**Table S1** Ingredient compositions and nutrient levels of basal diet of parental pigeons

|  |  |
| --- | --- |
| Ingredient compositions | Content, % |
| Corn | 42.55 |
| Wheat | 12.77 |
| Pea | 25.53 |
| Sorghum | 12.77 |
| Mung bean | 6.38 |
| Total | 100 |
| Health sand components |  |
| Limestone | 52.93 |
| Shell powder | 28.10 |
| Loess | 14.05 |
| Saline soil | 1.41 |
| Ferrous sulfate monohydrate | 0.23 |
| Premix1 | 3.28 |
| Total | 100 |
| Calculated nutrients2, % |  |
| Metabolizable energy (MJ/kg) | 12.31 |
| Crude protein | 13.50 |
| Crude fat | 2.67 |
| Calcium | 0.08 |
| Total phosphorous | 0.31 |

1The premixes provided the following per kg of diet: Vitamin A 5000 IU, Vitamin D3 2000 IU, Vitamin E 55 IU, Cu (as copper sulphate) 15 mg, Fe (as ferrous sulfate) 100 mg, Mn (as manganese sulfate) 45 mg, Zn (as zinc sulfate) 90 mg.

2Nutrition values were calculated from tables of feed composition and nutritive values in China (31st edition, 2020).

**Table S2** Formula and nutrition of artificial pigeon milk

|  |  |
| --- | --- |
| Compositions | Content, % |
| Corn | 40.55 |
| Wheat | 14.57 |
| Pea | 6.01 |
| Sorghum | 18.77 |
| Soybean meal | 10.00 |
| Fish meal | 1.00 |
| Colleseed oil | 2.10 |
| Casein | 5.00 |
| Premix1 | 2.00 |
| Total | 100 |
| Calculated nutrients, % |  |
| Metabolizable energy (MJ/kg) | 13.07 |
| Crude protein | 17.76 |
| Crude fat | 4.79 |
| Calcium | 0.15 |
| Total phosphorous | 0.38 |
| Analyzed nutrients, % |  |
| Crude protein | 17.87 |
| Crude fat | 4.85 |
| Calcium | 0.27 |
| Total phosphorous | 0.54 |

1The premix provided the following per kg of diet: Vitamin A 5000 IU, Vitamin E 50 IU, Vitamin D3 2000 IU, copper 15 mg (copper sulfate), manganese 45 mg (manganese sulfate), zinc 90 mg (zinc sulfate).