

13. ปรียพันธ์ อุดมประเสริฐ. การจัดการสุขภาพและผลผลิตในฟาร์มโคนม. นครปฐม: ภาควิชาสัตวศาสตร์ เหน้เวชวิทยาและวิทยาการสืบพันธุ์ คณะสัตวแพทยศาสตร์ มหาวิทยาลัยเกษตรศาสตร์ วิทยาเขตกำแพงแสน, 2537.
14. Niles D, Stewart ES. Using pregnancy rate to monitor reproductive management. In: Proceeding of 2001 Western dairy management conference April 4-6, 2001 Las Vegas, Nevada 2001;117-22.
15. Veerasak Punyapornwithaya, Sorn Teepati-makorn. Reproductive efficiency of dairy cows in the northern part of Thailand. Chiang Mai Veterinary Journal 2004;2:3-8.

## EVALUATION OF REPRODUCTIVE EFFICIENCY FROM DAIRY HERD HEALTH PROGRAM: A THREE-YEAR COMPARISON STUDY

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**Abstract** The objective of study was to evaluate reproductive efficiency of dairy cows in small holder farms enrolled dairy herd health program. Reproductive data were collected from 242 lactations of dairy cows in 38 farms during a three-year period starting from October 2000 to July 2004. The main factor was year of the operation of herd health program. Outcomes of interest were reproductive performance indices. For analyses, the differences between calving to first service, calving to conception were analyzed using liner mixed model with repeated measurement. The difference of service per conception by year was compared by generalized estimating equation (GEE) with Poisson distribution. The association between first service conception, proportion of cows inseminated within 90 days and proportion of cows pregnant within 120 days postpartum and year of operation were analyzed by GEE. The results showed that calving to first service, calving to conception in year 1 was declined as compared to year 3 ( $p < 0.05$ ). First service conception rate were not different across three years but service per conception in year 3 is lower than in year 1 ( $p < 0.05$ ). Cows in year 3 had a higher ratio of inseminated and pregnant cows at 90 days (odd ratio = 6.68;  $p < 0.01$ ) and 120 days postpartum (odd ratio = 8.67;  $p < 0.001$ ) than in year 1. The overall reproductive performance in dairy herds tended to be increased during the three-year study. This study indicated that the herd health program was beneficial to small dairy herd in term of improving reproductive efficiency. *Chiang Mai Veterinary Journal* 2006;4(2):107-115.

**Keywords:** dairy cow, dairy herd health program, reproduction

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