



MEZINÁRODNÍ TESTOVÁNÍ DRŮBEŽE  
státní podnik, ÚSTRAŠICE

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390 02 Tábor 2

Tel.: 381 200 320

## **THE COMPLETE REPORT**

OF THE LIII. INTERNATIONAL TEST  
OF BROILER BREEDERS AND THEIR PROGENY

**2024 – 2025**

Ústrašice, August 2025

## 1 The list of participants

| Sample | Cross  | Breeding organization | State  |
|--------|--------|-----------------------|--------|
| 1      | XXXXXX | XXXXXX                | XXXXXX |
| 2      | XXXXXX | XXXXXX                | XXXXXX |
| 3      | XXXXXX | XXXXXX                | XXXXXX |
| 4      | XXXXXX | XXXXXX                | XXXXXX |
| 5      | XXXXXX | XXXXXX                | XXXXXX |
| 6      | XXXXXX | XXXXXX                | XXXXXX |
| 7      | XXXXXX | XXXXXX                | XXXXXX |
| 8      | XXXXXX | XXXXXX                | XXXXXX |
| 9      | XXXXXX | XXXXXX                | XXXXXX |
| 10     | XXXXXX | XXXXXX                | XXXXXX |
| 11     | XXXXXX | XXXXXX                | XXXXXX |
| 12     | XXXXXX | XXXXXX                | XXXXXX |

## 2 The basic tests information

### 2.1 The basic dates

Rearing 1 – 22 weeks (1 – 154 days): 21 March 2024 – 21 August 2024  
Production 23 – 62 weeks (155 – 434 days): 22 August 2024 – 28 May 2025  
End of the test: 6 July 2025

### 2.2 Location of the test

Mezinárodní testování drůbeže, s.p. Ústrašice, Czech Republic

### 2.3 Material

There were 12 genotypes compared in the test.

Number of birds in one group: 270 females of female line and 75 males of male line.

### 3 The rearing of pullets

#### 3.1 Samples and their location

Females were reared in three pens by 90 chicks, males in separate pens by 75 chicks. Numbers of birds were reduced in 5<sup>th</sup> week of age to specified numbers. Females were reduced to 240 birds, i.e. 80 birds per pen, males to 45 birds in one entry. Small or too big birds, ill ones and sexing errors were culled. Females were graded to three pens with low, medium and high bodyweight. All three pens got to the same bodyweight level in a few weeks by using different feed amounts.

Males were transferred to production house in 19 weeks of age according to the dedicated system; each entry was split to four pens (i.e. 9 males per pen). Females were mated to males by one week later. After the final culling at 22 weeks of age the numbers were 220 females and 28 males per entry. Males were reduced later to 20 birds.

#### 3.2 Housing system

Pullets were kept in windowless house with full control of the environment. There were used automated heating and ventilation. There is controlled ventilation in the houses which assures the air exchange 6 cubic metres/hour/1kg live weight in summer time with lower levels in winter. Relative humidity is 60-65%.

Manually filled tube feeders and nipple automatic drinkers were used.

#### 3.3 Conditions of the environment

##### Temperature

| Age         | Bird level (°C) | House (°C) |
|-------------|-----------------|------------|
| Week 1      | 38              | 30         |
| Week 2      | 32              | 28         |
| Week 3      | 25              | 22         |
| Week 4      | 21              | 21         |
| Week 5      | 20              | 20         |
| From week 6 | 18              | 18         |

##### Stocking density

| Age            | ♀    | ♂   |
|----------------|------|-----|
| 1 – 35 days    | 10.7 | 8.9 |
| 36 – 126 days  | 9.5  | 5.3 |
| 127 – 154 days | 4.8  | 4.8 |

### 3.4 Lighting programme

Pullets were kept in windowless house. All the birds were submitted to the following lighting programme.

| Age           | Light from - to                    | Hours of light |
|---------------|------------------------------------|----------------|
| Day 1 – 5     | 7 <sup>00</sup> – 6 <sup>00</sup>  | 23             |
| Day 6 – 7     | 7 <sup>00</sup> – 4 <sup>00</sup>  | 21             |
| Day 8 – 9     | 7 <sup>00</sup> – 2 <sup>00</sup>  | 19             |
| Day 10 – 11   | 7 <sup>00</sup> – 24 <sup>00</sup> | 17             |
| Day 12 – 13   | 7 <sup>00</sup> – 22 <sup>00</sup> | 15             |
| Day 14 – 15   | 7 <sup>00</sup> – 19 <sup>00</sup> | 12             |
| Day 16 – 147  | 7 <sup>00</sup> – 15 <sup>00</sup> | 8              |
| Day 148 – 154 | 7 <sup>00</sup> – 19 <sup>00</sup> | 12             |

Light intensity in first three days was 60 lux/sq. m. and then till the end of rearing 8 lux/sq. m.

### 3.5 Feeding and watering

There were used four different feed mixtures in the test. Feed was produced in xxxxx

Day 1 – 14: K1 – starter, pellets  
Day 15 – 35: K2 – pellets  
Day 36 – 105: KZK – pellets  
Day 106 – 154: NP-0 – pellets

#### Diet formulas

|                              | K1     | K2     | KZK    | NP-0   |
|------------------------------|--------|--------|--------|--------|
| <b>Components (%)</b>        |        |        |        |        |
| Wheat                        | 41.09  | 51.47  | 46.23  | 41.33  |
| Maize                        | 22.50  | 18.00  | 15.00  | 23.00  |
| Oat                          | 1.00   | 1.00   | 9.60   | 4.50   |
| Sunflower meal               | 1.00   | 3.00   | 4.60   | 4.00   |
| Wheat bran                   | -      | 2.70   | 14.00  | 11.00  |
| Soybean meal                 | 29.70  | 19.75  | 7.00   | 11.95  |
| Soybean oil                  | 1.27   | 0.75   | 0.20   | 0.78   |
| Salt                         | 0.23   | 0.20   | 0.15   | 0.21   |
| Limestone                    | 1.78   | 1.80   | 2.00   | 2.21   |
| Monocalcium phosphate        | 0.63   | 0.65   | 0.41   | 0.34   |
| Sodium bicarbonate           | 0.17   | 0.22   | 0.21   | 0.18   |
| Vitamin premix               | 0.63   | 0.46   | 0.60   | 0.50   |
| <b>Nutrient content</b>      |        |        |        |        |
| Protein (g/kg)               | 204.77 | 177.35 | 143.99 | 151.12 |
| Fat (g/kg)                   | 33.80  | 27.99  | 25.01  | 30.01  |
| Lysin (g/kg)                 | 9.45   | 7.14   | 5.35   | 5.69   |
| Methionin (g/kg)             | 4.37   | 3.36   | 2.99   | 3.29   |
| Calcium phyt. (g/kg)         | 10.69  | 10.68  | 10.90  | 11.62  |
| Phosphorus dig. (g/kg)       | 4.31   | 4.31   | 4.20   | 3.90   |
| Metabolizable energy (MJ/kg) | 11.79  | 11.69  | 11.25  | 11.43  |

#### Feeding management

First week ad libitum. From 2<sup>nd</sup> week feeding was based on bodyweight. Chicks were weighed weekly (20% of the total number) and feed amount adjusted for each pen separately, depending on the development of bodyweight and comparison with the standard bodyweight.

Feed was distributed daily to pan feeders in first three weeks, since four weeks of age pellets were spread on the litter.

Since 4<sup>th</sup> week oats was fed on the litter in following amount:

females – 1,25 g/bird/day

males – 2,20 g/bird/day

The oats was fed once a day.

If the bodyweight is over the weekly standard, the same feed level is used for one more week. If the actual bodyweight is below the weekly standard, feed level is increased by the same % as the % difference of bodyweight.

After the transfer to production house feeding was changed to separate sex feeding – female troughs with grids and male pan feeders. Oats was still fed on the litter.

### **Drinking management**

Nipples were used in rearing period. Water was available the whole day.

## **3.6 Veterinary precautions**

The house was disinfected by 1% xxxxx. As a prevention permanganate was given to the birds as well as vitamin – xxxxx (Vit. C).

### **Vaccination programme**

| <b>Age</b> | <b>Disease</b>                                                                                                                                                                         |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Day 1      | Marek's disease + infectious bronchitis (IB)                                                                                                                                           |
| Days 5     | Coccidiosis                                                                                                                                                                            |
| Days 11    | Salmonellosis                                                                                                                                                                          |
| Days 15    | Infectious bronchitis (IB)                                                                                                                                                             |
| Days 19    | Infectious bursal disease (Gumboro)                                                                                                                                                    |
| Days 26    | Infectious bursal disease (Gumboro)                                                                                                                                                    |
| Days 33    | Newcastle disease (ND)                                                                                                                                                                 |
| Week 6     | Escherichia coli infections (E. coli)                                                                                                                                                  |
| Week 7     | Infectious bronchitis (IB) + newcastle disease (ND)                                                                                                                                    |
| Week 8     | Salmonellosis                                                                                                                                                                          |
| Week 10    | Avian encephalomyelitis (AE)                                                                                                                                                           |
| Week 11    | Infectious bronchitis (IB)                                                                                                                                                             |
| Week 12    | Chicken anaemia virus (CAV)                                                                                                                                                            |
| Week 13    | Salmonellosis                                                                                                                                                                          |
| Week 14    | Swollen head syndrome                                                                                                                                                                  |
| Week 15    | Infectious bronchitis (IB)                                                                                                                                                             |
| Week 16    | Escherichia coli infections (E. coli)                                                                                                                                                  |
| Week 17    | Salmonellosis                                                                                                                                                                          |
| Week 19    | Salmonellosis + (Swollen head syndrome + newcastle disease (ND) + Infectious bursal disease (Gumboro) + infectious bronchitis (IB) + Egg-drop syndrome (EDS'76) + Reovirus infections) |

## 4 The production period

### 4.1 Samples and their location

Females were moved to production houses in the same number as were housed in rearing house, male were dynamically added to females only 9 birds in a box. By the beginning of lay the animals had time to become acquainted with the new environment and a different way of feeding and drinking.

Final selection before lay was done at 22 weeks. One sample was placed into four boxes in two halls according to the test station. To lay control was included in each sample 220 females and 28 males, therefore in each box were 55 females and 7 males (who were later reduced to 20 males, i.e. 5 males per box). Selections are carried out primarily by negative selection by health and exterior, as well as by live weight of each bird.

### 4.2 Housing system

Animals were kept in windowless house with full control of the environment. There were used automated heating and ventilation.

Manually filled tube feeders and nipple automatic drinkers were used.

### 4.3 Conditions of the environment

#### Temperature

| Age            | House (°C) |
|----------------|------------|
| 155 – 434 days | 18         |

#### Stocking density

| Age            | ♀ and ♂ |
|----------------|---------|
| 155 – 434 days | 4.2     |

### 4.4 Lighting programme

| Age                         | Light from - to                    | Hours of light |
|-----------------------------|------------------------------------|----------------|
| Week 22 (Day 148 – 154)     | 7 <sup>00</sup> – 19 <sup>00</sup> | 12             |
| From week 23 (from day 155) | 7 <sup>00</sup> – 20 <sup>00</sup> | 13             |

### 4.5 Feeding and watering

Feed was produced in xxxxx

Day 155 – 245: NP-1 – crusher

Day 246 – 434: NP-2 – crusher

|                              | NP – 1   | NP – 2   |
|------------------------------|----------|----------|
| <b>Components (%)</b>        |          |          |
| Wheat                        | 40.86    | 37.20    |
| Maize                        | 24.00    | 24.00    |
| Soybean meal                 | 15.10    | 11.35    |
| Oat                          | 5.00     | 4.00     |
| Soya oil                     | 2.22     | 3.89     |
| Monocalcium phosphate        | 0.31     | 0.20     |
| Limestone                    | 2.19     | 2.36     |
| Limestone–roughly ground     | 5.10     | 5.50     |
| Sunflower meal               | 4.20     | 10.50    |
| Salt                         | 0.26     | 0.26     |
| Sodium sulfate               | 0.11     | 0.11     |
| Cholinchlorid                | 0.09     | 0.07     |
| Premixes                     | 0.57     | 0.57     |
| <b>Nutrient content</b>      |          |          |
| Protein (g/kg)               | 149.93   | 150.07   |
| Fat (g/kg)                   | 42.68    | 58.69    |
| Lysine (g/kg)                | 6.22     | 5.81     |
| Methionine (g/kg)            | 3.53     | 3.60     |
| Calcium (g/kg)               | 29.90    | 31.89    |
| Phosphorus dig. (g/kg)       | 3.60     | 3.41     |
| Vitamin A (IU/kg)            | 10000.00 | 10000.00 |
| Vitamin D3 (IU/kg)           | 3000.00  | 3000.00  |
| Metabolizable energy (MJ/kg) | 11.70    | 11.80    |

#### **Feeding management**

The flock was fed daily at 7 a.m. separately males and females. Females were using troughs with grids, males tube pan feeders hanging higher. Oats (3g/birds) was fed daily at 12 a.m. on the litter. In the afternoon he was flung out into the litter grit.

