

Table S1. Forty-nine chicken breeds, strains and crosses used in the study and listed in accordance with TCM.

| Breed/population | Abbreviation | Origin | Initial breeds | Other | No. of samples | Sampling source ¹ , year |
|---|----------------|----------------------------|---|---|----------------|-------------------------------------|
| Egg-type breeds/populations | | | | | | |
| Leghorn Light Brown (or Italian Partridge) | LLB | Italy | local light breeds from Tuscany | probable random mating to Czech Golden | 19 | BC/RRIFAGB, 2016 |
| Minorca Black | MB | Spain, UK | local Minorcan chickens | probable random mating to PB and AoB | 19 | BC/RRIFAGB, 2016 |
| Russian White | RWG | Pushkin, Russia | local chickens mated to White Leghorn | produced from RWS using a single telic mating to White Leghorns | 30 | BC/RRIFAGB, 2016 |
| | RWS | Pushkin, Russia | local chickens mated to White Leghorns | an inbred strain selected for cold tolerance | 6 | BC/RRIFAGB, 2001 |
| | RWP | Sergiev Posad, Russia | local chickens mated to White Leghorns | samples obtained from an ARPRTI population | 11 | ARPRTI, 2001 |
| Meat and related breeds/populations | | | | | | |
| White Cornish, Line 1 | WC1 | England, Russia | local game chickens, Asil, White Malay, Indian Game, Cochin | parental line 1 (of commercial cross Smena-6) | 18 | SPBFS, 2006 |
| White Cornish, Line 2 | WC2 | | | parental line 2 (of commercial cross Smena-6) | 19 | SPBFS, 2006 |
| White Cornish × (Brahma Light × Sussex Light) | WC × (BL × SL) | Pushkin, Russia | WC, BL, SL | F ₁ hybrids bred <i>inter se</i> | 14 | BC/RRIFAGB, 2016 |
| White Cornish × (Sussex Light × Amrock) | WC × (SL × Ar) | | WC, SL, Ar | F ₁ hybrids bred <i>inter se</i> | 14 | BC/RRIFAGB, 2016 |
| Red White-tailed Dwarf | RWD | England | Plymouth Rock White, NH | a purebred parental strain (of imported commercial broiler cross) | 18 | BC/RRIFAGB, 2016 |
| Dual purpose breeds/populations | | | | | | |
| Egg-meat type and related breeds/populations | | | | | | |
| Zagorsk Salmon | ZS | Sergiev Posad, USSR/Russia | Russian White, NH, RIR, YC | probable random mating to FS | 18 | BC/RRIFAGB, 2016 |

| | | | | | | |
|---|-----|----------------------------------|---|---|----|---------------------|
| Pushkin | Pu | Pushkin, USSR/Russia | ABS, White Leghorn, Moscow White, PRB, commercial cross Broiler-6 | a purebred strain | 20 | BC/RRIFAGB, 2016 |
| Rhode Island Red | RIR | USA | Cochin, Java, Malay, Shanghai, Brown Leghorn | a non-selected population randomly mated to NH | 32 | BC/RRIFAGB, 2016 |
| Leningrad Mille Fleur | LMF | Pushkin, USSR/Russia | ABS, NH, PC | a single telic mating to Orloff | 21 | BC/RRIFAGB, 2016 |
| New Hampshire | NH | USA | RIR | probable random mating to MG, PC and RIR | 19 | BC/RRIFAGB, 2016 |
| Leningrad Golden- and-gray | LGG | Pushkin, USSR/Russia | ABS, White Leghorn, Moscow White, PRB, LLB, NH | a purebred strain | 20 | BC/RRIFAGB, 2016 |
| Pantsirevka Black | PB | Ulyanovsk Oblast, USSR/Russia | White Leghorn, RIR, NH, AoB, Plymouth Rock White | probable random mating to AoB and MB | 17 | BC/RRIFAGB, 2016 |
| <i>Meat-egg type and related breeds/populations</i> | | | | | | |
| Australorp Black Speckled | ABS | Pushkin, USSR/Russia | AoB | a purebred strain | 20 | BC/RRIFAGB, 2016 |
| Aurora Blue | AB | Pushkin, Russia | ABS | probable random mating to AoB | 20 | BC/RRIFAGB, 2016 |
| Australorp Black | AoB | Australia | Black Orpington, RIR, MB, White Leghorn, Langshan, Plymouth Rock | probable random mating to PB and MB | 9 | BC/RRIFAGB, 2016 |
| Amrock | Ar | USA | Dominique, Cochin Black, Java Black | probable random mating to PRB | 20 | BC/RRIFAGB, 2016 |
| Naked Neck | NN | Transylvania, Romania | local chickens | a purebred strain | 20 | BC/RRIFAGB, 2016 |
| Pervomai | Pm | USSR/Ukraine, Russia | Wyandotte White , RIR, YC | probable random mating to SL and BL | 20 | BC/RRIFAGB, 2016 |
| Plymouth Rock Barred | PRB | USA | Java Black, Brahma, Cochin White and Buff, Dominique, White-faced Black Spanish | probable random mating to Ar | 19 | BC/RRIFAGB, 2016 |
| Poltava Clay | PC | USSR/Ukraine | local chickens, Buff Orpington, NH, Wyandotte and others | a purebred strain | 17 | BC/RRIFAGB, 2016 |
| Sussex Light | SL | England | local chickens, Brahma, Cochin, Dorking | probable random mating to Pm and BL | 20 | BC/RRIFAGB, 2016 |

| | | | | | | |
|--|----------------|---------------------------|---|--|----|---------------------|
| Faverolles Salmon | FS | France | local chickens, Brahma, Houdan , Dorking, Cochin, Langshan | probable random mating to ZS | 20 | BC/RRIFAGB, 2016 |
| Tsarskoye Selo | Ts | Pushkin, Russia | PRB, PC, NH, commercial cross Broiler-6 | a purebred strain | 20 | BC/RRIFAGB, 2016 |
| Yurlov Crower | YC | Russia | local and game chickens, Brahma, Cochin, Langshan | of two varieties (silver and golden); probable random mating to UG | 20 | BC/RRIFAGB, 2016 |
| Sussex Light × Amrock | SL × Ar | Pushkin, Russia | SL, Ar | F ₁ hybrids bred <i>inter se</i> | 14 | BC/RRIFAGB, 2016 |
| Tsarskoye Selo × Sussex Light | Ts × SL | Pushkin, Russia | Ts, SL | F ₁ hybrids bred <i>inter se</i> | 14 | BC/RRIFAGB, 2016 |
| Tsarskoye Selo × (Sussex Light × Amrock) | Ts × (SL × Ar) | Pushkin, Russia | Ts, SL, Ar | F ₁ hybrids bred <i>inter se</i> | 14 | BC/RRIFAGB, 2016 |
| Brahma Light × Sussex Light | BL × SL | Pushkin, Russia | BL, SL | F ₁ hybrids bred <i>inter se</i> | 14 | BC/RRIFAGB, 2016 |
| Game and related breeds/populations | | | | | | |
| Orloff Mille Fleur | OM | Russia | local chickens, Gilan, Old English Game | a purebred strain | 20 | BC/RRIFAGB, 2016 |
| Moscow Game | MG | Russia | local chickens, Gilan, Old English Game, Malay, other game breeds from Belgium and Asia | probable random mating to NH and PC | 20 | BC/RRIFAGB, 2016 |
| Uzbek Game (Kulangi) | UG | Uzbekistan | local Uzbek game chickens | probable random mating to YC | 19 | BC/RRIFAGB, 2016 |
| Uzbek Game × Amrock | UG × Ar | Pushkin, Russia | UG, Ar | F ₁ hybrids bred <i>inter se</i> | 14 | BC/RRIFAGB, 2016 |
| Fancy and Bantam breeds/populations | | | | | | |
| Russian Crested | RC | Russia | local chickens | probable random mating to other breeds | 19 | BC/RRIFAGB, 2016 |
| Ukrainian Muffed | UM | Ukraine | local chickens | probable random mating to other breeds | 18 | BC/RRIFAGB, 2016 |
| Bantam Mille Fleur | BMF | Southeast Asia, Europe | local chickens | a purebred strain | 20 | BC/RRIFAGB, 2016 |
| Brahma Buff | BB | India, USA | Cochin, Gray Chittagong (of Malay type) | a purebred strain | 20 | BC/RRIFAGB, 2016 |

