Impact of sire selection decision-making process on 305-d milk yield and age at first calving in Thailand

Thawee Laodim

Dairy genetic improvement

Breeding objective
Breeding plan
Selection
Mating
∆G

Genetic Improvement (Breeding) = Selection + Mating

Koonawootrittriron et al. (2008)

Respond of selected dairy sires

Genetic trend for 305-d milk yield and age at first calving

Koonawootrittriron et al. (2008)

Konkruea et al. (2015)
Objective

To assess the impact of the sire selection decision-making process on 305-d milk yield and age at first calving in Thailand

Dataset

285 dairy farmers
2012 to 2015
Development of a Dairy Genetic-Genomic Evaluation System in Thailand Project (April, 2012 to March 2015; P-11-00116)

Dairy farm located in Thailand

Questioners were from 285 farms located in regions of Thailand
- Central (76 farms)
- Northern (76 farms)
- Northeastern (64 farms)
- Southern (69 farms)

Groups of dairy farmers

Farmers that did not select dairy sires by themselves (86 farms; 30.2%)
Farmers that selected dairy sires by themselves (114 farms; 40.0%)
Farmers that selected dairy sires by themselves some time (85 farms; 29.8%)
**Statistical analysis**

- Farmers that did not select sires by themselves (66 farms; 29.8%)
- Farmers that selected dairy sires by themselves some time (116 farms; 40.0%)
- Total of dairy cattle (305 head)
- 305-d milk yield
- Age at first calving

**Results and Discussion**

**Experience of dairy farmers**

- Experience (year)
- Themselves
- Some time
- Did not select

**Total of dairy cattle within farms**

- Total of dairy cattle (head)
- Themselves
- Some time
- Did not select
**Age at first calving of dairy cattle**

- **Trait:** Age at first calving (month)
- **Groups:**
  - **Themselves**: 28-29
  - **Some time**: 30-31
  - **Did not select**: 32-33

**Decision on dairy sire selection of dairy farmers**

**305-d milk yield of dairy cattle**

- **Trait:** 305-d milk yield (kg)
- **Groups:**
  - **Themselves**: 3,800 - 4,000 kg
  - **Some time**: 4,000 - 4,200 kg
  - **Did not select**: 4,200 - 4,400 kg

**Farm variance and ratio of farm variance to total variance**

<table>
<thead>
<tr>
<th>Traits</th>
<th>Farm variance</th>
<th>Ratio of farm variance to total variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>305-d milk yield (kg)</td>
<td>403,079 ± 43,242</td>
<td>0.35</td>
</tr>
<tr>
<td>Age at first calving (month)</td>
<td>18.17 ± 2.00</td>
<td>0.39</td>
</tr>
</tbody>
</table>

1 Standard error

**Breeding strategy to enhance milk production and other economically important traits**

**Farmers who selected dairy sires by themselves**

- **Sire**
  - Communication
  - Learning
  - Participation

**Artificial inseminator**

**Mating**

**Farmers who selected dairy sires by themselves some time**

**Dam**

**Farmer**

[Sarakul et al. (2009); Yearnkong et al. (2010)]
On-farm dairy genetic improvement

Selection

Mating

Sire

Pedigree

Artificial inseminator

Dam

Performance

Farm

Record Keeping

Rhone et al. (2008) and Yeamkong et al. (2010)

Conclusion

Farmers who selected dairy sires

Not select sire by themselves

Some time

305-d milk yield

305-d milk yield

305-d milk yield

Implication

The development of dairy farmers’ personal knowledge and understanding of genetic selection will help ensure the sustainability and profitability of Thai dairy farms

Acknowledgment

Thailand Research Fund through the Royal Golden Jubilee Ph.D. Program

Development of a Dairy Genetic-Genomic Evaluation System in Thailand Project

Kasetsart University, University of Florida

Tropical Animal Genetic Unit

Dairy farm in Thailand
การประชุมวิชาการสัตวศาสตร์แห่งชาติ ครั้งที่ 5
วันที่ 28-29 มิถุนายน 2559 ณ โรงแรมพูลแมน ราชบุรี จ.นครนายก