#### **Drinking management**

Nipples were used in production period. Water was available the whole day.

#### **4.6 Veterinary precautions**

The house was disinfected by 1% xxxxx, then treated against red mites and finally by xxxxx on litter before the placement of the flock.

During the laying has been given the vaccine IB (every 6 weeks), IB 88 (24<sup>th</sup> and 42<sup>th</sup> week), IB QX (30<sup>th</sup> and 48<sup>th</sup> week), IB Primer (36<sup>th</sup> and 54<sup>th</sup> week).

From week 32, KOMBISOL D3 (every 2 weeks) and KOMBISOL A were administered.

## 5 The growing test of progeny

### 5.1 Samples and their location

Four progeny fattening test of 32 days were performed for each sample, with the 3<sup>rd</sup> fattening test extended to 39 days. In the prolonged test live weight and feed consumption were observed at 32 and 39 days of age.

Carcass analysis was performed on 20 cocks and 20 hens from each genotype. Breast muscles were weighed without the skin and the thigh muscles with the bone and the skin.

720 hatching eggs were set, 560 broilers were sexed and placed always 280 females (in two pens) and 280 males (in two pens). In 3<sup>rd</sup> part fattening test there were 520 birds – 260 females (in two pens) and 260 males (in two pens). And in 4<sup>th</sup> part fattening test there were only 520 birds too (poor hatching) – 260 females (in two pens) and 260 males (in two pens), the sample 6 and 8 had a lower number of chicks.

### 5.2 Housing system

Chickens were kept in windowless house with full control of the environment. There were used automated heating and ventilation.

Manually filled tube feeders and nipple automatic drinkers were used.

### 5.3 Conditions of the environment

#### Stocking density

|                                                         | broilers per square meter |
|---------------------------------------------------------|---------------------------|
| 1 <sup>st</sup> and 2 <sup>nd</sup> part fattening test | 17.2                      |
| 3 <sup>rd</sup> and 4 <sup>th</sup> part fattening test | 16.0                      |

### 5.4 Lighting programme

|                                                                           | Age         | Hours of light | Hours of darkness |
|---------------------------------------------------------------------------|-------------|----------------|-------------------|
| 1 <sup>st</sup> , 2 <sup>nd</sup> and 4 <sup>th</sup> part fattening test | Day 1 – 7   | 23             | 1                 |
|                                                                           | Day 8 – 29  | 18             | 6                 |
|                                                                           | Day 30 – 32 | 23             | 1                 |
| 3 <sup>rd</sup> part fattening test                                       | Day 1 – 7   | 23             | 1                 |
|                                                                           | Day 8 – 36  | 18             | 6                 |
|                                                                           | Day 37 – 39 | 23             | 1                 |

### 5.5 Feeding and watering

Feed was produced in xxxxx

|                                                                            |             |                |
|----------------------------------------------------------------------------|-------------|----------------|
| 1 <sup>st</sup> , 2 <sup>nd</sup> and 4 <sup>th</sup> part fattening test: | Day 1 – 10  | Starter (BR1)  |
|                                                                            | Day 11 – 21 | Grower (BR2-A) |
|                                                                            | Day 22 – 28 | Grower (BR2-B) |
|                                                                            | Day 29 – 32 | Finisher (BR3) |
| 3 <sup>rd</sup> part fattening test:                                       | Day 1 – 10  | Starter (BR1)  |
|                                                                            | Day 11 – 21 | Grower (BR2-A) |
|                                                                            | Day 22 – 28 | Grower (BR2-B) |
|                                                                            | Day 29 – 39 | Finisher (BR3) |

|                            | <b>Starter BR1</b> | <b>Grower BR2-A</b> | <b>Grower BR2-B</b> | <b>Finisher BR3</b> |
|----------------------------|--------------------|---------------------|---------------------|---------------------|
| Age                        | Days 1 - 10        | Days 11 - 21        | Day 22 - 28         | Day 29 – 32 (39)    |
| <b>Components (%)</b>      |                    |                     |                     |                     |
| Wheat                      | 41.985             | 50.55               | 52.46               | 57.88               |
| Maize                      | 15.00              | 13.00               | 13.00               | 10.00               |
| Soybean extr.              | 32.60              | 30.95               | 28.90               | 26.65               |
| Soybean extr. groats       | 3.00               | -                   | -                   | -                   |
| Fish meal                  | 1.50               | -                   | -                   | -                   |
| MCP                        | 0.87               | 0.35                | 0.27                | 0.18                |
| Calcium carbonate          | 1.15               | 1.08                | 0.99                | 0.98                |
| Salt                       | 0.21               | 0.23                | 0.23                | 0.23                |
| Soybean oil                | 1.86               | 1.58                | 1.20                | 1.00                |
| Animal fat                 | -                  | 0.50                | 1.28                | 1.72                |
| Sodium sulfate             | 0.11               | 0.12                | 0.12                | 0.11                |
| Cholinchlorid              | 0.04               | 0.04                | 0.03                | 0.03                |
| Premixes of amino acid     | 0.84               | 0.88                | 0.80                | 0.80                |
| Vitamin and mineral suppl. | 0.88               | 0.73                | 0.73                | 0.43                |
| <b>Nutrient content</b>    |                    |                     |                     |                     |
| Crude protein (g/kg)       | 225.35             | 204.27              | 196.71              | 189.70              |
| Fat (g/kg)                 | 43.17              | 38.47               | 42.37               | 44.04               |
| Lysine dig. (g/kg)         | 12.79              | 11.71               | 11.10               | 10.66               |
| Methionine dig. (g/kg)     | 6.39               | 5.68                | 5.43                | 5.16                |
| Ca phyt. (g/kg)            | 9.41               | 7.80                | 7.30                | 6.99                |
| P dig. (g/kg)              | 5.10               | 3.78                | 3.58                | 3.37                |
| Vitamin A (IU/kg)          | 15000              | 10000               | 10000               | 10000               |
| Vitamin D3 (IU/kg)         | 5000               | 5000                | 5000                | 5000                |
| ME (MJ/kg)                 | 12.03              | 12.16               | 12.34               | 12.51               |

## 5.6 Veterinary precautions

The chicken house was disinfected by xxxxx before the chick placement. On the first days old chickens was applied to the water solution of permanganate. On days 1 and 12 chickens were vaccinated with IB Primer.

## 6 The results

|          |     |                                                       |
|----------|-----|-------------------------------------------------------|
| Tab. No. | 1   | Rearing period                                        |
|          | 2   | Mortality during rearing period                       |
|          | 3a  | Statistical analysis – cocks at 154 days of age       |
|          | 3b  | Statistical analysis – hens at 154 days of age        |
|          | 4   | Body weight – rearing                                 |
|          | 5   | Laying control                                        |
|          | 6   | Egg weight in period                                  |
|          | 7   | Mortality – hens in the laying period                 |
|          | 8a  | Statistical analysis – cocks at 434 days of age       |
|          | 8b  | Statistical analysis – hens at 434 days of age        |
|          | 9   | Hatchability                                          |
|          | 10a | Broiler results at the age of 14 days                 |
|          | 10b | Broiler results at the age of 32 days                 |
|          | 10c | Broiler results at the age of 39 days                 |
|          | 11a | Mortality during growing period at the age of 32 days |
|          | 11b | Mortality during growing period at the age of 39 days |
|          | 12a | Results of carcass analysis at the age of 32 days     |
|          | 12b | Results of carcass analysis at the age of 39 days     |
|          | 13a | Statistical analysis – cocks at 32 days of age        |
|          | 13b | Statistical analysis – hens at 32 days of age         |
|          | 13c | Statistical analysis – cocks at 39 days of age        |
|          | 13d | Statistical analysis – hens at 39 days of age         |

Rearing period

Tab. No. 1 (page 1)

| Breed  | Treat. No. | Sex | Number of birds at |         |          | Average live weight at |          | Feed consumption per 1 bird and day |             |            |
|--------|------------|-----|--------------------|---------|----------|------------------------|----------|-------------------------------------|-------------|------------|
|        |            |     | 1 day              | 35 days | 154 days | 1 day                  | 154 days | 1-35 days                           | 36-154 days | 1-154 days |
|        |            |     | birds              | birds   | birds    | g                      | g        | g                                   | g           | g          |
| xxxxxx | 1          | ♂   | 75                 | 45      | 28       | 38.13                  | 3485.36  | 39.77                               | 80.84       | 67.33      |
|        |            | ♀   | 270                | 240     | 220      | 39.70                  | 2723.27  | 30.79                               | 73.77       | 63.09      |
| xxxxxx | 2          | ♂   | 75                 | 45      | 28       | 41.33                  | 3723.57  | 43.81                               | 88.94       | 74.10      |
|        |            | ♀   | 270                | 240     | 220      | 38.30                  | 2880.77  | 32.91                               | 84.87       | 71.95      |
| xxxxxx | 3          | ♂   | 75                 | 45      | 28       | 41.33                  | 3837.14  | 44.11                               | 89.52       | 74.59      |
|        |            | ♀   | 270                | 240     | 220      | 38.70                  | 2909.00  | 33.08                               | 81.37       | 69.37      |
| xxxxxx | 4          | ♂   | 75                 | 45      | 28       | 38.13                  | 3480.36  | 41.52                               | 82.37       | 68.93      |
|        |            | ♀   | 270                | 240     | 220      | 38.41                  | 2704.86  | 30.75                               | 74.14       | 63.35      |
| xxxxxx | 5          | ♂   | 75                 | 45      | 28       | 46.27                  | 3702.14  | 44.11                               | 89.71       | 74.71      |
|        |            | ♀   | 270                | 240     | 220      | 38.11                  | 2915.95  | 33.10                               | 84.29       | 71.57      |
| xxxxxx | 6          | ♂   | 75                 | 45      | 28       | 45.07                  | 3467.50  | 44.23                               | 87.34       | 73.16      |
|        |            | ♀   | 270                | 240     | 220      | 39.81                  | 2862.41  | 33.29                               | 85.07       | 72.19      |

Rearing period

Tab. No. 1 (page 2)

| Breed  | Treat. No. | Sex | Number of birds at |         |          | Average live weight at |          | Feed consumption per 1 bird and day |             |            |
|--------|------------|-----|--------------------|---------|----------|------------------------|----------|-------------------------------------|-------------|------------|
|        |            |     | 1 day              | 35 days | 154 days | 1 day                  | 154 days | 1-35 days                           | 36-154 days | 1-154 days |
|        |            |     | birds              | birds   | birds    | g                      | g        | g                                   | g           | g          |
| xxxxxx | 7          | ♂   | 75                 | 45      | 28       | 45.60                  | 3498.93  | 44.23                               | 86.41       | 72.53      |
|        |            | ♀   | 270                | 240     | 220      | 39.52                  | 2858.41  | 33.49                               | 83.90       | 71.37      |
| xxxxxx | 8          | ♂   | 75                 | 45      | 28       | 38.13                  | 3436.43  | 40.15                               | 80.60       | 67.29      |
|        |            | ♀   | 270                | 240     | 220      | 35.41                  | 2732.86  | 32.92                               | 75.26       | 64.74      |
| xxxxxx | 9          | ♂   | 75                 | 45      | 28       | 46.27                  | 3402.86  | 44.23                               | 88.91       | 74.21      |
|        |            | ♀   | 270                | 240     | 220      | 38.30                  | 2865.55  | 32.81                               | 84.94       | 71.98      |
| xxxxxx | 10         | ♂   | 75                 | 45      | 28       | 46.27                  | 3677.14  | 43.81                               | 90.57       | 75.19      |
|        |            | ♀   | 270                | 240     | 220      | 39.52                  | 2966.45  | 33.65                               | 84.33       | 71.73      |
| xxxxxx | 11         | ♂   | 75                 | 45      | 28       | 45.60                  | 3541.79  | 41.41                               | 82.60       | 69.05      |
|        |            | ♀   | 270                | 240     | 220      | 35.41                  | 2747.32  | 33.57                               | 75.32       | 64.94      |
| xxxxxx | 12         | ♂   | 75                 | 45      | 28       | 45.60                  | 3625.71  | 43.96                               | 89.99       | 74.85      |
|        |            | ♀   | 270                | 240     | 220      | 39.52                  | 2985.09  | 33.07                               | 84.64       | 71.82      |