| | | | | | | |
|-------------------------------|------|-------------------------|--|---|----|------------------|
| Brahma Light | BL | India, USA | Cochin, Gray Chittagong (of Malay type) | a purebred strain | 20 | BC/RRIFAGB, 2016 |
| Hamburg Silver Spangled Dwarf | HSSD | Holland, United Kingdom | local North Sea coast chickens, chickens from Ottoman Empire | an inbred strain | 20 | BC/RRIFAGB, 2016 |
| Poland White-crested Black | PWB | Netherlands, Poland? | Local chickens, Czubatka chickens from Poland | a purebred strain | 18 | BC/RRIFAGB, 2016 |
| Silkie White | SW | China, Southeast Asia | local chickens | a purebred strain | 19 | BC/RRIFAGB, 2016 |
| Cochin Bantam (Pekin Bantam) | CB | China | Cochin | of three varieties (black, mottled, white) | 20 | BC/RRIFAGB, 2016 |
| Frizzle | F | South Asia, Europe | local chickens | various dual purpose breeds mated, with keeping the frizzle trait | 20 | BC/RRIFAGB, 2016 |
| Pavlov Spangled | PS | Pushkin, Russia | extinct old Russian native breed; currently, being restored from FS, Appenzeller, Padovana, SW, Houdan | of two varieties (silver and golden) | 20 | BC/RRIFAGB, 2016 |
| Pavlov White | PW | Pushkin, Russia | extinct old Russian native breed; currently, being restored from FS, Appenzeller, Padovana, SW, Houdan | a purebred strain | 15 | BC/RRIFAGB, 2016 |

¹ Abbreviations: BC/RRIFAGB, Bioresource Collection/Russian Research Institute of Farm Animal Genetics and Breeding; ARPRTI, All-Russian Poultry Research and Technological Institute; SPBFS, State Poultry Breeder Farm Smena.

Table S2. Phenotypic traits ^{1,2} in females among the 39 studied chicken gene pool breeds/populations listed in accordance with PCM.

| Breed/population ³ | Morphometric traits ⁴ | | | | | | | | | | | | | | Egg traits ⁴ | |
|--|----------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|---------------|---------------|----------------|---------------|---------------|-------------------------|----------------|
| | BW | BoL | BSL | BNL | KL | CG | CD | PA | DSJ | DHJ | FL | TL | ShL | SG | EP | EW |
| Egg-type and related breeds/populations | | | | | | | | | | | | | | | | |
| LLB | 2.02 ±0.05 | 15.04 ±0.25 | 16.32 ±0.15 | 32.01 ±0.35 | 9.27 ±0.11 | 31.64 ±0.40 | 10.29 ±0.20 | 75.90 ±1.10 | 6.05 ±0.08 | 7.78 ±0.14 | 8.16 ±0.10 | 11.92 ±0.19 | 8.59 ±0.08 | 3.68 ±0.06 | 166.00 ±4.00 | 58.00 ±0.25 |
| RWG | 1.95 ±0.07 | 15.55 ±0.33 | 16.00 ±0.17 | 32.47 ±0.40 | 9.35 ±0.24 | 30.19 ±0.36 | 10.75 ±0.27 | 78.55 ±2.28 | 5.75 ±0.14 | 7.64 ±0.27 | 8.68 ±0.21 | 12.76 ±0.25 | 8.87 ±0.13 | 3.56 ±0.06 | 205.00 ±5.00 | 55.50 ±0.50 |
| AB | 2.07 ±0.07 | 15.87 ±0.20 | 16.57 ±0.17 | 32.24 ±0.33 | 10.05 ±0.19 | 32.00 ±0.54 | 10.46 ±0.17 | 74.42 ±1.15 | 6.76 ±0.15 | 7.93 ±0.11 | 8.64 ±0.15 | 12.72 ±0.18 | 8.70 ±0.12 | 3.85 ±0.07 | 165.00 ±5.00 | 57.00 ±1.00 |
| Ar | 2.17 ±0.11 | 15.65 ±0.30 | 16.10 ±0.29 | 33.17 ±0.41 | 10.07 ±0.37 | 31.48 ±0.71 | 10.87 ±0.19 | 76.64 ±1.76 | 6.89 ±0.18 | 8.32 0.27 | 8.39 ±0.18 | 13.07 ±0.22 | 9.04 ±0.11 | 3.65 ±0.08 | 162.50 ±2.50 | 59.50 ±0.50 |
| NN | 1.96 ±0.12 | 14.56 ±0.32 | 16.52 ±0.21 | 30.78 ±0.54 | 9.76 ±0.29 | 30.62 ±0.61 | 10.42 ±0.27 | 72.0 ±2.1 | 6.07 ±0.18 | 8.08 ±0.21 | 8.44 ±0.19 | 12.54 ±0.19 | 8.92 ±0.16 | 3.63 ±0.09 | 127.50 ±2.50 | 57.50 ±0.50 |
| F | 1.85 ±0.03 | 15.22 ±0.23 | 16.53 ±0.33 | 31.88 ±0.34 | 9.60 ±0.16 | 28.64 ±0.37 | 10.18 ±0.14 | 71.7 ±1.9 | 6.04 ±0.13 | 5.30 ±0.10 | 8.25 ±0.26 | 12.84 ±0.12 | 8.87 ±0.34 | 3.74 ±0.06 | 127.50 ±2.50 | 59.00 ±1.00 |
| Dual purpose and related breeds/populations | | | | | | | | | | | | | | | | |
| Egg-meat type and related breeds/populations | | | | | | | | | | | | | | | | |
| MB | 2.57 ±0.14 | 15.71 ±0.27 | 18.50 ±0.27 | 34.36 ±0.37 | 10.84 ±0.21 | 35.10 ±0.63 | 12.14 ±0.31 | 79.00 ±1.10 | 6.93 ±0.19 | 9.22 ±0.31 | 9.55 ±0.27 | 13.73 ±0.22 | 10.1 ±0.14 | 4.07 ±0.05 | 165.00 ±5.00 | 55.50 ±1.50 |
| RIR | 2.35 ±0.09 | 16.73 ±0.23 | 16.98 ±0.25 | 33.47 ±0.38 | 9.64 ±0.27 | 34.26 ±0.61 | 11.11 ±0.14 | 86.18 ±2.08 | 7.15 ±0.15 | 8.27 ±0.16 | 9.15 ±0.25 | 12.92 ±0.39 | 8.99 ±0.16 | 4.17 ±0.07 | 175.00 ±5.00 | 59.50 ±0.50 |
| LGG | 2.33 ±0.07 | 15.72 ±0.22 | 17.34 ±0.18 | 33.60 ±0.56 | 10.33 ±0.15 | 31.30 ±0.29 | 11.08 ±0.17 | 84.70 ±1.10 | 6.59 ±0.11 | 8.87 ±0.24 | 9.32 ±0.23 | 12.74 ±0.25 | 9.38 ±0.16 | 3.92 ±0.06 | 182.50 ±2.50 | 59.00 ±1.00 |
| PB | 2.44 ±0.13 | 16.27 ±0.31 | 18.02 ±0.27 | 34.56 ±0.69 | 10.41 ±0.20 | 32.24 ±0.52 | 11.35 ±0.23 | 78.80 ±1.60 | 6.70 ±0.21 | 8.51 ±0.16 | 9.28 ±0.21 | 13.54 ±0.24 | 9.78 ±0.14 | 4.12 ±0.05 | 165.00 ±5.00 | 61.50 ±0.50 |
| SL | 2.54 ±0.10 | 16.96 ±0.25 | 17.23 ±0.24 | 33.31 ±0.53 | 10.13 ±0.17 | 33.51 ±0.78 | 10.91 ±0.22 | 82.67 ±2.11 | 7.19 ±0.10 | 7.53 ±0.23 | 9.16 ±0.16 | 13.33 ±0.27 | 9.29 ±0.17 | 3.84 ±0.05 | 157.50 ±2.50 | 60.00 ±1.00 |
| FS | 2.34 ±0.11 | 16.00 ±0.24 | 17.62 ±0.28 | 33.51 ±0.45 | 11.60 ±0.28 | 35.38 ±0.65 | 11.25 ±0.29 | 75.9 ±1.0 | 6.75 ±0.13 | 8.68 ±0.21 | 9.51 ±0.28 | 13.33 ±0.25 | 9.29 ±0.19 | 4.27 ±0.10 | 132.50 ±2.50 | 57.00 ±1.00 |

