Fertility in dairy cows subjected to two different intervals from presynchronization to initiation of Ovsynch protocol

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Objective:
To compare pregnancy rate in dairy cows subjected to two different intervals (9 vs. 12 d) from presynchronization with PG to initiation of Ovsynch/TAI protocol.

Findings:
The percentage of cycling cows at initiation of the Ovsynch/TAI protocol did not differ between protocols (overall 91.3%).

Findings continued:
Results between both TAI protocols are shown in Table 1.

Animals and experimental design
Lactating Holstein cows (n = 264) were 70 ± 3.5 DIM at TAI with a BCS of 2.9 ± 0.02.
Ultrasoundography (U/S) to determine cyclicity, ovarian dynamics, ovulation and pregnancy.

Fig 1. Presynch/Ovsynch/TAI protocols

Findings continued:
Reducing the interval from last PG of presynchronization to initiation of Ovsynch from 12 to 9 d did not affect response to Ovsynch/TAI protocol but reduced pregnancy rate at 32 and 60 d after TAI.

Table 1. Mean days in milk (DIM) at first and second PG, percentage of cow responding to first and second GnRH, and PG treatment, mean diameter of preovulatory follicle (POF), and percentage of cow pregnant at 32 and 60 d, displayed by protocols.

<table>
<thead>
<tr>
<th></th>
<th>PRE9</th>
<th>PRE12</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIM at 1st PG</td>
<td>36.4</td>
<td>33.6</td>
<td>NS</td>
</tr>
<tr>
<td>DIM at 2nd PG</td>
<td>50.4</td>
<td>47.6</td>
<td>NS</td>
</tr>
<tr>
<td>Ov. response to 1st GnRH (%)</td>
<td>64.4</td>
<td>64.4</td>
<td>NS</td>
</tr>
<tr>
<td>Ov. response to 2nd GnRH (%)</td>
<td>91.0</td>
<td>90.0</td>
<td>NS</td>
</tr>
<tr>
<td>Responding to PG (%)*</td>
<td>91.0</td>
<td>93.2</td>
<td>NS</td>
</tr>
<tr>
<td>POF diameter (mm)</td>
<td>16.5 ± 0.2</td>
<td>16.2 ± 0.2</td>
<td>NS</td>
</tr>
<tr>
<td>Pregnancy (%) at 32 d</td>
<td>34.8</td>
<td>43.9</td>
<td>0.1</td>
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<tr>
<td>Pregnancy (%) at 60 d</td>
<td>32.6</td>
<td>42.4</td>
<td>0.08</td>
</tr>
</tbody>
</table>

*Based on ultrasonographic examinations
NS = Non significant differences between protocols

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GnRH = 100 μg im (Fertiline; Vetoquinol Canada Inc)
PG = 500 μg cloprostenol im (Estrumate, Schering Plough Animal Health)
TAI = timed artificial insemination
U/S = ultrasonography