# Mortality during the rearing period

Tab. No. 2 (page 1)

| Breed  | Treat. No. | Sex | Mortality - days |      |         |      |          |       |         |      | Mortality according causes |   |   |   |   |   |   |   |   |    |    |    |    |    |
|--------|------------|-----|------------------|------|---------|------|----------|-------|---------|------|----------------------------|---|---|---|---|---|---|---|---|----|----|----|----|----|
|        |            |     | 1 - 14           |      | 15 - 35 |      | 36 - 154 |       | 1 - 154 |      | 1                          | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|        |            |     | birds            | %    | birds   | %    | birds    | %     | birds   | %    |                            |   |   |   |   |   |   |   |   |    |    |    |    |    |
| xxxxxx | 1          | ♂   | 3                | 4.00 | 2       | 2.67 | 2        | 4.44  | 7       | 9.33 |                            |   |   |   | 5 |   |   |   |   | 1  | 1  |    |    | 40 |
|        |            | ♀   | 3                | 1.11 | 1       | 0.37 | 3        | 1.25  | 7       | 2.59 |                            |   |   |   |   |   |   |   |   |    | 7  |    |    | 43 |
| xxxxxx | 2          | ♂   | 1                | 1.33 | 0       | 0.00 | 4        | 8.89  | 5       | 6.67 |                            |   |   |   | 1 |   |   |   |   | 2  | 2  |    |    | 42 |
|        |            | ♀   | 1                | 0.37 | 3       | 1.11 | 1        | 0.42  | 5       | 1.85 |                            |   |   |   | 3 |   |   |   |   | 1  | 1  |    |    | 45 |
| xxxxxx | 3          | ♂   | 0                | 0.00 | 1       | 1.33 | 1        | 2.22  | 2       | 2.67 |                            |   |   |   | 1 |   |   |   |   | 1  |    |    |    | 45 |
|        |            | ♀   | 2                | 0.74 | 1       | 0.37 | 3        | 1.25  | 6       | 2.22 |                            |   |   |   | 1 |   |   |   |   | 4  | 1  |    |    | 44 |
| xxxxxx | 4          | ♂   | 0                | 0.00 | 0       | 0.00 | 0        | 0.00  | 0       | 0.00 |                            |   |   |   |   |   |   |   |   |    |    |    |    | 47 |
|        |            | ♀   | 1                | 0.37 | 2       | 0.74 | 1        | 0.42  | 4       | 1.48 |                            |   |   |   | 1 |   |   |   |   |    | 3  |    |    | 46 |
| xxxxxx | 5          | ♂   | 0                | 0.00 | 1       | 1.33 | 1        | 2.22  | 2       | 2.67 |                            |   |   |   | 1 |   |   |   |   |    | 1  |    |    | 45 |
|        |            | ♀   | 2                | 0.74 | 2       | 0.74 | 4        | 1.67  | 8       | 2.96 |                            |   |   |   | 3 |   |   |   |   | 2  | 3  |    |    | 42 |
| xxxxxx | 6          | ♂   | 0                | 0.00 | 0       | 0.00 | 5        | 11.11 | 5       | 6.67 |                            |   |   |   | 2 |   |   |   |   | 3  |    |    |    | 42 |
|        |            | ♀   | 3                | 1.11 | 2       | 0.74 | 1        | 0.42  | 6       | 2.22 |                            |   |   |   | 1 |   |   |   |   | 3  | 2  |    |    | 44 |

Causes: 1 - Viral diseases 4 - Parasitary diseases 7 - Digestive tract diseases 10 - Locomotion apparatus diseases 13 - Diverticulus inflammation.  
2 - Bacterial diseases 5 - Culling 8 - Respiratory tract diseases 11 - Sudden death syndrome 14 - Stock reduction  
3 - Fungal diseases 6 - Injuries 9 - Reproductory tract diseases 12 - Cannibalism

# Mortality during the rearing period

Tab. No. 2 (page 2)

| Breed  | Treat. No. | Sex | Mortality - days |      |         |       |          |      |         |       | Mortality according causes |   |   |    |   |   |   |   |   |    |    |    |    |    |
|--------|------------|-----|------------------|------|---------|-------|----------|------|---------|-------|----------------------------|---|---|----|---|---|---|---|---|----|----|----|----|----|
|        |            |     | 1 - 14           |      | 15 - 35 |       | 36 - 154 |      | 1 - 154 |       | 1                          | 2 | 3 | 4  | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|        |            |     | birds            | %    | birds   | %     | birds    | %    | birds   | %     |                            |   |   |    |   |   |   |   |   |    |    |    |    |    |
| xxxxxx | 7          | ♂   | 0                | 0.00 | 0       | 0.00  | 2        | 4.44 | 2       | 2.67  |                            |   |   |    | 1 |   |   |   |   | 1  |    |    |    | 45 |
|        |            | ♀   | 0                | 0.00 | 0       | 0.00  | 4        | 1.67 | 4       | 1.48  |                            |   |   |    | 1 |   |   |   |   | 2  | 1  |    |    | 46 |
| xxxxxx | 8          | ♂   | 0                | 0.00 | 11      | 14.67 | 2        | 4.44 | 13      | 17.33 |                            |   |   | 11 | 2 |   |   |   |   |    |    |    |    | 34 |
|        |            | ♀   | 3                | 1.11 | 1       | 0.37  | 1        | 0.42 | 5       | 1.85  |                            |   |   |    | 2 |   |   |   |   | 1  | 2  |    |    | 45 |
| xxxxxx | 9          | ♂   | 0                | 0.00 | 0       | 0.00  | 2        | 4.44 | 2       | 2.67  |                            |   |   |    | 1 |   |   |   |   |    | 1  |    |    | 45 |
|        |            | ♀   | 3                | 1.11 | 2       | 0.74  | 0        | 0.00 | 5       | 1.85  |                            |   |   |    | 2 |   |   |   |   | 2  | 1  |    |    | 45 |
| xxxxxx | 10         | ♂   | 1                | 1.33 | 0       | 0.00  | 0        | 0.00 | 1       | 1.33  |                            |   |   |    |   |   |   |   |   |    | 1  |    |    | 46 |
|        |            | ♀   | 0                | 0.00 | 2       | 0.74  | 2        | 0.83 | 4       | 1.48  |                            |   |   |    | 2 |   |   |   |   |    | 2  |    |    | 46 |
| xxxxxx | 11         | ♂   | 0                | 0.00 | 7       | 9.33  | 1        | 2.22 | 8       | 10.67 |                            |   |   | 6  |   |   |   |   |   | 1  | 1  |    |    | 39 |
|        |            | ♀   | 0                | 0.00 | 0       | 0.00  | 1        | 0.42 | 1       | 0.37  |                            |   |   |    |   |   |   |   |   |    | 1  |    |    | 49 |
| xxxxxx | 12         | ♂   | 0                | 0.00 | 1       | 1.33  | 3        | 6.67 | 4       | 5.33  |                            |   |   |    |   |   |   |   |   | 3  | 1  |    |    | 43 |
|        |            | ♀   | 0                | 0.00 | 1       | 0.37  | 2        | 0.83 | 3       | 1.11  |                            |   |   |    | 1 |   |   |   |   | 1  | 1  |    |    | 47 |

**Causes:** 1 - Viral diseases      4 - Parasitary diseases      7 - Digestive tract diseases      10 - Locomotion apparatus diseases      13 - Diverticulus inflammation.  
2 - Bacterial diseases      5 - Culling      8 - Respiratory tract diseases      11 - Sudden death syndrome      14 - Stock reduction  
3 - Fungal diseases      6 - Injuries      9 - Reproductory tract diseases      12 - Cannibalism

Statistical analysis - Cocks at 154 days of age

Tab. No. 3a

| Breed  | Treat.<br>No. | Treat.<br>size | Average live<br>weight | Standard<br>deviation | Coefficient<br>of variation | Standard<br>error of mean | Precision<br>select. average | Standard error of<br>coeff. of variation |
|--------|---------------|----------------|------------------------|-----------------------|-----------------------------|---------------------------|------------------------------|------------------------------------------|
|        |               |                | g/ks                   | g/ks                  | %                           | g/ks                      | %                            | %                                        |
| xxxxxx | 1             | 28             | 3485.36                | 213.41                | 6.12                        | 40.33                     | 1.16                         | 0.84                                     |
| xxxxxx | 2             | 28             | 3723.57                | 215.07                | 5.78                        | 40.64                     | 1.09                         | 0.79                                     |
| xxxxxx | 3             | 28             | 3837.14                | 167.86                | 4.37                        | 31.72                     | 0.83                         | 0.60                                     |
| xxxxxx | 4             | 28             | 3480.36                | 188.39                | 5.41                        | 35.60                     | 1.02                         | 0.74                                     |
| xxxxxx | 5             | 28             | 3702.14                | 183.23                | 4.95                        | 34.63                     | 0.94                         | 0.68                                     |
| xxxxxx | 6             | 28             | 3467.50                | 324.03                | 9.34                        | 61.24                     | 1.77                         | 1.28                                     |
| xxxxxx | 7             | 28             | 3498.93                | 266.07                | 7.60                        | 50.28                     | 1.44                         | 1.04                                     |
| xxxxxx | 8             | 28             | 3436.43                | 170.32                | 4.96                        | 32.19                     | 0.94                         | 0.68                                     |
| xxxxxx | 9             | 28             | 3402.86                | 264.49                | 7.77                        | 49.98                     | 1.47                         | 1.06                                     |
| xxxxxx | 10            | 28             | 3677.14                | 162.09                | 4.41                        | 30.63                     | 0.83                         | 0.60                                     |
| xxxxxx | 11            | 28             | 3541.79                | 187.62                | 5.30                        | 35.46                     | 1.00                         | 0.72                                     |
| xxxxxx | 12            | 28             | 3625.71                | 241.15                | 6.65                        | 45.57                     | 1.26                         | 0.91                                     |

Statistical analysis - Hens at 154 days of age

Tab. No. 3b

| Breed  | Treat.<br>No. | Treat.<br>size | Average live<br>weight | Standard<br>deviation | Coefficient<br>of variation | Standard<br>error of mean | Precision<br>select. average | Standard error of<br>coeff. of variation |
|--------|---------------|----------------|------------------------|-----------------------|-----------------------------|---------------------------|------------------------------|------------------------------------------|
|        |               |                | g/ks                   | g/ks                  | %                           | g/ks                      | %                            | %                                        |
| xxxxxx | 1             | 220            | 2723.27                | 201.52                | 7.40                        | 13.59                     | 0.50                         | 0.36                                     |
| xxxxxx | 2             | 220            | 2880.77                | 243.00                | 8.44                        | 16.38                     | 0.57                         | 0.41                                     |
| xxxxxx | 3             | 220            | 2909.00                | 136.50                | 4.69                        | 9.20                      | 0.32                         | 0.22                                     |
| xxxxxx | 4             | 220            | 2704.86                | 204.68                | 7.57                        | 13.80                     | 0.51                         | 0.36                                     |
| xxxxxx | 5             | 220            | 2915.95                | 120.48                | 4.13                        | 8.12                      | 0.28                         | 0.20                                     |
| xxxxxx | 6             | 220            | 2862.41                | 206.08                | 7.20                        | 13.89                     | 0.49                         | 0.35                                     |
| xxxxxx | 7             | 220            | 2858.41                | 200.69                | 7.02                        | 13.53                     | 0.47                         | 0.34                                     |
| xxxxxx | 8             | 220            | 2732.86                | 212.15                | 7.76                        | 14.30                     | 0.52                         | 0.37                                     |
| xxxxxx | 9             | 220            | 2865.55                | 182.35                | 6.36                        | 12.29                     | 0.43                         | 0.31                                     |
| xxxxxx | 10            | 220            | 2966.45                | 207.25                | 6.99                        | 13.97                     | 0.47                         | 0.34                                     |
| xxxxxx | 11            | 220            | 2747.32                | 160.70                | 5.85                        | 10.83                     | 0.39                         | 0.28                                     |
| xxxxxx | 12            | 220            | 2985.09                | 244.88                | 8.20                        | 16.51                     | 0.55                         | 0.39                                     |

