, Cash incentives are provided under the RKVY scheme. With lactation yield being the hallmark of superiority of the germ-plasm, cash incentives take into account lactation yields. Cash incentive is given to the owners of different categories of the recorded buffaloes at the following rates:

<b>Lactation yield (kg)</b>	<b>Cash Incentive (Rs.)</b>
2600 - 3200 ( 13 to 16 Kg peak yield /day)	5000.00
3201 - 3800( >16 to 19 Kg peak yield/day)	10000.00
3801 - < 5000 (> 19 to < 25 Kg peak yield/day)	15000.00
5000 Kg and above (25 Kg & more peak yield/day)	25000.00

As a consideration for cash incentive, the owner remains under obligation to look after the male calf properly and the department gets first right of its purchase. This arrangement creates an ‘in situ’ Murrah Germplasm Bank, available at all times. In case, the farmer does not abide by the contract or disposes of the identified buffalo or its male calf, he has to return the cash incentive received by him. In addition, the owners of the recorded buffaloes are required to breed their animals through artificial insemination only.

The progeny born to the buffaloes yielding 15 Kg & more as peak yield per day are also provided enriched concentrate ration at 2 Kg per day for a period of one year. The approximate cost of extra feeding for each such calf for a year is Rs. 8760/-. 50% is provided under RKVY funds and the remaining 50% is the share of the owners.



*An elite Murrah*

RKVY assistance is also used for incentivising establishment of Murrah Breeders Societies in ideal Murrah Villages. A modest

beginning has been made with ultimate aim to establish “Murrah Breeders Association” on the lines of similar associations world over to look after different breeds e.g. Holstein Friesian, Jersey etc. Ideal Murrah village is identified as one which has 50 or more performance- recorded Murrah buffaloes out of which 1/3<sup>rd</sup> should yield 15 Kg & more milk per day. A grant of Rs. 5.00 lac as assistance is given to the Society established in such Ideal Murrah Village subject to the fulfillment certain criteria. More than 24 ideal Murrah Villages has been established till now as self- sustaining agencies which are responsible to look after genetic improvement, conservation, propagation and trade aspects etc.

### **Outcome**

In three years i.e. from 2008-09 to 2010-11 since the scheme is in operation under RKVY, an amount of Rs. 1580 lakhs has been used under programmatic activities. 22950 animals have been recorded as top milk yield animals and more than 24 villages have been identified and declared as ideal Murrah villages. More than 6000 male calves have been procured from the field out of the total 22990 animals recorded in the scheme and more than 4000 young bulls have been supplied to gram Panchayats under RKVY for taking up breed improvement activities.

The scheme has contributed significantly to the genetic improvement of the buffaloes in the country. Depletion of quality germplasm has been arrested if not stopped altogether. ‘In situ’ Murrah Germplasm Bank has been established and exported to other states to meet their demand for good quality genetic material required to upgrade their stock as per national breeding policy.

A data bank of quality germplasm has been established which will help in future planning to assist in harvesting the benefits of recent biotechnological advances in animal breeding and reproduction. Females born to recorded Murrah buffalos are

identified as future bull mothers and reared by farmers in situ. There is a significant improvement in genetic quality vis-à-vis productivity of buffaloes and this has brought socio-economic upliftment of their owners throughout the country. In last three years there has been 10% increase in milk production in the state - i.e. from 57.45 lakh tonnes to 62.67 lakh tonnes from the year 2007-08 to 2010-11 respectively. Certified quality young bulls for Semen Production Centres as well as for natural breeding are available.

Karambir Singh, resident of village Sunariyan, District Kurukshetra got interested in the scheme when he visited the State Livestock Show last year. He purchased a high yielding Murrah buffalo, which was later recorded as the second highest milk yielder in the State and was awarded an incentive of Rs. 25,000/- by Hon'ble Chief Minister, Haryana at a State-level function at Sonipat in March, 2011. By virtue of recording under this scheme, his buffalo has been priced at about Rs. 2.5 lacs in the market in addition to very high price of the progeny of the buffalo i.e. the male calf which shall be used as a bull in the future at one of the Semen Banks of the Animal Husbandry & Dairying department, Haryana for propagation of this high quality germ plasm in the State as well as in the country.

There are several Karmabir Singhs in Haryana. 10 proud murrah owners were given incentives of Rs. 25000 for recording yields of over 25 litres per day in 2009-10. Another set of 8 such farmers achieved this feat in 2010-11. These proud farmers are:

S.N.	Name	Village	District	Yield Per Day	Amount of Incentive
1	DharamPal s/o Rati Ram Gehdu	Neemka,	Faridabad	29.94	25000
2	Sandeep s/o	Neemka	Faridabad	27.13	25000

	Rajinder				
3	Narender s/o Randhir Singh	Didwari	Panipat	25.63	25000
4	Vijender s/o RamPal	Chulkan a	Panipat	25.613	25000
5	Hawa Singh s/o Nathu Ram	Samani	Kurukshe tra	25.6	25000
6	Dharam Pal s/o Fateh Singh	Sutana	Panipat	25.17	25000
7	Jagdish s/o Surat Singh	Bhurtan a	Bhiwani	25.16	25000
8	HarBlash s/o Kali Ram	Bhurang -pur	Ambala	25.1	25000