| | | | | | | | | | | | | | | | | |
|--|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|---------------|----------------|----------------|----------------|---------------|------------------|----------------|
| RC | 2.15 ±0.07 | 14.5 ±0.56 | 17.33 ±0.27 | 34.20 ±0.51 | 10.52 ±0.13 | 33.9 ±0.35 | 11.55 ±0.20 | 77.9 ±2.7 | 7.28 ±0.11 | 8.23 ±0.20 | 8.83 ±0.18 | 13.39 ±0.29 | 9.42 ±0.19 | 3.93 ±0.05 | 151.50 ±3.50 | 58.50 ±1.50 |
| BB | 2.21 ±0.12 | 17.15 ±0.33 | 17.84 ±0.30 | 34.27 ±0.54 | 11.45 ±0.21 | 32.73 ±0.58 | 11.11 ±0.27 | 70.27 ±1.34 | 6.86 ±0.13 | 7.48 ±0.31 | 10.11 ±0.22 | 14.17 ±0.22 | 9.57 ±0.26 | 4.28 ±0.14 | 128.00 ±3.00 | 56.00 ±1.00 |
| BL | 2.18 ±0.07 | 16.37 ±0.17 | 17.41 ±0.18 | 32.56 ±0.34 | 11.17 ±0.20 | 32.07 ±0.33 | 11.38 ±0.26 | 71.50 ±1.14 | 7.02 ±0.16 | 8.01 ±0.15 | 9.32 ±0.14 | 13.74 ±0.14 | 9.26 ±0.19 | 3.77 ±0.11 | 131.50 ±1.50 | 58.00 ±1.00 |
| Meat-egg type and related breeds/populations | | | | | | | | | | | | | | | | |
| ZS | 2.61 ±0.10 | 15.59 ±0.32 | 17.99 ±0.25 | 34.39 ±0.47 | 10.91 ±0.22 | 34.21 ±0.56 | 11.37 ±0.32 | 83.80 ±1.80 | 7.32 ±0.16 | 9.41 ±0.19 | 9.60 ±0.17 | 13.86 ±0.15 | 9.25 ±0.14 | 4.00 ±0.04 | 170.00 ±10.00 | 58.50 ±0.50 |
| Pu | 2.50 ±0.08 | 15.79 ±0.19 | 18.23 ±0.20 | 34.53 ±0.42 | 10.95 ±0.16 | 31.55 ±.35 | 11.38 ±0.13 | 81.20 ±1.50 | 6.72 ±0.08 | 8.66 ±0.25 | 9.77 ±0.34 | 13.73 ±0.26 | 10.16 ±0.10 | 3.85 ±0.06 | 215.00 ±5.00 | 61.50 ±0.50 |
| LMF | 2.25 ±0.06 | 15.67 ±0.28 | 17.65 ±0.26 | 32.73 ±0.44 | 10.58 ±0.14 | 31.53 ±0.35 | 10.73 ±0.19 | 77.20 ±1.60 | 6.80 ±0.10 | 8.22 ±0.12 | 9.03 ±0.23 | 13.81 ±0.27 | 9.52 ±0.15 | 3.98 ±0.06 | 185.00 ±5.00 | 61.50 ±0.50 |
| NH | 2.38 ±0.06 | 16.29 ±0.29 | 17.93 ±0.19 | 34.78 ±0.22 | 10.72 ±0.13 | 33.97 ±0.46 | 11.25 ±0.16 | 82.70 ±1.10 | 7.26 ±0.17 | 9.27 ±0.21 | 8.88 ±0.15 | 13.25 ±0.44 | 10.01 ±0.33 | 4.13 ±0.05 | 205.00 ±5.00 | 59.50 ±0.50 |
| ABS | 2.78 ±0.08 | 16.35 ±0.21 | 18.48 ±0.18 | 35.54 ±0.38 | 11.01 ±0.27 | 34.77 ±0.43 | 12.17 ±0.31 | 79.10 ±1.20 | 7.45 ±0.14 | 9.58 ±0.17 | 9.68 ±0.13 | 14.06 ±0.23 | 10.03 ±0.15 | 4.13 ±0.10 | 157.50 ±2.50 | 59.00 ±1.00 |
| AoB | 2.81 ±0.07 | 16.15 ±0.42 | 17.72 ±0.30 | 35.11 ±0.40 | 10.53 ±0.18 | 34.28 ±0.54 | 11.92 ±0.21 | 88.7 ±1.4 | 6.91 ±0.16 | 9.43 ±0.38 | 9.33 ±0.15 | 14.06 ±0.09 | 9.94 ±0.16 | 4.13 ±0.06 | 157.50 ±2.50 | 59.00 ±1.00 |
| Pm | 2.72 ±0.14 | 16.70 ±0.31 | 17.85 ±0.25 | 35.39 ±0.46 | 10.85 ±0.17 | 35.11 ±0.62 | 11.17 ±0.18 | 75.4 ±2.1 | 7.27 ±0.15 | 8.76 ±0.25 | 9.80 ±0.15 | 14.05 ±0.15 | 10.12 ±0.15 | 4.12 ±0.07 | 152.00 ±3.00 | 58.50 ±0.50 |
| PRB | 2.46 ±0.09 | 15.80 ±0.26 | 18.47 ±0.22 | 33.61 ±0.67 | 10.30 ±0.26 | 31.45 ±0.43 | 10.34 ±0.23 | 77.55 ±1.16 | 6.78 ±0.21 | 9.46 ±0.66 | 9.95 ±0.42 | 12.85 ±0.50 | 9.73 ±0.17 | 4.02 ±0.03 | 162.50 ±2.50 | 61.50 ±0.50 |
| PC | 2.30 ±0.06 | 16.65 ±0.23 | 19.13 ±0.20 | 34.14 ±0.55 | 11.25 ±0.19 | 31.80 ±0.15 | 11.48 ±0.19 | 76.09 ±1.48 | 6.98 ±0.15 | 8.56 ±0.13 | 9.92 ±0.19 | 14.46 ±0.18 | 10.41 ±0.12 | 4.16 ±0.09 | 142.50 ±2.50 | 60.00 ±1.00 |
| Ts | 2.38 ±0.04 | 15.73 ±0.22 | 18.03 ±0.12 | 34.38 ±0.37 | 11.46 ±0.10 | 31.89 ±0.25 | 11.90 ±0.15 | 83.1 ±1.3 | 6.77 ±0.09 | 8.74 ±0.12 | 9.60 ±0.13 | 14.17 ±0.10 | 10.22 ±0.09 | 4.06 ±0.04 | 147.50 ±2.50 | 60.50 ±1.50 |
| YC | 2.87 ±0.10 | 16.01 ±0.50 | 18.27 ±0.27 | 35.98 ±0.63 | 10.98 ±0.18 | 32.43 ±0.08 | 12.07 ±0.14 | 78.4 ±3.6 | 6.43 ±0.19 | 9.06 ±0.14 | 9.34 ±0.37 | 13.97 ±0.43 | 10.67 ±0.10 | 4.15 ±0.08 | 137.50 ±2.50 | 61.00 ±1.00 |
