Supplementary Table 1: Genetic (RG) and permanent environment (RPE) correlation in RN model between combination of intercept (1), first (2) and second (3) RN random coefficients. (HPD95), lower and upper bounds of the 95% highest posterior density region

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Trait** | **RG12** | **RG13** | **RG23** | **RPE12** | **RPE13** | **RPE23** |
| Protein % | **-0,395** | **-0,465** | **-0,377** | **0,134** | **-0,054** | **-0,892** |
| (-0,580/-0,210) | (-0,707/-0,107) | (-0,697/0,059) | (-0,086/0,376) | (-0,219/0,101) | (-0,971/-0,788) |
| Protein yield kg/day | **0,139** | **-0,031** | **0,793** | -0,066 | **-0,297** | **-0,854** |
| (-0,285/0,635 | (-0,551/0,441) | (0,141/0,984) | (-0,174/-0,038) | (-0,423/-0,167) | (-0,932/-0,743) |
| Fat % | **-0,102** | **0,458** | **0,552** | **-0,228** | **-0,568** | **-0,375** |
| (-0,509/0,241) | (-0,154/0,796) | (0,169/0,824) | (-0,496/0,164) | (-0,721/-0,336) | (-0,673/0,075) |
| Fat yield kg/day | **-0,008** | **0,638** | **0,383** | **-0,106** | **-0,421** | **-0,851** |
| (-0,682/0,514) | (0,248/0,939) | (-0,186/0,861) | (-0,217/-0,006) | (-0,515/0,337) | (-0,909/-0,759 |
| Milk kg/day | **0,255** | **0,844** | **-0,189** | **0,041** | **-0,447** | **-0,853** |
| **(**-0,173/0,672) | (0,646/0,968) | (-0,622/0,223) | (-0,059/0,158) | (-0,531/0,359) | (-0,942/-0,755) |
| FCM kg/day | **-0,959** | **-0,100** | **0,140** | **0,013** | **-0,338** | **-0,939** |
| (-0,993/-0,875) | (-0,590/0,363) | (-0,398/0,516) | (-0,089/0,107) | (-0,429/-0,270) | (-0,972/-0,887) |
| ECM kg/day | **-0,252** | **0,480** | **0,613** | **-0,036** | **-0,330** | **-0,850** |
| (-0,659/0,063) | (0,084/0,800) | (0,363/0,935) | (-0,177/0,109) | (-0,420/-0,218) | (-0,924/-0,741) |
| CHY % (x 100) | **-0,970** | **-0,041** | **-0,033** | **-0,163** | **-0,545** | **-0,442** |
| (-0,997/-0,933) | (-0,493/0,353) | (-0,418/0,399) | (-0,435/0,116) | (-0,837/-0,220) | (-0,893/0,077) |