**Body weight - rearing**

**Tab. No. 4 (page 1)**

| Breed  | Tr. No. | Sex | weeks |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|--------|---------|-----|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|        |         |     | 1     | 2   | 3   | 4   | 5   | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   | 21   | 22   |
| xxxxxx | 1       | ♂   | 220   | 310 | 485 | 669 | 904 | 1108 | 1220 | 1310 | 1380 | 1570 | 1680 | 1790 | 1930 | 1980 | 2130 | 2270 | 2440 | 2650 | 2880 | 2910 | 3120 | 3490 |
|        |         | ♀   | 176   | 268 | 383 | 485 | 564 | 658  | 768  | 878  | 983  | 1077 | 1210 | 1303 | 1413 | 1543 | 1720 | 1843 | 1910 | 2033 | 2207 | 2303 | 2510 | 2717 |
| xxxxxx | 2       | ♂   | 230   | 325 | 498 | 746 | 939 | 1141 | 1234 | 1310 | 1540 | 1680 | 1760 | 1880 | 2080 | 2240 | 2380 | 2450 | 2650 | 2750 | 2970 | 3070 | 3320 | 3830 |
|        |         | ♀   | 186   | 282 | 396 | 522 | 639 | 788  | 857  | 956  | 1173 | 1250 | 1360 | 1457 | 1563 | 1677 | 1810 | 1983 | 2110 | 2140 | 2317 | 2500 | 2650 | 2890 |
| xxxxxx | 3       | ♂   | 225   | 333 | 503 | 735 | 934 | 1146 | 1240 | 1340 | 1550 | 1660 | 1740 | 1930 | 2130 | 2250 | 2380 | 2460 | 2610 | 2770 | 3020 | 3150 | 3330 | 3840 |
|        |         | ♀   | 185   | 276 | 388 | 536 | 637 | 802  | 851  | 955  | 1180 | 1220 | 1337 | 1460 | 1623 | 1707 | 1837 | 2043 | 2127 | 2230 | 2330 | 2487 | 2610 | 2903 |
| xxxxxx | 4       | ♂   | 218   | 315 | 488 | 702 | 857 | 1006 | 1120 | 1270 | 1360 | 1460 | 1670 | 1900 | 1940 | 1980 | 2260 | 2380 | 2480 | 2640 | 2900 | 3000 | 3180 | 3480 |
|        |         | ♀   | 185   | 262 | 385 | 477 | 557 | 670  | 742  | 863  | 1027 | 1090 | 1183 | 1310 | 1413 | 1560 | 1673 | 1880 | 1913 | 1993 | 2227 | 2360 | 2507 | 2687 |
| xxxxxx | 5       | ♂   | 225   | 318 | 498 | 701 | 897 | 1143 | 1230 | 1360 | 1520 | 1670 | 1740 | 1950 | 2010 | 2140 | 2360 | 2430 | 2580 | 2790 | 3000 | 3130 | 3330 | 3700 |
|        |         | ♀   | 187   | 281 | 391 | 512 | 642 | 780  | 858  | 943  | 1147 | 1203 | 1320 | 1433 | 1603 | 1737 | 1827 | 2050 | 2133 | 2257 | 2373 | 2523 | 2650 | 2913 |
| xxxxxx | 6       | ♂   | 220   | 315 | 505 | 707 | 922 | 1097 | 1210 | 1320 | 1450 | 1590 | 1730 | 1870 | 2070 | 2240 | 2370 | 2440 | 2640 | 2760 | 3000 | 3070 | 3280 | 3470 |
|        |         | ♀   | 186   | 281 | 392 | 510 | 616 | 791  | 845  | 975  | 1140 | 1203 | 1297 | 1423 | 1597 | 1683 | 1820 | 2033 | 2133 | 2240 | 2300 | 2480 | 2607 | 2867 |

**Body weight - rearing**

**Tab. No. 4 (page 2)**

| Breed  | Tr. No. | Sex | weeks |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|--------|---------|-----|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|        |         |     | 1     | 2   | 3   | 4   | 5   | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   | 21   | 22   |
| xxxxxx | 7       | ♂   | 218   | 335 | 485 | 758 | 929 | 1082 | 1260 | 1330 | 1570 | 1660 | 1780 | 1930 | 2100 | 2200 | 2350 | 2430 | 2630 | 2820 | 2970 | 3020 | 3190 | 3500 |
|        |         | ♀   | 190   | 280 | 399 | 517 | 617 | 782  | 837  | 951  | 1123 | 1187 | 1267 | 1443 | 1600 | 1760 | 1860 | 2047 | 2117 | 2237 | 2343 | 2450 | 2580 | 2853 |
| xxxxxx | 8       | ♂   | 225   | 310 | 495 | 656 | 850 | 1012 | 1170 | 1290 | 1390 | 1450 | 1650 | 1750 | 1970 | 2140 | 2270 | 2350 | 2540 | 2640 | 2740 | 2800 | 3100 | 3440 |
|        |         | ♀   | 179   | 267 | 385 | 507 | 606 | 751  | 799  | 892  | 1060 | 1127 | 1213 | 1360 | 1423 | 1583 | 1693 | 1817 | 1910 | 2010 | 2233 | 2360 | 2497 | 2730 |
| xxxxxx | 9       | ♂   | 223   | 338 | 493 | 686 | 904 | 1057 | 1210 | 1340 | 1530 | 1600 | 1750 | 1850 | 2100 | 2230 | 2350 | 2420 | 2620 | 2790 | 2910 | 3040 | 3140 | 3400 |
|        |         | ♀   | 181   | 276 | 391 | 518 | 625 | 762  | 849  | 960  | 1147 | 1207 | 1310 | 1417 | 1633 | 1743 | 1837 | 2007 | 2127 | 2237 | 2347 | 2523 | 2600 | 2863 |
| xxxxxx | 10      | ♂   | 215   | 335 | 500 | 689 | 941 | 1101 | 1190 | 1320 | 1560 | 1650 | 1740 | 1930 | 2090 | 2180 | 2370 | 2430 | 2620 | 2770 | 2900 | 3030 | 3250 | 3680 |
|        |         | ♀   | 188   | 281 | 396 | 516 | 641 | 823  | 889  | 958  | 1140 | 1207 | 1290 | 1447 | 1600 | 1713 | 1817 | 2017 | 2130 | 2223 | 2340 | 2453 | 2627 | 2957 |
| xxxxxx | 11      | ♂   | 235   | 340 | 495 | 664 | 869 | 1041 | 1170 | 1300 | 1430 | 1570 | 1660 | 1780 | 2000 | 2100 | 2250 | 2370 | 2550 | 2700 | 2820 | 2900 | 3120 | 3540 |
|        |         | ♀   | 180   | 261 | 384 | 504 | 611 | 751  | 813  | 915  | 1053 | 1153 | 1233 | 1357 | 1467 | 1693 | 1667 | 1853 | 1903 | 2067 | 2267 | 2393 | 2480 | 2737 |
| xxxxxx | 12      | ♂   | 210   | 315 | 520 | 706 | 928 | 1065 | 1220 | 1320 | 1600 | 1660 | 1760 | 1960 | 2120 | 2220 | 2350 | 2420 | 2640 | 2790 | 2940 | 3000 | 3120 | 3630 |
|        |         | ♀   | 186   | 285 | 398 | 513 | 623 | 779  | 850  | 947  | 1133 | 1203 | 1300 | 1427 | 1603 | 1683 | 1830 | 2003 | 2120 | 2207 | 2363 | 2510 | 2657 | 2990 |

Laying control

Tab. No. 5

| Breed  | Tr. no. | Initial flock | Fertility | Hatchability* |       | Average number of eggs per bird-housed |               |      | Average egg weight | Nr. of chicks hatched per 1 hen* | Days at percentage of laying |      | Average live weight at the end of laying |         | Feed consumption during laying per |        |        |
|--------|---------|---------------|-----------|---------------|-------|----------------------------------------|---------------|------|--------------------|----------------------------------|------------------------------|------|------------------------------------------|---------|------------------------------------|--------|--------|
|        |         |               |           | set           | fert. | total                                  | hatching eggs |      |                    |                                  | 30%                          | 50%  | cocks                                    | hens    | bird/day                           | egg    | chick* |
|        |         | birds         | %         | %             | %     | number                                 | number        | %    | g                  |                                  | days                         | days | g                                        | g       | g                                  | g      | g      |
| xxxxxx | 1       | 220           | 90.00     | 82.74         | 87.04 | 185.90                                 | 157.42        | 84.6 | 65.97              | 130.26                           | 169                          | 172  | 5205.88                                  | 4287.78 | 178.08                             | 264.30 | 377.22 |
| xxxxxx | 2       | 220           | 96.76     | 86.84         | 88.10 | 209.40                                 | 187.89        | 89.7 | 64.42              | 163.15                           | 164                          | 167  | 5135.29                                  | 4278.29 | 173.69                             | 230.41 | 295.73 |
| xxxxxx | 3       | 220           | 96.12     | 86.41         | 88.54 | 213.51                                 | 191.88        | 89.8 | 65.34              | 165.81                           | 164                          | 166  | 5022.63                                  | 4240.28 | 173.87                             | 226.52 | 291.67 |
| xxxxxx | 4       | 220           | 90.28     | 83.16         | 88.07 | 181.36                                 | 158.36        | 87.3 | 64.21              | 131.70                           | 170                          | 173  | 5220.00                                  | 4193.41 | 174.37                             | 265.00 | 364.93 |
| xxxxxx | 5       | 220           | 92.45     | 87.59         | 90.14 | 217.50                                 | 196.40        | 90.3 | 64.68              | 172.04                           | 163                          | 167  | 4955.33                                  | 4205.56 | 174.22                             | 222.35 | 281.11 |
| xxxxxx | 6       | 220           | 92.84     | 84.81         | 88.98 | 193.27                                 | 173.05        | 89.5 | 64.89              | 146.77                           | 168                          | 170  | 4910.00                                  | 4174.18 | 175.50                             | 246.81 | 325.01 |
| xxxxxx | 7       | 220           | 88.75     | 82.83         | 87.71 | 174.28                                 | 155.36        | 89.1 | 66.02              | 128.68                           | 170                          | 174  | 4925.63                                  | 4136.89 | 175.94                             | 274.00 | 371.09 |
| xxxxxx | 8       | 220           | 92.32     | 84.56         | 88.44 | 184.22                                 | 165.44        | 89.8 | 64.89              | 139.89                           | 173                          | 177  | 5103.53                                  | 4201.03 | 176.15                             | 259.80 | 342.12 |
| xxxxxx | 9       | 220           | 93.67     | 84.77         | 87.84 | 208.16                                 | 185.42        | 89.0 | 65.45              | 157.18                           | 165                          | 167  | 5067.22                                  | 4105.19 | 174.76                             | 229.91 | 304.48 |
| xxxxxx | 10      | 220           | 90.80     | 84.05         | 88.18 | 173.62                                 | 153.68        | 88.5 | 66.11              | 129.17                           | 169                          | 173  | 4938.89                                  | 4169.81 | 176.80                             | 276.19 | 371.24 |
| xxxxxx | 11      | 220           | 95.90     | 86.24         | 89.06 | 185.46                                 | 166.07        | 89.5 | 65.21              | 143.23                           | 174                          | 177  | 5155.26                                  | 4216.51 | 174.95                             | 262.21 | 339.53 |
| xxxxxx | 12      | 220           | 95.75     | 89.58         | 91.75 | 197.81                                 | 177.78        | 89.8 | 64.84              | 159.25                           | 166                          | 169  | 5092.94                                  | 4171.03 | 174.24                             | 242.77 | 301.55 |

\*Evaluation of hatchability, number of chicks hatched per 1 hen and feed consumption during laying per chick is without including 4<sup>th</sup> feeding test from reason mechanical broken of part hatching eggs during incubation.

Egg weight in period (period = 28 days)

Tab. No. 6

| Breed  | Treat.<br>No. | Period |       |       |       |       |       |       |       |       |       | Cumulate |
|--------|---------------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|
|        |               | 1      | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    |          |
| xxxxxx | 1             | 51.32  | 58.63 | 62.43 | 65.59 | 67.65 | 69.24 | 70.69 | 71.87 | 71.72 | 73.40 | 65.97    |
| xxxxxx | 2             | 53.43  | 58.55 | 62.40 | 64.47 | 60.59 | 67.20 | 68.61 | 70.07 | 71.51 | 72.03 | 64.42    |
| xxxxxx | 3             | 53.30  | 58.74 | 62.64 | 64.28 | 66.34 | 67.15 | 69.22 | 70.79 | 71.79 | 72.44 | 65.34    |
| xxxxxx | 4             | 50.09  | 56.83 | 60.73 | 63.94 | 65.75 | 67.42 | 68.53 | 69.53 | 71.32 | 71.61 | 64.21    |
| xxxxxx | 5             | 53.17  | 58.51 | 61.63 | 63.91 | 65.09 | 66.50 | 68.15 | 69.74 | 70.97 | 71.54 | 64.68    |
| xxxxxx | 6             | 51.39  | 57.65 | 61.89 | 64.51 | 66.00 | 67.94 | 69.57 | 70.80 | 71.70 | 70.63 | 64.89    |
| xxxxxx | 7             | 52.23  | 58.62 | 62.79 | 65.29 | 67.93 | 68.82 | 70.61 | 71.82 | 72.59 | 73.38 | 66.02    |
| xxxxxx | 8             | 50.70  | 57.07 | 61.19 | 64.02 | 66.45 | 67.13 | 68.91 | 70.89 | 71.41 | 71.75 | 64.89    |
| xxxxxx | 9             | 53.31  | 59.19 | 62.26 | 64.91 | 66.63 | 67.75 | 69.09 | 70.58 | 71.91 | 72.50 | 65.45    |
| xxxxxx | 10            | 52.63  | 58.78 | 63.07 | 65.43 | 67.64 | 69.44 | 70.72 | 71.81 | 72.95 | 73.53 | 66.11    |
| xxxxxx | 11            | 49.72  | 57.08 | 61.67 | 64.35 | 66.58 | 68.00 | 69.50 | 70.78 | 72.32 | 72.84 | 65.21    |
| xxxxxx | 12            | 52.16  | 58.23 | 61.45 | 64.29 | 66.06 | 67.72 | 69.09 | 70.49 | 72.30 | 71.70 | 64.84    |