| OM | 2.45 ±0.11 | 16.30 ±0.30 | 18.97 ±0.27 | 36.05 ±0.54 | 10.80 ±0.14 | 32.33 ±0.52 | 11.38 ±0.25 | 75.6 ±0.8 | 7.16 ±0.11 | 8.26 ±0.21 | 10.15 ±0.27 | 14.19 ±0.21 | 10.13 ±0.16 | 4.08 ±0.04 | 132.50 ±2.50 | 56.00 ±1.00 |
| UM | 2.68 ±0.10 | 16.29 ±0.33 | 18.34 ±0.20 | 34.16 ±0.40 | 11.10 ±0.36 | 35.4 ±0.74 | 12.08 ±0.19 | 78.3 ±1.4 | 7.24 ±0.18 | 9.22 ±0.29 | 9.62 ±0.20 | 14.00 ±0.16 | 10.00 ±0.15 | 4.03 ±0.09 | 137.50 ±2.50 | 57.00 ±1.00 |
| Meat-type and related breeds/populations | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | |
|---------------------------------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|----------------|----------------|----------------|---------------|-----------------|----------------|
| WC × (BL × SL) | 5.63 ±0.19 | 19.62 ±0.26 | 21.21 ±0.19 | 35.07 ±0.34 | 14.34 ±0.22 | 14.32 ±0.48 | 11.78 ±0.19 | 124.5 ±2.5 | 10.50 ±0.13 | 9.15 ±0.22 | 10.20 ±0.17 | 15.22 ±0.16 | 11.32 ±0.14 | 5.13 ±0.04 | 157.50 ±2.50 | 59.50 ±0.50 |
| Game breeds/populations | | | | | | | | | | | | | | | | |
| MG | 2.94 ±0.09 | 16.73 ±0.21 | 18.77 ±0.15 | 36.23 ±0.49 | 11.45 ±0.20 | 35.12 ±0.46 | 12.24 ±0.19 | 76.3 ±0.9 | 7.24 ±0.12 | 9.61 ±0.17 | 10.31 ±0.21 | 14.83 ±0.14 | 10.63 ±0.11 | 4.30 ±0.02 | 135.00 ±5.00 | 59.50 ±1.50 |
| UG | 2.48 ±0.10 | 17.28 ±0.34 | 19.22 ±0.17 | 37.17 ±0.37 | 11.23 ±0.26 | 34.82 ±0.29 | 12.04 ±0.19 | 78.8 ±1.8 | 7.48 ±0.11 | 9.67 ±0.19 | 10.08 ±0.08 | 14.52 ±0.16 | 10.85 ±0.15 | 4.55 ±0.04 | 102.50 ±2.50 | 60.00 ±1.00 |
| Fancy breeds/populations | | | | | | | | | | | | | | | | |
| PWB | 1.60 ±0.08 | 13.74 ±0.33 | 15.00 ±0.25 | 29.70 ±0.58 | 9.06 ±0.23 | 30.30 ±0.72 | 9.91 ±0.21 | 71.5 ±1.5 | 6.09 ±0.16 | 7.11 ±0.16 | 7.91 ±0.16 | 11.49 ±0.24 | 7.89 ±0.16 | 3.20 ±0.09 | 123.00 ±3.00 | 55.00 ±1.00 |
| PS | 1.52 ±0.07 | 13.72 ±0.29 | 14.81 ±0.25 | 29.23 ±0.42 | 8.74 ±0.25 | 28.94 ±0.45 | 9.70 ±0.39 | 73.8 ±1.6 | 5.99 ±0.09 | 7.12 ±0.26 | 7.66 ±0.25 | 11.27 ±0.21 | 7.54 ±0.30 | 3.52 ±0.09 | 127.50 ±2.50 | 52.00 ±1.00 |
| PW | 1.67 ±0.05 | 13.40 ±0.19 | 14.89 ±0.29 | 29.88 ±0.47 | 9.02 ±0.11 | 30.36 ±0.31 | 10.06 ±0.22 | 76.5 ±1.8 | 5.93 ±0.06 | 7.05 ±0.15 | 7.52 ±0.19 | 11.72 ±0.18 | 7.56 ±0.20 | 3.46 ±0.09 | 120.50 ±2.50 | 48.00 ±1.00 |
| Bantam and related breeds/populations | | | | | | | | | | | | | | | | |
| RWD | 1.09±0.07 | 12.57± 0.20 | 13.44 ±0.22 | 25.14± 0.28 | 8.58± 0.11 | 23.8± 0.16 | 8.32± 0.23 | 71.25 2.6± | 4.77± 0.16 | 5.22± 0.16 | 6.02 ±0.14 | 9.56± 0.12 | 6.42± 0.1 | 3.0± 0.07 | 162.50 ±2.50 | 57.50 ±0.50 |
| BMF | 0.88 ±0.03 | 11.46 ±0.26 | 12.42 ±0.23 | 25.53 ±0.42 | 7.96 ±0.15 | 22.43 ±0.30 | 7.91 ±0.14 | 73.18 ±1.31 | 4.77 ±0.08 | 5.32 ±0.13 | 6.23 ±0.17 | 9.07 ±0.14 | 6.16 ±0.12 | 2.85 ±0.04 | 123.50 ±3.50 | 47.00 ±1.00 |
| HSSD | 1.16 ±0.04 | 12.67 ±0.21 | 14.21 ±0.15 | 27.48 ±0.49 | 8.57 ±0.17 | 27.30 ±0.45 | 9.01 ±0.24 | 75.7 ±1.1 | 5.45 ±0.12 | 7.17 ±0.12 | 6.84 ±0.13 | 9.98 ±0.16 | 7.26 ±0.13 | 2.94 ±0.04 | 122.00 ±2.00 | 48.50 ±0.50 |
| SW | 0.86 ±0.03 | 11.62 ±0.22 | 12.58 ±0.13 | 23.96 ±0.42 | 7.49 ±0.12 | 23.48 ±0.39 | 7.88 ±0.09 | 75.55 ±2.51 | 4.74 ±0.10 | 5.59 ±0.22 | 6.20 ±0.22 | 9.45 ±0.16 | 6.19 ±0.18 | 3.22 ±0.03 | 81.50 ±1.50 | 39.00 ±1.00 |
| CB | 0.76 ±0.02 | 10.25 ±0.24 | 10.81 ±0.26 | 22.43 ±0.50 | 6.92 ±0.11 | 22.12 ±0.38 | 7.51 ±0.12 | 62.73 ±0.90 | 4.45 ±0.07 | 4.89 ±0.10 | 6.00 ±0.20 | 7.71 ±0.17 | 4.69 ±0.09 | 2.56 ±0.05 | 133.00 ±3.00 | 57.50 ±0.50 |

