Once-a-day Breeding vs. A.M./P.M. Breeding – Is There a Difference?

For many years dairy producers have relied on the a.m./p.m. rule for optimum conception rates. When following the rule, if a cow or heifer is in estrus in the morning (a.m.), she should be inseminated that afternoon (p.m.). Likewise if she is observed in estrus in the p.m., then she should be inseminated the following morning. Research shows there is no significant difference in conception rates between inseminations performed in the morning or afternoon when using the a.m./p.m. rule2.

The a.m./p.m. rule is a management technique that is designed to ensure cows and heifers are inseminated near their optimal time for conception. Several studies have evaluated the use of the a.m./p.m. rule vs. once-a-day breeding. Nebel and coworkers3 evaluated non-return rates up to 90 days after A.I. in 7240 first service Holstein cows. There was no significant difference between once-a-day breeding and breeding according to the a.m./p.m. rule (Table 1).

Table 1. Non-return rates in cows bred by once-a-day or a.m./p.m. breeding programs. From Nebel et al., 1994

<table>
<thead>
<tr>
<th>Program</th>
<th>Cows (#)</th>
<th>60 day (%)</th>
<th>75 day (%)</th>
<th>90 day (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Once-a-day</td>
<td>3659</td>
<td>64.6</td>
<td>60.1</td>
<td>58.4</td>
</tr>
<tr>
<td>a.m./p.m.</td>
<td>3581</td>
<td>65.6</td>
<td>60.6</td>
<td>57.8</td>
</tr>
<tr>
<td>Total</td>
<td>7240</td>
<td>65.1</td>
<td>60.4</td>
<td>58.1</td>
</tr>
</tbody>
</table>

Graves and coworkers2 studied once-a-day breeding vs. the a.m./p.m. rule in Jersey cows and heifers. Pregnancy determined by rectal palpation was used rather than non-return rates and again there was no significant difference between once-a-day vs. a.m./p.m. breeding schedules (Table 2).

Table 2. Once-a-day vs. a.m./p.m. breeding in Jersey cows and heifers. From Graves et al., 1997

<table>
<thead>
<tr>
<th>Program</th>
<th>Bred (#)</th>
<th>Preg. (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Once-a-day</td>
<td>172</td>
<td>60.5</td>
</tr>
<tr>
<td>a.m./p.m.</td>
<td>165</td>
<td>57.6</td>
</tr>
<tr>
<td>Total</td>
<td>337</td>
<td>59.1</td>
</tr>
</tbody>
</table>

In another study, Gonzalez and coworkers1 used 261 heifers (167 Holstein, 78 Jersey and 16 Guernsey) in a single injection prostaglandin F2α protocol and evaluated once-a-day vs. a.m./p.m. breeding. The percentage pregnant was used as the comparison and again there was no significant difference between once-a-day breeding and breeding according to the a.m./p.m. rule (Table 3).

Table 3. Fertility in heifers bred by the a.m./p.m. or once-a-day programs. From Gonzalez et al., 1985

<table>
<thead>
<tr>
<th>Program</th>
<th>Heifers (#)</th>
<th>Preg. (#)</th>
<th>Preg. (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Once-a-day</td>
<td>132</td>
<td>83</td>
<td>62.9</td>
</tr>
<tr>
<td>a.m./p.m.</td>
<td>129</td>
<td>80</td>
<td>62.0</td>
</tr>
<tr>
<td>Total</td>
<td>261</td>
<td>163</td>
<td>62.4</td>
</tr>
</tbody>
</table>

The results of these studies involving almost 8,000 cows and heifers provides evidence there is no difference between breeding by the a.m./p.m. rule or once daily. By using a once-a-day breeding program, a producer can schedule a specific time in which the technician breeds the cows allowing more time to focus on other management issues.

In larger herds, once-a-day breeding is utilized with the Reproductive Management System™, in which a professional reproductive technician is on the farm daily, resulting in consistent high quality heat detection, thereby increasing conception and pregnancy rates.

REFERENCES