1<sup>st</sup> period: 23<sup>th</sup> – 26<sup>th</sup> week of age

10<sup>th</sup> period: 59<sup>th</sup> – 62<sup>th</sup> week of age

# Mortality - hens in the laying period

Tab. No. 7

| Breed  | Treat. No. | Initial flock | Final flock | Mortality in the laying period |      | Mortality according causes |   |   |   |   |   |   |   |   |    |    |    |    |    |
|--------|------------|---------------|-------------|--------------------------------|------|----------------------------|---|---|---|---|---|---|---|---|----|----|----|----|----|
|        |            | birds         | birds       | birds                          | %    | 1                          | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| xxxxxx | 1          | 220           | 212         | 8                              | 3.64 |                            |   |   |   |   |   |   |   |   | 6  | 1  |    |    | 1  |
| xxxxxx | 2          | 220           | 217         | 3                              | 1.36 |                            |   |   |   |   |   |   |   |   | 1  |    |    |    | 2  |
| xxxxxx | 3          | 220           | 216         | 4                              | 1.82 |                            |   |   |   |   |   |   |   |   | 3  |    |    |    | 1  |
| xxxxxx | 4          | 220           | 211         | 9                              | 4.09 |                            |   |   |   |   |   |   |   |   | 5  | 4  |    |    |    |
| xxxxxx | 5          | 220           | 216         | 4                              | 1.82 |                            |   |   |   |   |   |   |   |   | 4  |    |    |    |    |
| xxxxxx | 6          | 220           | 208         | 12                             | 5.45 |                            |   |   |   |   |   |   |   | 1 | 7  |    |    |    | 4  |
| xxxxxx | 7          | 220           | 209         | 11                             | 5.00 |                            |   |   |   |   |   |   |   | 1 | 5  | 3  |    |    | 2  |
| xxxxxx | 8          | 220           | 204         | 16                             | 7.27 |                            |   |   |   |   |   |   |   |   | 8  | 5  |    |    | 3  |
| xxxxxx | 9          | 220           | 208         | 12                             | 5.45 |                            |   |   |   |   |   |   |   |   | 4  | 3  |    |    | 5  |
| xxxxxx | 10         | 220           | 208         | 12                             | 5.45 |                            |   |   |   |   |   |   |   |   | 8  | 2  |    |    | 2  |
| xxxxxx | 11         | 220           | 212         | 8                              | 3.64 |                            |   |   |   |   |   |   |   |   | 2  | 4  |    |    | 2  |
| xxxxxx | 12         | 220           | 213         | 7                              | 3.18 |                            |   |   |   |   |   |   |   |   | 3  | 1  |    |    | 3  |

xxxxxx

## Diagnostic:

1 - Viral diseases  
2 - Bacterial diseases  
3 - Fungal diseases

4 - Parasitary diseases  
5 - Tumors  
6 - Injuries

7 - Digestive tract diseases  
8 - Respiratory tract diseases  
9 - Reproductory tract diseases

10 - Locomotion apparatus diseases  
11 - Sudden death syndrome  
12 - Cannibalism

13 - Diverticulus inflammation  
14 - culling and other causes

Statistical analysis - Cocks at 434 days of age

Tab. No. 8a

| Breed  | Treat. No. | Treatment size | Average live weight | Standard deviation | Coefficient of variation | Standard error of mean | Precision select. average | Standard error of coeff. of variation |
|--------|------------|----------------|---------------------|--------------------|--------------------------|------------------------|---------------------------|---------------------------------------|
|        |            |                | g/ks                | g/ks               | %                        | g/ks                   | %                         | %                                     |
| xxxxxx | 1          | 17             | 5205.88             | 565.28             | 10.86                    | 137.10                 | 2.63                      | 1.94                                  |
| xxxxxx | 2          | 17             | 5135.29             | 575.70             | 11.21                    | 139.63                 | 2.72                      | 2.01                                  |
| xxxxxx | 3          | 19             | 5022.63             | 504.18             | 10.04                    | 115.67                 | 2.30                      | 1.69                                  |
| xxxxxx | 4          | 16             | 5220.00             | 509.75             | 9.77                     | 127.44                 | 2.44                      | 1.80                                  |
| xxxxxx | 5          | 15             | 4955.33             | 411.25             | 8.30                     | 106.18                 | 2.14                      | 1.58                                  |
| xxxxxx | 6          | 18             | 4910.00             | 656.61             | 13.37                    | 154.77                 | 3.15                      | 2.33                                  |
| xxxxxx | 7          | 16             | 4925.63             | 367.64             | 7.46                     | 91.91                  | 1.87                      | 1.37                                  |
| xxxxxx | 8          | 17             | 5103.53             | 532.83             | 10.44                    | 129.23                 | 2.53                      | 1.87                                  |
| xxxxxx | 9          | 18             | 5067.22             | 551.36             | 10.88                    | 129.96                 | 2.56                      | 1.89                                  |
| xxxxxx | 10         | 18             | 4938.89             | 254.16             | 5.15                     | 59.91                  | 1.21                      | 0.88                                  |
| xxxxxx | 11         | 19             | 5155.26             | 498.85             | 9.68                     | 114.44                 | 2.22                      | 1.63                                  |
| xxxxxx | 12         | 17             | 5092.94             | 435.38             | 8.55                     | 105.60                 | 2.07                      | 1.52                                  |

Statistical analysis - Hens at 434 days of age

Tab. No. 8b

| Breed  | Treat. No. | Treatment size | Average live weight | Standard deviation | Coefficient of variation | Standard error of mean | Precision select. average | Standard error of coeff. of variation |
|--------|------------|----------------|---------------------|--------------------|--------------------------|------------------------|---------------------------|---------------------------------------|
|        |            |                | g/ks                | g/ks               | %                        | g/ks                   | %                         | %                                     |
| xxxxxx | 1          | 212            | 4287.78             | 488.40             | 11.39                    | 33.54                  | 0.78                      | 0.56                                  |
| xxxxxx | 2          | 217            | 4278.29             | 359.73             | 8.41                     | 24.42                  | 0.57                      | 0.41                                  |
| xxxxxx | 3          | 216            | 4240.28             | 332.04             | 7.83                     | 22.59                  | 0.53                      | 0.38                                  |
| xxxxxx | 4          | 211            | 4193.41             | 454.57             | 10.84                    | 31.29                  | 0.75                      | 0.54                                  |
| xxxxxx | 5          | 216            | 4205.56             | 377.60             | 8.98                     | 25.69                  | 0.61                      | 0.44                                  |
| xxxxxx | 6          | 208            | 4174.18             | 487.69             | 11.68                    | 33.82                  | 0.81                      | 0.58                                  |
| xxxxxx | 7          | 209            | 4136.89             | 456.55             | 11.04                    | 31.58                  | 0.76                      | 0.55                                  |
| xxxxxx | 8          | 204            | 4201.03             | 460.28             | 10.96                    | 32.23                  | 0.77                      | 0.55                                  |
| xxxxxx | 9          | 208            | 4105.19             | 321.11             | 7.82                     | 22.26                  | 0.54                      | 0.39                                  |
| xxxxxx | 10         | 208            | 4169.81             | 400.47             | 9.60                     | 27.77                  | 0.67                      | 0.48                                  |
| xxxxxx | 11         | 212            | 4216.51             | 396.41             | 9.40                     | 27.23                  | 0.65                      | 0.46                                  |
| xxxxxx | 12         | 213            | 4171.03             | 312.91             | 7.50                     | 21.44                  | 0.51                      | 0.37                                  |

# Hatchability\*

Tab. No. 9

| Breed  | Treat. No. | Fertility | Hatchability |       | Birds housed | Average weight |       |       |
|--------|------------|-----------|--------------|-------|--------------|----------------|-------|-------|
|        |            |           | Set          | Fert. |              | hatch. eggs    | 1-day |       |
|        |            | %         | %            | %     |              | g              | ♂     | ♀     |
| xxxxxx | 1          | 95.06     | 82.74        | 87.04 | 1640         | 67.16          | 44.49 | 44.50 |
| xxxxxx | 2          | 98.57     | 86.84        | 88.10 | 1640         | 65.75          | 45.46 | 45.09 |
| xxxxxx | 3          | 97.59     | 86.41        | 88.54 | 1640         | 66.19          | 45.54 | 45.19 |
| xxxxxx | 4          | 94.43     | 83.16        | 88.07 | 1640         | 65.19          | 42.35 | 42.57 |
| xxxxxx | 5          | 97.17     | 87.59        | 90.14 | 1640         | 65.21          | 44.61 | 44.41 |
| xxxxxx | 6          | 95.32     | 84.81        | 88.98 | 1640         | 66.01          | 45.71 | 45.16 |
| xxxxxx | 7          | 94.43     | 82.83        | 87.71 | 1640         | 67.31          | 46.55 | 45.89 |
| xxxxxx | 8          | 95.61     | 84.56        | 88.44 | 1640         | 65.82          | 43.02 | 41.83 |
| xxxxxx | 9          | 96.50     | 84.77        | 87.84 | 1640         | 66.14          | 46.07 | 45.62 |
| xxxxxx | 10         | 95.32     | 84.05        | 88.18 | 1640         | 67.32          | 45.16 | 45.33 |
| xxxxxx | 11         | 96.84     | 86.24        | 89.06 | 1640         | 65.92          | 43.68 | 43.54 |
| xxxxxx | 12         | 97.64     | 89.58        | 91.75 | 1640         | 65.84          | 45.13 | 45.30 |

\*Evaluation of hatchability is without results of hatchability of 4<sup>th</sup> feeding test from reason mechanical broken of part hatching eggs during incubation.

Broiler results at the age of 14 days

Tab. No. 10a

| Breed  | Treat.<br>No. | Average live weight at 14 days |              |         |        |             |         |         |             |         |
|--------|---------------|--------------------------------|--------------|---------|--------|-------------|---------|---------|-------------|---------|
|        |               | male                           |              |         | female |             |         | average |             |         |
|        |               | birds                          | live weight. | FCR     | birds  | live weight | FCR     | birds   | live weight | FCR     |
|        |               |                                | g            | g       |        | g           | g       |         | g           | g       |
| xxxxxx | 1             | 1069                           | 563.33       | 1055.46 | 1059   | 520.21      | 1125.07 | 2128    | 541.87      | 1088.71 |
| xxxxxx | 2             | 1070                           | 578.50       | 1050.09 | 1070   | 517.29      | 1123.93 | 2140    | 547.90      | 1084.95 |
| xxxxxx | 3             | 1071                           | 578.79       | 1039.22 | 1070   | 532.63      | 1101.93 | 2141    | 555.72      | 1069.26 |
| xxxxxx | 4             | 1069                           | 559.50       | 1075.73 | 1075   | 523.58      | 1124.63 | 2144    | 541.49      | 1099.44 |
| xxxxxx | 5             | 1072                           | 576.04       | 1040.78 | 1074   | 524.79      | 1106.23 | 2146    | 550.39      | 1072.01 |
| xxxxxx | 6             | 978                            | 558.58       | 1091.90 | 1023   | 520.04      | 1134.02 | 2001    | 538.88      | 1112.68 |
| xxxxxx | 7             | 1071                           | 577.58       | 1049.00 | 1070   | 532.29      | 1109.82 | 2141    | 554.95      | 1078.15 |
| xxxxxx | 8             | 954                            | 560.00       | 1070.68 | 946    | 520.67      | 1142.42 | 1900    | 540.42      | 1105.09 |
| xxxxxx | 9             | 1075                           | 574.04       | 1049.43 | 1073   | 527.00      | 1106.33 | 2148    | 550.54      | 1076.64 |
| xxxxxx | 10            | 1072                           | 579.83       | 1059.88 | 1069   | 531.83      | 1106.54 | 2141    | 555.87      | 1082.17 |
| xxxxxx | 11            | 1069                           | 561.25       | 1083.04 | 1064   | 518.88      | 1118.49 | 2133    | 540.11      | 1100.03 |
| xxxxxx | 12            | 1070                           | 579.96       | 1036.17 | 1077   | 530.00      | 1094.94 | 2147    | 554.90      | 1064.33 |