¹ BW, body weight (kg); BoL, body length (cm); BSL, body slanting length (cm); BNL, body and neck length (cm); KL, keel length (cm); CG, chest girth (cm); CD, chest depth (cm); PA, pectoral angle (°); DSJ, distance between shoulder joints (cm); DHJ, distance between hip joints (cm); FL, femur length (cm); TL, tibia length (cm); ShL, shank length (cm); SG, shank girth (cm); EP, 52-week egg production (eggs); EW, egg weight (g).

² The table values represent mean ± standard error and were obtained as a result of own measurements performed in mature females.

³ Abbreviations for breed names are given in accordance with Table S1.

⁴ According to the information reported in: [Fundamental Research Program of State Academies of Sciences for 2013–2020. Inventory and development of the Genetic Collection of Rare and Endangered Chicken Breeds: research report (final): Direction of FSI: Zootechnics. 156 / Russian Research Institute of Farm Animal Genetics and Breeding – Branch of the L. K. Ernst Federal Science Center for Animal Husbandry; Supervisor O. I. Stanishevskaya. St. Petersburg–Pushkin, 2017; pp. 71–72; 124 p.; SR No. AAAA-A17-11121950099-1; Inv. No. 1; ISSA FASO Project No. 0600-2017-0011.

Table S3. Phenotypic traits ^{1,2} in males among the 39 studied chicken gene pool breeds/populations listed in accordance with PCM.

| Breed/population ³ | Morphometric traits ⁴ | | | | | | | | | | | | | |
|--|----------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|----------------|----------------|----------------|----------------|---------------|
| | BW | BoL | BSL | BNL | KL | CG | CD | PA | DSJ | DHJ | FL | TL | ShL | SG |
| Egg-type and related breeds/populations | | | | | | | | | | | | | | |
| LLB | 2.79 ±0.16 | 17.40 ±0.25 | 19.73 ±0.43 | 34.03 ±1.65 | 13.03 ±0.66 | 34.77 ±0.97 | 11.30 ±0.93 | 76.70 ±1.9 | 7.53 ±0.22 | 9.50 ±0.35 | 10.00 ±0.44 | 15.03 ±0.18 | 11.07 ±0.24 | 4.73 ±0.09 |
| RWG | 2.37 ±0.08 | 16.86 ±0.47 | 17.82 ±0.32 | 34.40 ±0.85 | 11.30 ±0.26 | 34.40 ±0.46 | 10.52 ±0.51 | 79.60 ±1.44 | 7.02 ±0.19 | 8.94 ±0.44 | 9.66 ±0.43 | 14.82 ±0.37 | 10.44 ±0.13 | 4.36 ±0.09 |
| AB | 2.68 ±0.10 | 18.64 ±0.40 | 19.28 ±0.47 | 33.5 ±0.61 | 12.04 ±0.44 | 36.4 ±0.68 | 12.34 ±0.37 | 70.4 ±2.48 | 7.66 ±0.13 | 8.58 ±0.14 | 10.3 ±0.15 | 15.7 ±0.30 | 11.22 ±0.25 | 4.72 ±0.10 |
| Ar | 2.61 ±0.10 | 17.82 ±0.54 | 18.80 ±0.22 | 35.68 ±0.21 | 12.20 ±0.26 | 33.04 ±0.37 | 11.86 ±0.33 | 78.40 ±2.66 | 7.78 ±0.12 | 8.56 ±0.19 | 9.88 ±0.26 | 15.70 ±0.10 | 10.90 ±0.19 | 4.46 ±0.07 |
| NN | 2.78 ±0.07 | 16.76 ±0.75 | 19.22 ±0.23 | 33.56 ±0.54 | 11.66 ±0.34 | 36.10 ±1.10 | 12.16 ±0.38 | 77.2 ±1.9 | 7.96 ±0.10 | 8.94 ±0.25 | 10.34 ±0.22 | 15.82 ±0.25 | 11.16 ±0.25 | 4.72 ±0.12 |
| F | 2.74 ±0.02 | 16.58 ±0.17 | 17.32 ±0.26 | 35.90 ±0.41 | 11.3 ±0.33 | 32.94 ±0.25 | 10.94 ±0.60 | 73.15 ±3.57 | 6.92 ±0.12 | 6.78 ±0.21 | 9.21 ±0.26 | 55 ±0.21 | 10.5 ±0.22 | 4.19 ±0.22 |
| Dual purpose and related breeds/populations | | | | | | | | | | | | | | |
| Egg-meat type and related breeds/populations | | | | | | | | | | | | | | |
| MB | 2.56 ±0.15 | 17.63 ±0.86 | 20.43 ±0.55 | 35.03 ±0.58 | 12.13 ±0.38 | 35.70 ±1.80 | 12.90 ±0.26 | 83.70 ±0.70 | 7.93 ±0.15 | 9.27 ±0.35 | 11.93 ±0.99 | 16.30 ±0.01 | 12.60 ±0.31 | 4.97 ±0.20 |
| RIR | 2.99 ±0.09 | 18.32 ±0.32 | 19.70 ±0.28 | 36.28 ±0.69 | 12.42 ±0.27 | 38.20 ±0.33 | 12.52 ±0.12 | 78.00 ±1.97 | 8.06 ±0.22 | 9.54 ±0.30 | 10.62 ±0.28 | 16.04 ±0.26 | 11.18 ±0.32 | 4.92 ±0.12 |
| LGG | 3.13 ±0.12 | 18.99 ±0.35 | 20.49 ±0.38 | 38.29 ±0.86 | 12.12 ±0.18 | 36.68 ±0.62 | 12.40 ±0.24 | 77.2 ±1.80 | 8.16 ±0.18 | 9.98 ±0.22 | 10.59 ±0.15 | 16.00 ±0.18 | 11.85 ±0.22 | 4.89 ±0.12 |
| PB | 3.01 ±0.08 | 17.70 ±0.12 | 20.18 ±0.29 | 36.20 ±0.91 | 11.65 ±0.52 | 37.20 ±0.98 | 12.80 ±0.32 | 80.3 ±2.80 | 8.13 ±0.29 | 9.03 ±0.32 | 10.90 ±0.11 | 15.95 ±0.30 | 11.98 ±0.41 | 5.23 ±0.06 |
| SL | 2.83 ±0.15 | 18.54 ±0.34 | 19.78 ±0.47 | 36.56 ±0.80 | 12.28 ±0.41 | 36.24 ±0.85 | 11.80 ±0.45 | 79.00 ±5.29 | 8.48 ±0.25 | 9.38 ±0.43 | 10.56 ±0.52 | 16.02 ±0.48 | 11.64 ±0.51 | 4.66 ±0.16 |
| FS | 2.94 ±0.13 | 16.23 ±0.34 | 19.60 ±0.15 | 38.30 ±0.40 | 11.87 ±0.32 | 37.47 ±0.19 | 12.47 ±0.44 | 76.7 ±2.7 | 7.93 ±0.19 | 10.07 ±0.52 | 10.90 ±0.46 | 16.17 ±0.44 | 11.90 ±0.49 | 5.07 ±0.09 |
| RC | 3.04 ±0.09 | 17.55 ±0.90 | 20.13 ±0.49 | 37.95 ±0.92 | 12.40 ±0.82 | 37.3 ±0.82 | 12.38 ±0.74 | 84.8 ±2.8 | 8.53 ±0.23 | 9.83 ±0.37 | 10.58 ±0.32 | 16.05 ±0.48 | 12.13 ±0.18 | 5.13 ±0.06 |
| BB | 2.73 ±0.11 | 19.40 ±0.69 | 20.26 ±0.45 | 37.58 ±1.64 | 13.14 ±0.33 | 35.74 ±0.82 | 11.88 ±0.33 | 67.00 ±2.77 | 7.92 ±0.15 | 8.16 ±0.39 | 11.70 ±0.38 | 16.60 ±0.46 | 12.02 ±0.30 | 4.72 ±0.16 |
| BL | 2.85 | 18.76 | 19.78 | 37.88 | 12.54 | 35.22 | 11.38 | 76.60 | 8.22 | 8.88 | 10.78 | 16.68 | 11.74 | 5.22 |

