

**Table S3 GEBV accuracies from prediction of crossbred genetic merit from purebred training data using GBLUP (scenarios 12-17) – MOST 50% related animals between training and validation populations**

| Trait | Scenario | $r^2$ | N training |      | N prediction | Accuracy            |                   |
|-------|----------|-------|------------|------|--------------|---------------------|-------------------|
|       |          |       | DL         | LW   | F1           | GBLUP <sup>cv</sup> | Bias <sup>*</sup> |
| AFI   | 12       | 0.45  | 1067       | 1389 | 144          | 0.05                | 0.49              |
| TNB   | 12       | 0.47  | 1066       | 1383 | 140          | 0.33                | 1.93              |
| LBW   | 12       | 0.79  | 1070       | 1385 | 143          | 0.34                | 0.67              |
| LVR   | 12       | 0.52  | 1069       | 1385 | 143          | 0.24                | 0.81              |

DL - Dutch Landrace, LW - Large White, F1 - cross between DL and LW

AFI- age at first insemination, TNB- total number of piglets born, LBW- litter birth weight, LVR- litter variation

<sup>cv</sup> - Estimate obtained by 20-random training-prediction populations

<sup>\*</sup> - Regression coefficient of the GEBV on the DEBV

$r^2$  - Mean reliability of deregressed estimated breeding values from the training population