**Broiler results at the age of 32 days**

**Tab. No. 10b**

| Breed  | Treat.<br>No. | Average live weight at 32 days |                |         |        |                |         |         |                |         |
|--------|---------------|--------------------------------|----------------|---------|--------|----------------|---------|---------|----------------|---------|
|        |               | male                           |                |         | female |                |         | average |                |         |
|        |               | birds                          | live<br>weight | FCR     | birds  | live<br>weight | FCR     | birds   | live<br>weight | FCR     |
|        |               |                                | g              | g       |        | g              | g       |         | g              | g       |
| xxxxxx | 1             | 1031                           | 2336.66        | 1467.15 | 1045   | 2054.83        | 1478.69 | 2076    | 2194.80        | 1472.59 |
| xxxxxx | 2             | 1053                           | 2312.25        | 1446.77 | 1067   | 2002.01        | 1486.08 | 2120    | 2156.11        | 1465.14 |
| xxxxxx | 3             | 1054                           | 2327.72        | 1433.59 | 1061   | 2023.60        | 1458.33 | 2115    | 2175.16        | 1445.14 |
| xxxxxx | 4             | 1050                           | 2298.73        | 1440.09 | 1066   | 2090.00        | 1464.18 | 2116    | 2193.58        | 1451.65 |
| xxxxxx | 5             | 1061                           | 2403.22        | 1419.71 | 1066   | 2063.46        | 1455.91 | 2127    | 2232.94        | 1436.48 |
| xxxxxx | 6             | 963                            | 2392.96        | 1434.37 | 1015   | 2092.31        | 1476.63 | 1978    | 2238.68        | 1454.64 |
| xxxxxx | 7             | 1053                           | 2411.25        | 1439.36 | 1064   | 2131.25        | 1475.36 | 2117    | 2270.52        | 1456.34 |
| xxxxxx | 8             | 938                            | 2334.57        | 1445.27 | 932    | 2171.90        | 1447.43 | 1870    | 2253.50        | 1446.31 |
| xxxxxx | 9             | 1065                           | 2339.06        | 1439.97 | 1066   | 2071.78        | 1446.67 | 2131    | 2205.36        | 1443.12 |
| xxxxxx | 10            | 1037                           | 2428.32        | 1436.28 | 1058   | 2154.35        | 1442.77 | 2095    | 2289.96        | 1439.36 |
| xxxxxx | 11            | 1051                           | 2380.70        | 1440.50 | 1051   | 2117.40        | 1479.11 | 2102    | 2249.05        | 1458.67 |
| xxxxxx | 12            | 1054                           | 2429.44        | 1410.47 | 1069   | 2111.49        | 1455.49 | 2123    | 2269.34        | 1431.56 |

Broiler results at the age of 39 days

Tab. No. 10c

| Breed  | Treat.<br>No. | Average live weight at 39 days |                |         |        |                |         |         |                |         |
|--------|---------------|--------------------------------|----------------|---------|--------|----------------|---------|---------|----------------|---------|
|        |               | male                           |                |         | female |                |         | average |                |         |
|        |               | birds                          | live<br>weight | FCR     | birds  | live<br>weight | FCR     | birds   | live<br>weight | FCR     |
|        |               |                                | g              | g       |        | g              | g       |         | g              | g       |
| xxxxxx | 1             | 121                            | 3184.88        | 1575.63 | 125    | 2623.76        | 1657.16 | 246     | 2899.76        | 1613.12 |
| xxxxxx | 2             | 127                            | 2956.38        | 1597.51 | 129    | 2732.25        | 1603.59 | 256     | 2843.44        | 1600.45 |
| xxxxxx | 3             | 125                            | 3129.12        | 1572.07 | 130    | 2571.62        | 1612.58 | 255     | 2844.90        | 1590.74 |
| xxxxxx | 4             | 125                            | 3160.56        | 1534.92 | 124    | 2707.10        | 1644.13 | 249     | 2934.74        | 1585.08 |
| xxxxxx | 5             | 128                            | 3101.48        | 1540.34 | 125    | 2652.00        | 1622.32 | 253     | 2879.41        | 1577.65 |
| xxxxxx | 6             | 124                            | 3233.95        | 1541.11 | 127    | 2757.01        | 1600.50 | 251     | 2992.63        | 1568.79 |
| xxxxxx | 7             | 126                            | 3169.37        | 1516.50 | 128    | 2877.97        | 1601.34 | 254     | 3022.52        | 1557.21 |
| xxxxxx | 8             | 125                            | 3045.60        | 1594.96 | 120    | 2723.50        | 1688.09 | 245     | 2887.84        | 1637.97 |
| xxxxxx | 9             | 126                            | 3191.27        | 1529.22 | 127    | 2640.94        | 1600.48 | 253     | 2915.02        | 1561.63 |
| xxxxxx | 10            | 121                            | 3173.64        | 1580.17 | 129    | 2855.74        | 1551.62 | 250     | 3009.60        | 1566.19 |
| xxxxxx | 11            | 125                            | 3138.80        | 1561.11 | 126    | 2829.44        | 1580.32 | 251     | 2983.51        | 1570.25 |
| xxxxxx | 12            | 125                            | 3211.76        | 1554.79 | 128    | 2788.67        | 1585.10 | 253     | 2997.71        | 1569.05 |

# Mortality during growing period at the age of 32 days

Tab. No. 11a

| Breed  | Treat. No. | Mortality in the period |      |         |      |        |      | Mortality according causes |   |   |   |    |   |   |   |   |    |    |    |    |    |
|--------|------------|-------------------------|------|---------|------|--------|------|----------------------------|---|---|---|----|---|---|---|---|----|----|----|----|----|
|        |            | 1 - 14                  |      | 15 - 32 |      | 1 - 32 |      | 1                          | 2 | 3 | 4 | 5  | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|        |            | birds                   | %    | birds   | %    | birds  | %    |                            |   |   |   |    |   |   |   |   |    |    |    |    |    |
| xxxxxx | 1          | 32                      | 1.48 | 52      | 2.41 | 84     | 3.89 |                            |   |   |   | 11 |   |   |   |   | 5  | 59 |    | 4  | 5  |
| xxxxxx | 2          | 20                      | 0.93 | 20      | 0.93 | 40     | 1.85 |                            |   |   |   | 2  |   |   |   |   | 1  | 30 |    | 3  | 4  |
| xxxxxx | 3          | 19                      | 0.88 | 26      | 1.20 | 45     | 2.08 |                            |   |   |   | 4  |   |   |   |   | 1  | 28 |    |    | 12 |
| xxxxxx | 4          | 16                      | 0.74 | 28      | 1.30 | 44     | 2.04 |                            |   |   |   | 2  |   |   |   |   | 4  | 34 |    |    | 4  |
| xxxxxx | 5          | 14                      | 0.65 | 19      | 0.88 | 33     | 1.53 | 1                          |   |   |   | 3  |   |   |   |   | 1  | 24 |    | 1  | 3  |
| xxxxxx | 6          | 29                      | 1.43 | 23      | 1.13 | 52     | 2.56 |                            |   |   |   | 2  |   |   |   |   | 4  | 30 |    | 7  | 9  |
| xxxxxx | 7          | 19                      | 0.88 | 24      | 1.11 | 43     | 1.99 | 1                          |   |   |   | 2  |   |   |   |   | 3  | 25 |    |    | 12 |
| xxxxxx | 8          | 40                      | 2.06 | 30      | 1.55 | 70     | 3.61 |                            |   |   |   | 8  |   |   |   |   | 12 | 36 |    |    | 14 |
| xxxxxx | 9          | 12                      | 0.56 | 17      | 0.79 | 29     | 1.34 |                            |   |   |   | 1  |   |   |   |   |    | 23 |    |    | 5  |
| xxxxxx | 10         | 19                      | 0.88 | 46      | 2.13 | 65     | 3.01 |                            |   |   | 6 | 1  |   |   |   |   | 2  | 48 |    |    | 8  |
| xxxxxx | 11         | 27                      | 1.25 | 31      | 1.44 | 58     | 2.69 |                            |   |   |   | 7  |   |   |   |   | 7  | 32 |    |    | 12 |
| xxxxxx | 12         | 13                      | 0.60 | 24      | 1.11 | 37     | 1.71 |                            |   |   |   | 2  |   |   |   |   | 3  | 29 |    |    | 3  |

## Causes:

1 – Viral diseases  
2 – Bacterial diseases  
3 – Moulds diseases  
4 – Parasitary diseases  
5 – Tumors

6 – Wounds  
7 – Digestive track diseases  
8 – Respiratory tract diseases  
9 – Reproduction tract diseases  
10 – Locomotion apparatus diseases

11 – Sudden death syndrome  
12 – Cannibalism  
13 – Yolk sac. infam.  
14 – Culling and other causes

# **Mortality during growing period at the age of 39 days**

**Tab. No. 11b**

| Breed  | Treat. No. | Mortality in the period |      |         |      |        |      | Mortality according causes |   |   |   |   |   |   |   |   |    |    |    |    |    |
|--------|------------|-------------------------|------|---------|------|--------|------|----------------------------|---|---|---|---|---|---|---|---|----|----|----|----|----|
|        |            | 1 - 14                  |      | 15 - 39 |      | 1 - 39 |      | 1                          | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|        |            | birds                   | %    | birds   | %    | birds  | %    |                            |   |   |   |   |   |   |   |   |    |    |    |    |    |
| xxxxxx | 1          | 5                       | 0.96 | 20      | 3.85 | 25     | 4.81 |                            |   |   |   |   |   |   |   |   | 3  | 21 |    |    | 1  |
| xxxxxx | 2          | 6                       | 1.15 | 7       | 1.35 | 13     | 2.50 |                            |   |   |   | 2 |   |   |   |   |    | 11 |    |    |    |
| xxxxxx | 3          | 5                       | 0.96 | 7       | 1.35 | 12     | 2.31 |                            |   |   |   | 4 |   |   |   |   | 1  | 6  |    |    | 1  |
| xxxxxx | 4          | 8                       | 1.54 | 10      | 1.92 | 18     | 3.46 |                            |   |   |   | 2 |   |   |   |   | 1  | 13 |    |    | 2  |
| xxxxxx | 5          | 5                       | 0.96 | 6       | 1.15 | 11     | 2.12 |                            |   |   |   | 1 |   |   |   |   |    | 8  |    |    | 2  |
| xxxxxx | 6          | 7                       | 1.35 | 12      | 2.31 | 19     | 3.65 |                            |   |   |   | 2 |   |   |   |   |    | 16 |    |    | 1  |
| xxxxxx | 7          | 2                       | 0.38 | 5       | 0.96 | 7      | 1.35 |                            |   |   |   | 1 |   |   |   |   |    | 6  |    |    |    |
| xxxxxx | 8          | 12                      | 2.31 | 12      | 2.31 | 24     | 4.62 |                            |   |   |   | 5 |   |   |   |   |    | 17 |    |    | 2  |
| xxxxxx | 9          | 6                       | 1.15 | 8       | 1.54 | 14     | 2.69 |                            |   |   |   | 1 |   |   |   |   |    | 13 |    |    |    |
| xxxxxx | 10         | 6                       | 1.15 | 15      | 2.88 | 21     | 4.04 |                            |   |   |   | 1 |   |   |   |   |    | 18 |    |    | 2  |
| xxxxxx | 11         | 6                       | 1.15 | 12      | 2.31 | 18     | 3.46 |                            |   |   |   | 3 |   |   |   |   | 2  | 13 |    |    |    |
| xxxxxx | 12         | 1                       | 0.19 | 8       | 1.54 | 9      | 1.73 |                            |   |   |   |   |   |   |   |   | 1  | 8  |    |    |    |

## **Causes:**

1 – Viral diseases  
2 – Bacterial diseases  
3 – Moulds diseases  
4 – Parasitary diseases  
5 – Tumors

6 – Wounds  
7 – Digestive track diseases  
8 – Respiratory tract diseases  
9 – Reproduction tract diseases  
10 – Locomotion apparatus diseases

11 – Sudden death syndrome  
12 – Cannibalism  
13 – Yolk sac. infam.  
14 – Culling and other causes