| | | | | | | | | | | | | | | |
|---|---------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|----------------|----------------|----------------|----------------|----------------|---------------|
| | ±0.11 | ±0.40 | ±0.34 | ±0.50 | ±0.18 | ±0.49 | ±0.35 | ±3.23 | ±0.15 | ±0.26 | ±0.18 | ±0.30 | ±0.19 | ±0.18 |
| <i>Meat-egg type and related breeds/populations</i> | | | | | | | | | | | | | | |
| ZS | 3.34 ±0.10 | 19.00 ±0.43 | 20.66 ±0.32 | 37.47 ±0.75 | 12.70 ±0.24 | 37.59 ±0.51 | 12.57 ±0.14 | 83.0 ±2.3 | 8.61 ±0.13 | 10.51 ±0.46 | 11.09 ±0.25 | 16.66 ±0.37 | 11.87 ±0.14 | 5.09 ±0.06 |
| Pu | 3.44 ±0.11 | 17.44 ±0.39 | 21.52 ±0.30 | 40.71 ±0.58 | 12.70 ±0.16 | 36.52 ±0.38 | 13.07 ±0.29 | 83.7 ±3.1 | 9.04 ±0.54 | 10.18 ±0.18 | 10.95 ±0.19 | 17.06 ±0.21 | 13.04 ±0.15 | 5.10 ±0.08 |
| LMF | 3.20 ±0.14 | 17.96 ±0.78 | 20.64 ±0.22 | 36.62 ±0.68 | 13.18 ±0.30 | 36.54 ±0.17 | 12.90 ±0.38 | 79.6 ±3.60 | 8.44 ±0.27 | 9.36 ±0.35 | 11.48 ±0.24 | 17.10 ±0.49 | 12.74 ±0.23 | 5.30 ±0.10 |
| NH | 3.24 ±0.24 | 17.70 ±0.20 | 21.45 ±0.25 | 40.30 ±0.01 | 12.50 ±0.70 | 37.20 ±0.70 | 13.15 ±0.15 | 80.0 ±5.00 | 9.00 ±0.10 | 10.80 ±0.00 | 10.95 ±0.35 | 17.45 ±0.75 | 12.55 ±0.35 | 5.05 ±0.25 |
| ABS | 3.18 ±0.14 | 18.33 ±0.58 | 19.93 ±0.34 | 38.40 ±0.84 | 12.97 ±0.58 | 40.50 ±0.81 | 12.77 ±1.16 | 79.7 ±1.7 | 8.50 ±0.44 | 10.13 ±0.69 | 11.77 ±0.37 | 16.80 ±0.42 | 12.77 ±0.38 | 5.33 ±0.20 |
| AoB | 3.57 ±0.09 | 18.90 ±0.88 | 20.55 ±0.66 | 39.60 ±1.57 | 12.08 ±0.44 | 37.83 ±0.74 | 12.78 ±0.31 | 92.8 ±5.4 | 8.93 ±0.54 | 9.80 ±0.23 | 11.48 ±0.36 | 17.18 ±0.55 | 12.58 ±0.20 | 5.03 ±0.10 |
| Pm | 3.29 ±0.22 | 20.20 ±0.50 | 22.30 ±0.64 | 42.47 ±0.82 | 12.90 ±0.12 | 36.43 ±0.58 | 12.80 ±0.32 | 79.0 ±2.0 | 8.43 ±0.34 | 10.07 ±0.47 | 11.40 ±0.26 | 17.10 ±0.26 | 12.63 ±0.35 | 5.40 ±0.21 |
| PRB | 3.50 ±0.07 | 20.50 ±0.79 | 22.80 ±0.44 | 41.77 ±1.46 | 13.10 ±0.40 | 36.53 ±0.35 | 12.53 ±0.37 | 77.3 ±0.7 | 8.07 ±0.09 | 9.73 ±0.27 | 12.57 ±0.33 | 17.57 ±0.23 | 13.10 ±0.12 | 5.40 ±0.23 |
| PC | 3.69 ±0.35 | 19.20 ±0.70 | 21.33 ±0.19 | 39.98 ±0.71 | 13.95 ±0.61 | 41.13 ±1.70 | 13.05 ±0.59 | 79.8 ±3.4 | 8.90 ±0.28 | 10.33 ±0.23 | 11.50 ±0.24 | 17.63 ±0.27 | 13.15 ±0.47 | 5.35 ±0.13 |
| Ts | 3.47 ±0.09 | 19.22 ±0.32 | 21.57 ±0.30 | 39.25 ±0.55 | 13.39 ±0.24 | 39.00 ±0.65 | 13.96 ±0.29 | 79.0 ±1.8 | 8.87 ±0.24 | 10.05 ±0.26 | 11.77 ±0.23 | 17.06 ±0.17 | 12.92 ±0.15 | 5.29 ±0.11 |
| YC | 3.62 ±0.19 | 18.75 ±0.25 | 20.25 ±0.05 | 40.10 ±0.20 | 12.65 ±0.55 | 38.25 ±0.25 | 11.95 ±0.05 | 87.5 ±4.5 | 9.70 ±2.30 | 10.55 ±0.35 | 10.95 ±0.05 | 16.85 ±0.05 | 13.00 ±0.20 | 5.05 ±0.15 |
| OM | 3.40 ±0.18 | 22.43 ±1.23 | 22.32 ±0.75 | 42.22 ±1.19 | 12.82 ±0.38 | 39.28 ±1.30 | 12.73 ±0.38 | 76.7 ±1.8 | 8.90 ±0.27 | 9.93 ±0.37 | 11.88 ±0.41 | 17.33 ±0.52 | 12.87±0.41 | 5.33 ±0.11 |
| UM | 3.18 ±0.14 | 18.77 ±0.98 | 21.33 ±0.19 | 37.13 ±0.56 | 13.10 ±0.17 | 38.03 ±1.03 | 12.17 ±0.12 | 81.7 ±6.4 | 8.70 ±0.25 | 9.63 ±0.37 | 11.00 ±0.59 | 16.37 ±0.44 | 12.30 ±0.32 | 4.97 ±0.27 |
| <i>Meat-type and related breeds/populations</i> | | | | | | | | | | | | | | |
| WC × (BL × SL) | 6.63 ±0.42 | 22.08 ±0.34 | 24.16 ±0.60 | 41.24 ±0.84 | 16.8 ±0.79 | 45.56 ±1.42 | 13.44 ±0.63 | 180 ±0.01 | 11.68 ±0.49 | 10.12 ±0.48 | 12.44 ±0.43 | 18.68 ±0.41 | 13.8 ±0.06 | 6.46 ±0.20 |
| <i>Game breeds/populations</i> | | | | | | | | | | | | | | |
| MG | 3.89 ±0.17 | 19.88 ±0.81 | 22.48 ±0.66 | 41.78 ±1.14 | 15.30 ±1.40 | 40.80 ±1.30 | 13.68 ±0.48 | 74.8 ±2.7 | 9.53 ±0.23 | 10.65 ±0.12 | 11.95 ±0.31 | 18.25 ±0.43 | 13.68 ±0.39 | 5.83 ±0.15 |
| UG | 3.83 | 20.10 | 23.10 | 43.88 | 13.03 | 40.23 | 12.80 | 77.8 | 9.00 | 10.53 | 12.75 | 19.38 | 14.43 | 5.80 |

