

Model test on the relationship feed energy and protein ratio to the production and quality of milk protein

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| Publons ID | (not set) |
| Wos ID | WOS:000446231400052 |
| Doi | 10.1088/1755-1315/102/1/012053 |
| Title | Model test on the relationship feed energy and protein ratio to the production and quality of milk protein |
| First Author | |
| Last Author | |
| Authors | Hartanto, R; Jantra, MAC; Santosa, SAB; Purnomoadi, A; |
| Publish Date | 2018 |
| Journal Name | INTERNATIONAL SYMPOSIUM ON FOOD AND AGRO-BIODIVERSITY (ISFA) 2017 |
| Citation | 1 |
| Abstract | <p>The purpose of this research was to find an appropriate relationship model between the feed energy and protein ratio with the amount of production and quality of milk proteins. This research was conducted at Getasan Sub-district, Semarang Regency, Central Java Province, Indonesia using 40 samples (Holstein Friesian cattle, lactation period II-III and lactation month 3-4). Data were analyzed using linear and quadratic regressions, to predict the production and quality of milk protein from feed energy and protein ratio that describe the diet. The significance of model was tested using analysis of variance. Coefficient of determination (R^2), residual variance (RV) and root mean square prediction error (RMSPE) were reported for the developed equations as an indicator of the goodness of model fit. The results showed no relationship in milk protein (kg), milk casein (%), milk casein (kg) and milk urea N (mg/dl) as function of CP/TDN. The significant relationship was observed in milk production (L or kg) and milk protein (%) as function of CP/TDN, both in linear and quadratic models. In addition, a quadratic change in milk production (L) ($P = 0.003$), milk production (kg) ($P = 0.003$) and milk protein concentration (%) ($P = 0.026$) were observed with increase of CP/TDN. It can be concluded that quadratic equation was the good fitting model for this research, because quadratic equation has larger R^2, smaller RV and smaller RMSPE than those of linear equation. Keywords: feed energy and protein ratio, milk production, milk protein, regression</p> |
| Publish Type | Book in series |
| Publish Year | 2018 |
| Page Begin | (not set) |
| Page End | (not set) |
| Issn | 1755-1307 |
| Eissn | |
| Url | https://www.webofscience.com/wos/woscc/full-record/WOS:000446231400052 |
| Author | SETYA AGUS SANTOSA, M.P |