Results of carcass analysis in 32 days

Tab. No. 12a (page 1)

| Breed  | Treat. No. | Sex | Weight |      |       |             | Ratio of<br>abd. fat<br>to live<br>weight | Breast meat without<br>skin |                 |                 | Thigh meat with bone |                 |                 | Breast meat and<br>thighs |            |       | Carcass |         |
|--------|------------|-----|--------|------|-------|-------------|-------------------------------------------|-----------------------------|-----------------|-----------------|----------------------|-----------------|-----------------|---------------------------|------------|-------|---------|---------|
|        |            |     | Total  | Body | Gibl. | Abd.<br>fat |                                           | weight                      | percentage      |                 | weight               | percentage      |                 | weight                    | percentage |       | value   | quality |
|        |            |     |        |      |       |             |                                           |                             | total<br>weight | body<br>carcass |                      | total<br>weight | body<br>carcass |                           |            |       |         |         |
|        |            |     |        |      |       |             |                                           |                             |                 |                 |                      |                 |                 |                           |            |       |         |         |
| g      | g          | g   | g      | %    | g     | %           | %                                         | g                           | %               | %               | g                    | %               | %               | %                         | %          |       |         |         |
| xxxxxx | 1          | ♂   | 2344   | 1650 | 137   | 26          | 1.09                                      | 580                         | 24.72           | 35.13           | 490                  | 20.91           | 29.71           | 1070                      | 45.64      | 64.84 | 70.39   | 76.22   |
|        |            | ♀   | 2040   | 1453 | 119   | 28          | 1.36                                      | 500                         | 24.53           | 34.43           | 429                  | 21.04           | 29.53           | 930                       | 45.57      | 63.95 | 71.26   | 77.07   |
|        |            | ♂   | 2192   | 1552 | 128   | 27          | 1.22                                      | 540                         | 24.63           | 34.80           | 460                  | 20.97           | 29.63           | 1000                      | 45.61      | 64.42 | 70.79   | 76.62   |
| xxxxxx | 2          | ♂   | 2303   | 1622 | 134   | 23          | 1.00                                      | 552                         | 23.97           | 34.03           | 491                  | 21.33           | 30.28           | 1043                      | 45.30      | 64.31 | 70.44   | 76.25   |
|        |            | ♀   | 2047   | 1442 | 119   | 26          | 1.29                                      | 502                         | 24.51           | 34.79           | 436                  | 21.28           | 30.22           | 937                       | 45.79      | 65.01 | 70.43   | 76.24   |
|        |            | ♂   | 2175   | 1532 | 126   | 25          | 1.14                                      | 527                         | 24.22           | 34.39           | 464                  | 21.31           | 30.25           | 990                       | 45.53      | 64.64 | 70.44   | 76.25   |
| xxxxxx | 3          | ♂   | 2323   | 1627 | 134   | 23          | 1.00                                      | 559                         | 24.05           | 34.34           | 490                  | 21.10           | 30.13           | 1049                      | 45.15      | 64.47 | 70.03   | 75.77   |
|        |            | ♀   | 2031   | 1418 | 117   | 26          | 1.30                                      | 494                         | 24.32           | 34.82           | 423                  | 20.85           | 29.85           | 917                       | 45.17      | 64.67 | 69.85   | 75.61   |
|        |            | ♂   | 2177   | 1523 | 125   | 25          | 1.14                                      | 526                         | 24.18           | 34.57           | 457                  | 20.98           | 30.00           | 983                       | 45.16      | 64.56 | 69.94   | 75.70   |
| xxxxxx | 4          | ♂   | 2319   | 1636 | 135   | 27          | 1.17                                      | 560                         | 24.15           | 34.24           | 490                  | 21.12           | 29.94           | 1050                      | 45.27      | 64.18 | 70.54   | 76.36   |
|        |            | ♀   | 2119   | 1518 | 124   | 31          | 1.48                                      | 522                         | 24.63           | 34.38           | 446                  | 21.04           | 29.37           | 968                       | 45.66      | 63.75 | 71.62   | 77.46   |
|        |            | ♂   | 2219   | 1577 | 129   | 29          | 1.32                                      | 541                         | 24.38           | 34.31           | 468                  | 21.08           | 29.66           | 1009                      | 45.46      | 63.97 | 71.06   | 76.89   |
| xxxxxx | 5          | ♂   | 2391   | 1677 | 137   | 27          | 1.14                                      | 564                         | 23.60           | 33.65           | 513                  | 21.44           | 30.56           | 1077                      | 45.04      | 64.22 | 70.14   | 75.87   |
|        |            | ♀   | 2071   | 1468 | 121   | 29          | 1.42                                      | 501                         | 24.19           | 34.12           | 447                  | 21.58           | 30.45           | 948                       | 45.77      | 64.57 | 70.89   | 76.72   |
|        |            | ♂   | 2231   | 1573 | 129   | 28          | 1.27                                      | 533                         | 23.88           | 33.87           | 480                  | 21.51           | 30.51           | 1012                      | 45.38      | 64.38 | 70.49   | 76.27   |
| xxxxxx | 6          | ♂   | 2398   | 1698 | 136   | 24          | 1.02                                      | 587                         | 24.49           | 34.59           | 518                  | 21.59           | 30.49           | 1105                      | 46.08      | 65.08 | 70.80   | 76.47   |
|        |            | ♀   | 2099   | 1503 | 118   | 27          | 1.31                                      | 530                         | 25.24           | 35.25           | 452                  | 21.54           | 30.08           | 982                       | 46.78      | 65.33 | 71.61   | 77.23   |
|        |            | ♂   | 2249   | 1601 | 127   | 26          | 1.15                                      | 559                         | 24.84           | 34.90           | 485                  | 21.56           | 30.30           | 1044                      | 46.41      | 65.20 | 71.18   | 76.82   |

Results of carcass analysis in 32 days

Tab. No. 12a (page 2)

| Breed  | Treat. No. | Sex | Weight |      |       |             | Ratio of<br>abd. fat<br>to live<br>weight | Breast meat without<br>skin |                 |                 | Thigh meat with bone |                 |                 | Breast meat and<br>thighs |            |       | Carcass |         |
|--------|------------|-----|--------|------|-------|-------------|-------------------------------------------|-----------------------------|-----------------|-----------------|----------------------|-----------------|-----------------|---------------------------|------------|-------|---------|---------|
|        |            |     | Total  | Body | Gibl. | Abd.<br>fat |                                           | weight                      | percentage      |                 | weight               | percentage      |                 | weight                    | percentage |       | value   | quality |
|        |            |     |        |      |       |             |                                           |                             | total<br>weight | body<br>carcass |                      | total<br>weight | body<br>carcass |                           |            |       |         |         |
|        |            |     |        |      |       |             |                                           |                             |                 |                 |                      |                 |                 |                           |            |       |         |         |
| g      | g          | g   | g      | %    | g     | %           | %                                         | g                           | %               | %               | g                    | %               | %               | %                         | %          |       |         |         |
| xxxxxx | 7          | ♂   | 2424   | 1718 | 137   | 26          | 1.07                                      | 592                         | 24.41           | 34.44           | 527                  | 21.72           | 30.66           | 1118                      | 46.13      | 65.10 | 70.86   | 76.52   |
|        |            | ♀   | 2170   | 1557 | 121   | 30          | 1.40                                      | 538                         | 24.78           | 34.54           | 469                  | 21.63           | 30.14           | 1007                      | 46.41      | 64.68 | 71.76   | 77.32   |
|        |            | ♂   | 2318   | 1651 | 130   | 28          | 1.20                                      | 569                         | 24.55           | 34.48           | 503                  | 21.69           | 30.45           | 1072                      | 46.24      | 64.93 | 71.21   | 76.83   |
| xxxxxx | 8          | ♂   | 2343   | 1624 | 140   | 29          | 1.23                                      | 533                         | 22.75           | 32.81           | 497                  | 21.22           | 30.60           | 1030                      | 43.97      | 63.42 | 69.33   | 75.32   |
|        |            | ♀   | 2211   | 1558 | 127   | 33          | 1.47                                      | 536                         | 24.22           | 34.38           | 462                  | 20.87           | 29.62           | 997                       | 45.09      | 64.01 | 70.45   | 76.19   |
|        |            | ♂   | 2277   | 1591 | 134   | 31          | 1.35                                      | 534                         | 23.46           | 33.58           | 479                  | 21.05           | 30.12           | 1014                      | 44.51      | 63.71 | 69.88   | 75.74   |
| xxxxxx | 9          | ♂   | 2399   | 1689 | 135   | 25          | 1.04                                      | 587                         | 24.49           | 34.79           | 515                  | 21.46           | 30.49           | 1102                      | 45.96      | 65.28 | 70.40   | 76.03   |
|        |            | ♀   | 2120   | 1503 | 120   | 26          | 1.25                                      | 529                         | 24.95           | 35.19           | 455                  | 21.43           | 30.23           | 984                       | 46.39      | 65.42 | 70.90   | 76.58   |
|        |            | ♂   | 2260   | 1596 | 128   | 26          | 1.14                                      | 558                         | 24.71           | 34.98           | 485                  | 21.45           | 30.37           | 1043                      | 46.16      | 65.35 | 70.64   | 76.29   |
| xxxxxx | 10         | ♂   | 2448   | 1729 | 137   | 26          | 1.06                                      | 593                         | 24.24           | 34.32           | 530                  | 21.63           | 30.63           | 1123                      | 45.87      | 64.95 | 70.63   | 76.21   |
|        |            | ♀   | 2182   | 1558 | 121   | 30          | 1.39                                      | 548                         | 25.13           | 35.20           | 473                  | 21.68           | 30.37           | 1021                      | 46.81      | 65.56 | 71.40   | 76.93   |
|        |            | ♂   | 2315   | 1644 | 129   | 28          | 1.22                                      | 571                         | 24.66           | 34.73           | 501                  | 21.66           | 30.50           | 1072                      | 46.31      | 65.24 | 70.99   | 76.55   |
| xxxxxx | 11         | ♂   | 2425   | 1714 | 140   | 30          | 1.24                                      | 572                         | 23.57           | 33.36           | 515                  | 21.25           | 30.08           | 1087                      | 44.82      | 63.43 | 70.66   | 76.44   |
|        |            | ♀   | 2175   | 1541 | 126   | 33          | 1.51                                      | 524                         | 24.11           | 34.02           | 460                  | 21.17           | 29.88           | 985                       | 45.28      | 63.91 | 70.86   | 76.67   |
|        |            | ♂   | 2300   | 1627 | 133   | 31          | 1.37                                      | 548                         | 23.83           | 33.67           | 488                  | 21.22           | 29.98           | 1036                      | 45.04      | 63.66 | 70.76   | 76.55   |
| xxxxxx | 12         | ♂   | 2456   | 1737 | 135   | 27          | 1.09                                      | 601                         | 24.46           | 34.59           | 522                  | 21.25           | 30.04           | 1123                      | 45.71      | 64.63 | 70.72   | 76.23   |
|        |            | ♀   | 2142   | 1535 | 121   | 27          | 1.28                                      | 540                         | 25.23           | 35.22           | 460                  | 21.47           | 29.97           | 1000                      | 46.70      | 65.18 | 71.65   | 77.31   |
|        |            | ♂   | 2299   | 1636 | 128   | 27          | 1.18                                      | 571                         | 24.82           | 34.88           | 491                  | 21.35           | 30.01           | 1061                      | 46.17      | 64.89 | 71.15   | 76.74   |

Results of carcass analysis in 39 days

Tab. No. 12b (page 1)