| | | | | | | | | | | | | | | |
|---------------------------------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|---------------|---------------|----------------|----------------|---------------|
| | ±0.22 | ±1.05 | ±0.27 | ±1.59 | ±0.31 | ±0.43 | ±0.91 | ±1.4 | ±0.15 | ±0.34 | ±0.53 | ±0.28 | ±0.36 | ±0.16 |
| Fancy breeds/populations | | | | | | | | | | | | | | |
| PWB | 2.07 ±0.05 | 15.70 ±0.37 | 17.76 ±0.29 | 33.16 ±1.48 | 10.93 ±0.22 | 32.98 ±0.67 | 10.69 ±0.23 | 72.0 ±1.8 | 6.99 ±0.15 | 8.16 ±0.18 | 9.14 ±0.29 | 13.60 ±0.27 | 10.35 ±0.18 | 4.09 ±0.11 |
| PS | 1.96 ±0.08 | 14.93 ±0.38 | 16.87 ±0.26 | 32.77 ±0.48 | 10.05 ±0.26 | 33.23 ±0.70 | 10.42 ±0.43 | 77.8 ±2.0 | 7.10 ±0.10 | 8.45 ±0.22 | 9.35 ±0.23 | 13.58 ±0.19 | 9.38 ±0.24 | 4.15 ±0.18 |
| PW | 2.15 ±0.09 | 16.37 ±0.34 | 18.02 ±0.33 | 34.33 ±0.76 | 10.90 ±0.42 | 34.40 ±0.77 | 11.13 ±0.47 | 78.2 ±1.9 | 7.47 ±0.16 | 8.38 ±0.24 | 9.47 ±0.21 | 14.63 ±0.63 | 9.88 ±0.29 | 4.48 ±0.19 |
| Bantam and related breeds/populations | | | | | | | | | | | | | | |
| RWD | 1.36 ±0.05 | 13.62 ±0.28 | 14.49 ±0.34 | 28.36 ±0.19 | 9.6 ±0.19 | 27.68 ±0.67 | 9.52 ±0.15 | 64.0 ±3.7 | 6.08 ±0.16 | 5.58 ±0.24 | 7.72 ±0.44 | 11.42 ±0.18 | 8.22 ±0.32 | 3.98 ±0.19 |
| BMF | 1.16 ±0.03 | 13.18 ±0.42 | 14.83 ±0.23 | 29.58 ±1.90 | 9.40 ±0.29 | 25.48 ±0.38 | 8.78 ±0.28 | 77.75 ±4.40 | 5.45 ±0.12 | 6.13 ±0.33 | 7.68 ±0.27 | 11.15 ±0.17 | 8.00 ±0.17 | 3.53 ±0.08 |
| HSSD | 1.46 ±0.08 | 14.05 ±0.26 | 15.35 ±0.33 | 30.59 ±0.51 | 9.25 ±0.29 | 29.03 ±0.50 | 9.46 ±0.33 | 73.6 ±1.50 | 6.56 ±0.20 | 7.36 ±0.32 | 8.03 ±0.18 | 11.63 ±0.23 | 8.79 ±0.22 | 3.69 ±0.06 |
| SW | 1.16 ±0.07 | 13.10 ±0.33 | 14.38 ±0.29 | 27.52 ±0.89 | 9.14 ±0.28 | 25.70 ±0.58 | 9.18 ±0.15 | 70.20 ±2.33 | 5.62 ±0.19 | 6.88 ±0.31 | 7.36 ±0.29 | 11.54 ±0.19 | 7.66 ±0.14 | 3.82 ±0.13 |
| CB | 0.98 ±0.04 | 11.62 ±0.40 | 12.62 ±0.47 | 25.34 ±0.43 | 8.28 ±0.27 | 23.90 ±0.55 | 8.16 ±0.13 | 61.60 ±0.81 | 5.30 ±0.17 | 5.50 ±0.26 | 7.30 ±0.21 | 9.42 ±0.30 | 5.86 ±0.34 | 3.14 ±0.15 |

¹ BW, body weight (kg); BoL, body length (cm); BSL, body slanting length (cm); BNL, body and neck length (cm); KL, keel length (cm); CG, chest girth (cm); CD, chest depth (cm); PA, pectoral angle (°); DSJ, distance between shoulder joints (cm); DHJ, distance between hip joints (cm); FL, femur length (cm); TL, tibia length (cm); ShL, shank length (cm); SG, shank girth (cm); EP, 52-week egg production (eggs); EW, egg weight (g).

² The table values represent mean ± standard error and were obtained as a result of own measurements performed in mature males.

³ Abbreviations for breed names are given in accordance with Table S1.

⁴ According to the information reported in: [Fundamental Research Program of State Academies of Sciences for 2013–2020. Inventory and development of the Genetic Collection of Rare and Endangered Chicken Breeds: research report (final): Direction of FSI: Zootechnics. 156 / Russian Research Institute of Farm Animal Genetics and Breeding – Branch of the L. K. Ernst Federal Science Center for Animal Husbandry; Supervisor O. I. Stanishevskaya. St. Petersburg–Pushkin, 2017; pp. 71–72; 124 p.; SR No. AAAA-A17-11121950099-1; Inv. No. 1; ISSA FASO Project No. 0600-2017-0011.

Table S4. Frequency distribution of genotypes for five SNPs at the *NCAPG-LCORL* locus on GGA4 among the 49 studied chicken gene pool breeds/populations listed in accordance with PCM.

| Breed/population ¹ | GGaluGA265969 | | | GGaluGA265966 | | | rs14491017 | | | rs14491028 | | | rs15619223 | | |
|---|---------------|------|------|---------------|------|------|------------|------|------|------------|------|------|------------|------|------|
| | TT | TC | CC | AA | AG | GG | CC | CT | TT | CC | CT | TT | AA | AC | CC |
| Egg-type and related breeds/populations | | | | | | | | | | | | | | | |
| LLB | 0.84 | 0.16 | 0 | 0 | 0 | 1.00 | 0.84 | 0.16 | 0 | 0.95 | 0.05 | 0 | 0 | 0 | 1.00 |
| RWG | 0.07 | 0.37 | 0.56 | 0.07 | 0.53 | 0.40 | 0.57 | 0.33 | 0.10 | 0.37 | 0.56 | 0.07 | 0.20 | 0.63 | 0.17 |
| RWS | 0.17 | 0.33 | 0.50 | 0.17 | 0.33 | 0.50 | 1.00 | 0 | 0 | 0.50 | 0.33 | 0.17 | 0.17 | 0.33 | 0.50 |
| RWP | 0 | 1.0 | 0 | 0.09 | 0.36 | 0.55 | 1.00 | 0 | 0 | 0.73 | 0.18 | 0.09 | 0.09 | 0.18 | 0.73 |
| AB | 0.10 | 0.40 | 0.50 | 0.05 | 0.55 | 0.40 | 0.20 | 0.55 | 0.25 | 0.35 | 0.45 | 0.20 | 0.70 | 0.25 | 0.05 |
| Ar | 0.10 | 0.35 | 0.55 | 0.05 | 0.40 | 0.55 | 0.15 | 0.65 | 0.20 | 0.20 | 0.40 | 0.40 | 0.75 | 0.25 | 0 |
| NN | 0.05 | 0.20 | 0.75 | 0.10 | 0.30 | 0.60 | 0.55 | 0.35 | 0.10 | 0.35 | 0.45 | 0.20 | 0.30 | 0.50 | 0.20 |
| F | 0.25 | 0.25 | 0.50 | 0.40 | 0.45 | 0.15 | 0.30 | 0.45 | 0.25 | 0.30 | 0.45 | 0.25 | 0.75 | 0.25 | 0 |
| Dual purpose and related breeds/populations | | | | | | | | | | | | | | | |
| <i>Egg-meat type and related breeds/populations</i> | | | | | | | | | | | | | | | |
| MB | 0.05 | 0.37 | 0.58 | 0 | 0.16 | 0.84 | 0.47 | 0.36 | 0.17 | 0.68 | 0.21 | 0.11 | 0.31 | 0.53 | 0.16 |
| RIR | 0.03 | 0.50 | 0.47 | 0 | 0.38 | 0.62 | 0.47 | 0.38 | 0.15 | 0.22 | 0.44 | 0.34 | 0.25 | 0.62 | 0.13 |
| LGG | 0.10 | 0.20 | 0.70 | 0.45 | 0.35 | 0.20 | 0.15 | 0.35 | 0.50 | 0.25 | 0.40 | 0.35 | 0.75 | 0.25 | 0 |
| PB | 0.12 | 0.47 | 0.41 | 0.35 | 0.47 | 0.18 | 0.35 | 0.59 | 0.06 | 0.06 | 0.53 | 0.41 | 0.47 | 0.47 | 0.06 |
| SL | 0.15 | 0.60 | 0.25 | 0.42 | 0.37 | 0.21 | 0.25 | 0.55 | 0.20 | 0.35 | 0.60 | 0.05 | 0.85 | 0.15 | 0 |
| FS | 0 | 0.40 | 0.60 | 0.15 | 0.60 | 0.25 | 0.55 | 0.35 | 0.10 | 0.25 | 0.60 | 0.15 | 0.20 | 0.55 | 0.25 |
| RC | 0 | 0.37 | 0.63 | 0.16 | 0.32 | 0.52 | 0.32 | 0.58 | 0.10 | 0.26 | 0.53 | 0.21 | 0.47 | 0.47 | 0.06 |
| BB | 0 | 0.20 | 0.80 | 0.55 | 0.45 | 0 | 0.05 | 0.45 | 0.50 | 0 | 0.30 | 0.70 | 0.65 | 0.35 | 0 |
| BL | 0 | 0.30 | 0.70 | 0.10 | 0.35 | 0.55 | 0.35 | 0.55 | 0.10 | 0.05 | 0.50 | 0.45 | 0.25 | 0.55 | 0.20 |
| <i>Meat-egg type and related breeds/populations</i> | | | | | | | | | | | | | | | |
| ZS | 0.05 | 0.39 | 0.56 | 0.28 | 0.67 | 0.05 | 0.11 | 0.33 | 0.56 | 0.11 | 0.33 | 0.56 | 0.94 | 0.06 | 0 |
| Pu | 0.05 | 0.10 | 0.85 | 1.00 | 0 | 0 | 0.10 | 0.40 | 0.50 | 0.10 | 0.40 | 0.50 | 1.00 | 0 | 0 |
| LMF | 0.10 | 0.52 | 0.38 | 0.24 | 0.67 | 0.09 | 0.05 | 0.52 | 0.43 | 0 | 0.52 | 0.48 | 0.71 | 0.29 | 0 |
| NH | 0.16 | 0.42 | 0.42 | 0.21 | 0.37 | 0.42 | 0.21 | 0.42 | 0.37 | 0.21 | 0.21 | 0.58 | 0.83 | 0.17 | 0 |
| ABS | 0.05 | 0.35 | 0.60 | 0.10 | 0.70 | 0.20 | 0.15 | 0.65 | 0.20 | 0.45 | 0.50 | 0.05 | 0.55 | 0.45 | 0 |
| AoB | 0 | 0.78 | 0.22 | 0.11 | 0.56 | 0.33 | 0.44 | 0.51 | 0.05 | 0.22 | 0.67 | 0.11 | 0.67 | 0.33 | 0 |
| Pm | 0.20 | 0.60 | 0.20 | 0.55 | 0.45 | 0 | 0.65 | 0.35 | 0 | 0.70 | 0.30 | 0 | 0.45 | 0.45 | 0.01 |
| PRB | 0.05 | 0.27 | 0.68 | 0.16 | 0.63 | 0.21 | 0.11 | 0.47 | 0.42 | 0.05 | 0.63 | 0.32 | 0.79 | 0.21 | 0 |
| PC | 0.29 | 0.59 | 0.12 | 0.06 | 0.29 | 0.65 | 0.29 | 0.65 | 0.06 | 0.06 | 0.71 | 0.23 | 0.94 | 0.06 | 0 |

