Performance of buffalo calf mortality and its economics

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Abstract

The study conducted on performance of buffalo calf mortality and its economics under frontline demonstrations (FLD) was carried out at Krishi Vigyan Kendra, Bichpuri, Agra (U.P.).

To demonstrate this, 1061 buffalo calves frontline demonstrations were organized by KVK, Agra between 2010-11 to 2014-15 at five adopted villages under whole village situation. The mortality of buffalo calves under recommended practice (demo.) recorded 17 percent as compare to 81 percent of farmers practice. The buffalo calf mortality check due to technological intervention was to the tune of 83 percent over farmers practice (control). The economics and Benefit Cost Ratio (BCR) of both recommended practices and farmers practices was worked out. On an average Rs. 2061 per calf was recorded as additional income in this recommended practice. BCR of recommended practices and farmers practices was 3.00:1 and 2.20:1 respectively. Conducting frontline demonstration of scheduled deworming technology of buffalo calves to reduces mortality to a great extent with increase in the income level of the dairy owners.

Keywords: Mortality; Buffalo calf; BCR; FLD

Introduction

The buffalo is a highly social animal with strong instincts. Consequently, mother and young are closely bonded, and the buffalo calf usually becomes more stressed when separated from the dam than the calves of cattle (Mustafa et al, 2010). Calves are the livestock industry of the future. Calf management plays an important role in the development of the dairy sector of the country. The success of the dairy industry depends on appropriate calf management. Calf care is not only essential for sustenance of the dairy industry but is also essential in the wake of preserving and maintaining our good quality germ plasm. Important aspects in the calf rearing are the health management and proper nutrition to the calves (Tiwari et al., 2007).

A large number of calves die during the first year of their life, causing heavy drain on the economics of livestock production. Calf mortality was associated with the external and internal parasitic infestation and bacterial infections especially those causing septicemia and enteritis (Blood et al., 1994). Poor management practices leads to economic losses to the farmers in terms of higher calf mortality, poor growth rate, delayed maturity and poor productivity. This study was conducted on performance of buffalo calf mortality and its economics under frontline demonstrations (FLD) was carried out at K.V.K, Bichpuri, Agra (U.P.).

Methodology

Krishi Vigyan Kendra, Bichpuri, Agra has conducted trials on 1061 buffalo calves Front Line Demonstrations were carried out under whole village situations in the year 2010-11 to 2014-15 at five adopted villages, namely- Bhavanpura (2010-11), Nagla Vishnu (2011-12), Aheerpura (2012-13), Nagla Heera Singh (2013-14) and Aardaya (2014-15) in four different blocks (Saiya, Kheragarh, Akola and Achenera) of Agra district in Uttar Pradesh. Through survey, on and off campus training, scientist visit and field diagnostic visit during the previous year, higher mortality of buffalo calves were recorded. Majority of farmers did not use of any dewormer for deworming of buffalo calves were recorded. Majority of farmers did not use of any dewormer for deworming of buffalo calves. To manage assessed problem, improved and recommended technologies were followed as intervention during the course of front line demonstrations programme. In case of recommended practice to check buffalo calves mortality the deworming schedule followed in the FLD program consisted of deworming at three stages. The 1st dose at the age of 10 days followed by 2nd dose at 40 days. The 3rd dose was given at 70 days, post birth. Well before the conduct of demonstrations, training to the farmers of respective villages was imparted with respect to envisaged technological interventions. All other steps like site and farmer selection, layout of demonstration, farmer’s participation etc were
followed as suggested by Choudhary (1999). Visits of the farmers and the extension functionaries were organized at demonstration and field days to disseminate the message at large. Yield data was collected from Farmer’s practice (control/local check) and recommended practice (demonstration) and economics of demonstration, net income and Benefit Cost Ratio (BCR) were computed and analyzed. The formula by BCR was calculated is given below:

\[
\text{BCR} = \frac{\text{Gross return}}{\text{Gross cost}}
\]

Work out the demonstration economics: buffalo calves in per animal.

**Results and Discussion**

The mortality performance and economic indicators are presented in Table 1. The data reveal that under demonstration, buffalo calves mortality was found to be substantially higher than that under farmer practices during all the years (2010-11 to 2014-15). The mortality of buffalo calf under demonstration recorded was 20, 15, 16, 16 and 18 percent during 2010-11, 2011-12, 2012-13, 2013-14 and 2014-15, respectively. The mortality enhancement due to technological intervention was to the tune of 80, 85, 84, 84 and 82 percent over farmers’ practices (control).

The cumulative effect of technological intervention over farmers practices during all the years (2010-11 to 2014-15). The year-to-year no major difference in mortality of buffalo calves. Mortality enhancement in calf in front line demonstration has clearly revealed that, the net returns from the technological interventions provided in demonstrations i.e. timely following the scheduled deworming technology of buffalo calf.

Economic analysis of the mortality performance revealed that benefit cost ratio (BCR) of demonstration were observed significantly higher than farmer practices. The BCR of recommended practices and farmers’ practices were 2.23 and 1.73, 2.30 and 1.66, 2.46 and 1.67, 2.50 and 1.81 and 1.82 during 2010-11, 2011-12, 2012-13, 2013-14 and 2014-15 respectively. Hence, favorable benefit cost ratio proved the economic viability of the intervention made under demonstration and convinced the farmers on the utility of intervention. Similar findings were reported by Singh and Singh (2012) and Singh and Singh (2000).

### Table 1: Mortality performance and economic indicators of buffalo calves

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of demonstration</th>
<th>Mortality (%)</th>
<th>%Increase over FP</th>
<th>Gross cost</th>
<th>Gross return</th>
<th>Net return</th>
<th>BCR</th>
</tr>
</thead>
<tbody>
<tr>
<td>RP</td>
<td>FP</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2010-11</td>
<td>145</td>
<td>20</td>
<td>75</td>
<td>80</td>
<td>2240</td>
<td>2200</td>
<td>5000</td>
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<tr>
<td>2011-12</td>
<td>200</td>
<td>15</td>
<td>80</td>
<td>85</td>
<td>2260</td>
<td>2250</td>
<td>5200</td>
</tr>
<tr>
<td>2012-13</td>
<td>200</td>
<td>16</td>
<td>85</td>
<td>84</td>
<td>2275</td>
<td>2270</td>
<td>5600</td>
</tr>
<tr>
<td>2013-14</td>
<td>266</td>
<td>16</td>
<td>85</td>
<td>84</td>
<td>2620</td>
<td>2625</td>
<td>6550</td>
</tr>
<tr>
<td>2014-15</td>
<td>250</td>
<td>18</td>
<td>80</td>
<td>82</td>
<td>3050</td>
<td>3000</td>
<td>7540</td>
</tr>
<tr>
<td>Average</td>
<td>1061</td>
<td>17</td>
<td>81</td>
<td>83</td>
<td>3111</td>
<td>3092</td>
<td>7472</td>
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**References**