| | | | | | | | | | | | | | | | |
|---------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Ts | 0.10 | 0.55 | 0.35 | 0 | 0.60 | 0.40 | 0.10 | 0.55 | 0.35 | 0.10 | 0.55 | 0.35 | 1.00 | 0 | 0 |
| YC | 0.05 | 0.25 | 0.70 | 0.10 | 0.45 | 0.45 | 0.40 | 0.50 | 0.10 | 0.35 | 0.50 | 0.15 | 0.90 | 0.10 | 0 |
| OM | 0.15 | 0.50 | 0.35 | 0.30 | 0.35 | 0.35 | 0.40 | 0.45 | 0.15 | 0.20 | 0.45 | 0.35 | 0.65 | 0.30 | 0.05 |
| UM | 0.17 | 0.33 | 0.50 | 0.22 | 0.50 | 0.28 | 0.39 | 0.33 | 0.28 | 0.28 | 0.50 | 0.22 | 0.61 | 0.33 | 0.06 |
| SL × Ar | 0 | 0.64 | 0.36 | 0.36 | 0.36 | 0.28 | 0.07 | 0.64 | 0.29 | 0.22 | 0.71 | 0.07 | 0.93 | 0.07 | 0 |
| Ts × SL | 0.14 | 0.36 | 0.50 | 0.15 | 0.54 | 0.31 | 0.29 | 0.21 | 0.50 | 0.29 | 0.57 | 0.14 | 0.86 | 0.14 | 0 |
| Ts × (SL × Ar) | 0 | 0.31 | 0.69 | 0.50 | 0.29 | 0.21 | 0 | 0.31 | 0.69 | 0.14 | 0.22 | 0.64 | 1.00 | 0 | 0 |
| BL × SL | 0 | 0.36 | 0.64 | 0.08 | 0.21 | 0.71 | 0.29 | 0.50 | 0.21 | 0.21 | 0.50 | 0.29 | 0.50 | 0.29 | 0.21 |
| Meat and related breeds/populations | | | | | | | | | | | | | | | |
| WC1 | 0.06 | 0.27 | 0.67 | 0.43 | 0.34 | 0.23 | 0.06 | 0.28 | 0.66 | 0.17 | 0.33 | 0.50 | 1.00 | 0 | 0 |
| WC2 | 0.05 | 0.32 | 0.63 | 0.11 | 0.52 | 0.37 | 0.05 | 0.32 | 0.63 | 0.21 | 0.37 | 0.42 | 1.00 | 0 | 0 |
| WC × (BL × SL) | 0 | 0.21 | 0.79 | 0.07 | 0.72 | 0.21 | 0 | 0.21 | 0.79 | 0.21 | 0.43 | 0.36 | 1.00 | 0 | 0 |
| WC × (SL × Ar) | 0 | 0.36 | 0.64 | 0.14 | 0.36 | 0.50 | 0.07 | 0.43 | 0.50 | 0.14 | 0.29 | 0.57 | 0.79 | 0.21 | 0 |
| Game and related breeds/populations | | | | | | | | | | | | | | | |
| MG | 0.25 | 0.60 | 0.15 | 0.10 | 0.30 | 0.60 | 0.45 | 0.40 | 0.15 | 0.25 | 0.55 | 0.20 | 0.80 | 0.20 | 0 |
| UG | 0.05 | 0.26 | 0.69 | 0.11 | 0.52 | 0.37 | 0.05 | 0.27 | 0.68 | 0.11 | 0.53 | 0.36 | 0.95 | 0.05 | 0 |
| UG × Ar | 0.07 | 0.36 | 0.57 | 0.21 | 0.64 | 0.15 | 0.07 | 0.43 | 0.50 | 0 | 0.36 | 0.64 | 0.93 | 0.07 | 0 |
| Fancy breeds/populations | | | | | | | | | | | | | | | |
| PWB | 0 | 0.11 | 0.89 | 0.06 | 0.22 | 0.72 | 0.72 | 0.28 | 0 | 0.72 | 0.22 | 0.06 | 0.22 | 0.28 | 0.50 |
| PS | 0 | 0 | 1.00 | 0 | 0.05 | 0.95 | 0.95 | 0.05 | 0 | 0.20 | 0.40 | 0.40 | 0.40 | 0.40 | 0.20 |
| PW | 0 | 0 | 1.00 | 0.07 | 0.13 | 0.80 | 0.80 | 0.20 | 0 | 0.40 | 0.53 | 0.07 | 0.20 | 0.47 | 0.33 |
| Bantam and related breeds/populations | | | | | | | | | | | | | | | |
| RWD | 0.11 | 0.50 | 0.39 | 0.28 | 0.39 | 0.33 | 0.06 | 0.61 | 0.33 | 0 | 0.22 | 0.78 | 0.83 | 0.17 | 0 |
| BMF | 0 | 0 | 1.00 | 0 | 0.60 | 0.40 | 0.95 | 0.05 | 0 | 0.15 | 0.55 | 0.30 | 0.40 | 0.40 | 0.20 |
| HSSD | 0.75 | 0.25 | 0 | 0.10 | 0.55 | 0.35 | 1.00 | 0 | 0 | 0 | 0 | 1.00 | 0 | 0.15 | 0.85 |
| SW | 0 | 0 | 1.00 | 0.06 | 0.47 | 0.47 | 0.12 | 0.50 | 0.38 | 0.05 | 0.53 | 0.42 | 1.00 | 0 | 0 |
| CB | 0 | 0.25 | 0.75 | 0.70 | 0.20 | 0.10 | 0.05 | 0 | 0.95 | 0.70 | 0.20 | 0.10 | 0.95 | 0 | 0.05 |

¹ Abbreviations for breed names are given in accordance with Table S1.