| Breed  | Treat. No. | Sex | Weight |      |       |             | Ratio of<br>abd. fat<br>to live<br>weight | Breast meat without<br>skin |                 |                 | Thigh meat with bone |                 |                 | Breast meat and<br>thighs |                 |                 | Carcass |         |
|--------|------------|-----|--------|------|-------|-------------|-------------------------------------------|-----------------------------|-----------------|-----------------|----------------------|-----------------|-----------------|---------------------------|-----------------|-----------------|---------|---------|
|        |            |     | Total  | Body | Gibl. | Abd.<br>fat |                                           | weight                      | percentage      |                 | weight               | percentage      |                 | weight                    | percentage      |                 | value   | quality |
|        |            |     |        |      |       |             |                                           |                             | total<br>weight | body<br>carcass |                      | total<br>weight | body<br>carcass |                           | total<br>weight | body<br>carcass |         |         |
|        |            |     |        |      |       |             |                                           |                             |                 |                 |                      |                 |                 |                           |                 |                 |         |         |
| g      | g          | g   | g      | %    | g     | %           | %                                         | g                           | %               | %               | g                    | %               | %               | %                         | %               |                 |         |         |
| xxxxxx | 1          | ♂   | 3223   | 2327 | 200   | 40          | 1.24                                      | 843                         | 26.16           | 36.23           | 688                  | 21.34           | 29.55           | 1531                      | 47.50           | 65.78           | 72.21   | 78.42   |
|        |            | ♀   | 2546   | 1852 | 159   | 40          | 1.56                                      | 641                         | 25.16           | 34.59           | 555                  | 21.80           | 29.97           | 1196                      | 46.96           | 64.56           | 72.74   | 79.00   |
|        |            | ♂   | 2884   | 2089 | 180   | 40          | 1.38                                      | 742                         | 25.72           | 35.50           | 621                  | 21.54           | 29.74           | 1363                      | 47.26           | 65.24           | 72.44   | 78.67   |
| xxxxxx | 2          | ♂   | 3156   | 2288 | 195   | 40          | 1.27                                      | 782                         | 24.79           | 34.20           | 700                  | 22.18           | 30.60           | 1482                      | 46.96           | 64.79           | 72.48   | 78.66   |
|        |            | ♀   | 2843   | 2057 | 168   | 44          | 1.56                                      | 715                         | 25.15           | 34.76           | 626                  | 22.00           | 30.42           | 1341                      | 47.15           | 65.17           | 72.35   | 78.25   |
|        |            | ♂   | 3000   | 2172 | 181   | 42          | 1.41                                      | 749                         | 24.96           | 34.46           | 663                  | 22.10           | 30.51           | 1411                      | 47.05           | 64.97           | 72.42   | 78.46   |
| xxxxxx | 3          | ♂   | 3276   | 2410 | 192   | 44          | 1.33                                      | 843                         | 25.74           | 34.98           | 723                  | 22.07           | 29.99           | 1566                      | 47.80           | 64.97           | 73.57   | 79.44   |
|        |            | ♀   | 2565   | 1820 | 154   | 40          | 1.56                                      | 636                         | 24.81           | 34.97           | 550                  | 21.42           | 30.20           | 1186                      | 46.23           | 65.17           | 70.94   | 76.95   |
|        |            | ♂   | 2920   | 2115 | 173   | 42          | 1.43                                      | 740                         | 25.33           | 34.98           | 636                  | 21.78           | 30.08           | 1376                      | 47.11           | 65.06           | 72.42   | 78.34   |
| xxxxxx | 4          | ♂   | 3196   | 2351 | 181   | 35          | 1.09                                      | 846                         | 26.48           | 35.98           | 696                  | 21.78           | 29.60           | 1542                      | 48.26           | 65.59           | 73.59   | 79.23   |
|        |            | ♀   | 2803   | 2028 | 164   | 39          | 1.38                                      | 741                         | 26.43           | 36.53           | 586                  | 20.91           | 28.90           | 1327                      | 47.33           | 65.44           | 72.33   | 78.18   |
|        |            | ♂   | 2999   | 2189 | 172   | 37          | 1.23                                      | 793                         | 26.45           | 36.24           | 641                  | 21.37           | 29.28           | 1434                      | 47.83           | 65.52           | 73.00   | 78.74   |
| xxxxxx | 5          | ♂   | 3140   | 2291 | 185   | 37          | 1.16                                      | 807                         | 25.71           | 35.24           | 704                  | 22.41           | 30.72           | 1511                      | 48.13           | 65.96           | 72.97   | 78.87   |
|        |            | ♀   | 2662   | 1946 | 159   | 41          | 1.52                                      | 683                         | 25.67           | 35.11           | 591                  | 22.21           | 30.38           | 1275                      | 47.89           | 65.50           | 73.11   | 79.09   |
|        |            | ♂   | 2901   | 2119 | 172   | 39          | 1.33                                      | 745                         | 25.69           | 35.18           | 648                  | 22.32           | 30.56           | 1393                      | 48.02           | 65.75           | 73.03   | 78.97   |
| xxxxxx | 6          | ♂   | 3264   | 2365 | 189   | 37          | 1.13                                      | 827                         | 25.32           | 34.94           | 726                  | 22.24           | 30.69           | 1553                      | 47.56           | 65.64           | 72.47   | 78.26   |
|        |            | ♀   | 2713   | 1988 | 152   | 42          | 1.56                                      | 711                         | 26.21           | 35.76           | 588                  | 21.68           | 29.58           | 1299                      | 47.89           | 65.34           | 73.29   | 78.88   |
|        |            | ♂   | 2989   | 2177 | 170   | 40          | 1.33                                      | 769                         | 25.73           | 35.32           | 657                  | 21.99           | 30.18           | 1426                      | 47.71           | 65.50           | 72.84   | 78.54   |

Results of carcass analysis in 39 days

Tab. No. 12b (page 2)

| Breed  | Treat. No. | Sex | Weight |      |       |             | Ratio of<br>abd. fat<br>to live<br>weight | Breast meat without<br>skin |                 |                 | Thigh meat with bone |                 |                 | Breast meat and<br>thighs |            |       | Carcass |         |
|--------|------------|-----|--------|------|-------|-------------|-------------------------------------------|-----------------------------|-----------------|-----------------|----------------------|-----------------|-----------------|---------------------------|------------|-------|---------|---------|
|        |            |     | Total  | Body | Gibl. | Abd.<br>fat |                                           | weight                      | percentage      |                 | weight               | percentage      |                 | weight                    | percentage |       | value   | quality |
|        |            |     |        |      |       |             |                                           |                             | total<br>weight | body<br>carcass |                      | total<br>weight | body<br>carcass |                           |            |       |         |         |
|        |            |     |        |      |       |             |                                           |                             |                 |                 |                      |                 |                 |                           |            |       |         |         |
| g      | g          | g   | g      | %    | g     | %           | %                                         | g                           | %               | %               | g                    | %               | %               | %                         | %          |       |         |         |
| xxxxxx | 7          | ♂   | 3327   | 2417 | 200   | 37          | 1.12                                      | 841                         | 25.28           | 34.80           | 752                  | 22.60           | 31.11           | 1593                      | 47.89      | 65.92 | 72.65   | 78.66   |
|        |            | ♀   | 2932   | 2156 | 170   | 47          | 1.62                                      | 757                         | 25.81           | 35.10           | 647                  | 22.07           | 30.01           | 1404                      | 47.88      | 65.11 | 73.54   | 79.33   |
|        |            | ♂   | 3129   | 2286 | 185   | 42          | 1.35                                      | 799                         | 25.53           | 34.94           | 699                  | 22.35           | 30.59           | 1498                      | 47.88      | 65.53 | 73.06   | 78.97   |
| xxxxxx | 8          | ♂   | 3057   | 2229 | 187   | 44          | 1.44                                      | 764                         | 25.00           | 34.29           | 680                  | 22.23           | 30.49           | 1444                      | 47.23      | 64.78 | 72.91   | 79.04   |
|        |            | ♀   | 2717   | 1935 | 169   | 49          | 1.80                                      | 641                         | 23.61           | 33.15           | 586                  | 21.57           | 30.29           | 1227                      | 45.17      | 63.44 | 71.21   | 77.44   |
|        |            | ♂   | 2887   | 2082 | 178   | 46          | 1.61                                      | 703                         | 24.34           | 33.76           | 633                  | 21.92           | 30.40           | 1336                      | 46.26      | 64.16 | 72.11   | 78.29   |
| xxxxxx | 9          | ♂   | 3220   | 2358 | 186   | 39          | 1.21                                      | 836                         | 25.97           | 35.46           | 718                  | 22.29           | 30.44           | 1554                      | 48.26      | 65.89 | 73.24   | 79.00   |
|        |            | ♀   | 2637   | 1914 | 159   | 45          | 1.71                                      | 675                         | 25.59           | 35.26           | 584                  | 22.15           | 30.51           | 1259                      | 47.74      | 65.76 | 72.59   | 78.61   |
|        |            | ♂   | 2928   | 2136 | 172   | 42          | 1.44                                      | 756                         | 25.80           | 35.37           | 651                  | 22.23           | 30.47           | 1406                      | 48.03      | 65.84 | 72.95   | 78.83   |
| xxxxxx | 10         | ♂   | 3329   | 2423 | 196   | 42          | 1.25                                      | 841                         | 25.27           | 34.72           | 744                  | 22.36           | 30.71           | 1585                      | 47.63      | 65.43 | 72.79   | 78.66   |
|        |            | ♀   | 2968   | 2191 | 168   | 48          | 1.62                                      | 773                         | 26.05           | 35.28           | 662                  | 22.29           | 30.19           | 1435                      | 48.34      | 65.47 | 73.84   | 79.50   |
|        |            | ♂   | 3148   | 2307 | 182   | 45          | 1.42                                      | 807                         | 25.64           | 34.99           | 703                  | 22.33           | 30.46           | 1510                      | 47.96      | 65.45 | 73.28   | 79.06   |
| xxxxxx | 11         | ♂   | 3162   | 2289 | 188   | 49          | 1.54                                      | 761                         | 24.08           | 33.26           | 689                  | 21.79           | 30.11           | 1450                      | 45.87      | 63.37 | 72.39   | 78.33   |
|        |            | ♀   | 2857   | 2085 | 169   | 50          | 1.76                                      | 727                         | 25.43           | 34.85           | 609                  | 21.32           | 29.22           | 1336                      | 46.76      | 64.07 | 72.97   | 78.89   |
|        |            | ♂   | 3010   | 2187 | 178   | 50          | 1.65                                      | 744                         | 24.72           | 34.02           | 649                  | 21.57           | 29.68           | 1393                      | 46.29      | 63.70 | 72.66   | 78.59   |
| xxxxxx | 12         | ♂   | 3236   | 2350 | 196   | 37          | 1.13                                      | 804                         | 24.86           | 34.22           | 749                  | 23.15           | 31.87           | 1553                      | 48.00      | 66.10 | 72.63   | 78.69   |
|        |            | ♀   | 2844   | 2075 | 157   | 43          | 1.52                                      | 732                         | 25.75           | 35.30           | 624                  | 21.93           | 30.05           | 1356                      | 47.68      | 65.35 | 72.96   | 78.48   |
|        |            | ♂   | 3040   | 2212 | 177   | 40          | 1.31                                      | 768                         | 25.28           | 34.73           | 686                  | 22.58           | 31.02           | 1455                      | 47.85      | 65.75 | 72.78   | 78.59   |

Statistical analysis - Cocks on the age of 32 days

Tab. No. 13a

| Breed  | Treat. No. | Sample size | Average | Standard deviation | Coefficient of variation | Standard error of mean | Precision select. average | Standard error of coeff. of variation |
|--------|------------|-------------|---------|--------------------|--------------------------|------------------------|---------------------------|---------------------------------------|
|        |            |             | g/birds | g/birds            | %                        | g/birds                | %                         | %                                     |
| xxxxxx | 1          | 1031        | 2336.66 | 234.78             | 10.05                    | 7.31                   | 0.31                      | 0.22                                  |
| xxxxxx | 2          | 1053        | 2312.25 | 225.49             | 9.75                     | 6.95                   | 0.30                      | 0.21                                  |
| xxxxxx | 3          | 1054        | 2327.72 | 243.79             | 10.47                    | 7.51                   | 0.32                      | 0.23                                  |
| xxxxxx | 4          | 1050        | 2298.73 | 247.37             | 10.76                    | 7.63                   | 0.33                      | 0.24                                  |
| xxxxxx | 5          | 1061        | 2403.22 | 224.27             | 9.33                     | 6.89                   | 0.29                      | 0.20                                  |
| xxxxxx | 6          | 963         | 2392.96 | 246.15             | 10.29                    | 7.93                   | 0.33                      | 0.24                                  |
| xxxxxx | 7          | 1053        | 2411.25 | 227.05             | 9.42                     | 7.00                   | 0.29                      | 0.21                                  |
| xxxxxx | 8          | 938         | 2334.57 | 227.48             | 9.74                     | 7.43                   | 0.32                      | 0.23                                  |
| xxxxxx | 9          | 1065        | 2339.06 | 238.30             | 10.19                    | 7.30                   | 0.31                      | 0.22                                  |
| xxxxxx | 10         | 1037        | 2428.32 | 241.08             | 9.93                     | 7.49                   | 0.31                      | 0.22                                  |
| xxxxxx | 11         | 1051        | 2380.70 | 239.39             | 10.06                    | 7.38                   | 0.31                      | 0.22                                  |
| xxxxxx | 12         | 1054        | 2429.44 | 223.60             | 9.20                     | 6.89                   | 0.28                      | 0.20                                  |

Statistical analysis - Hens on the age of 32 days

Tab. No. 13b

| Breed  | Treat. No. | Sample size | Average | Standard deviation | Coefficient of variation | Standard error of mean | Precision select. average | Standard error of coeff. of variation |
|--------|------------|-------------|---------|--------------------|--------------------------|------------------------|---------------------------|---------------------------------------|
|        |            |             | g/birds | g/birds            | %                        | g/birds                | %                         | %                                     |
| xxxxxx | 1          | 1045        | 2054.83 | 236.11             | 11.49                    | 7.30                   | 0.36                      | 0.25                                  |
| xxxxxx | 2          | 1067        | 2002.01 | 203.23             | 10.15                    | 6.22                   | 0.31                      | 0.22                                  |
| xxxxxx | 3          | 1061        | 2023.60 | 228.84             | 11.31                    | 7.03                   | 0.35                      | 0.25                                  |
| xxxxxx | 4          | 1066        | 2090.00 | 239.07             | 11.44                    | 7.32                   | 0.35                      | 0.25                                  |
| xxxxxx | 5          | 1066        | 2063.46 | 206.42             | 10.00                    | 6.32                   | 0.31                      | 0.22                                  |
| xxxxxx | 6          | 1015        | 2092.31 | 214.23             | 10.24                    | 6.72                   | 0.32                      | 0.23                                  |
| xxxxxx | 7          | 1064        | 2131.25 | 197.01             | 9.24                     | 6.04                   | 0.28                      | 0.20                                  |
| xxxxxx | 8          | 932         | 2171.90 | 211.43             | 9.73                     | 6.93                   | 0.32                      | 0.23                                  |
| xxxxxx | 9          | 1066        | 2071.78 | 201.04             | 9.70                     | 6.16                   | 0.30                      | 0.21                                  |
| xxxxxx | 10         | 1058        | 2154.35 | 200.97             | 9.33                     | 6.18                   | 0.29                      | 0.20                                  |
| xxxxxx | 11         | 1051        | 2117.40 | 225.55             | 10.65                    | 6.96                   | 0.33                      | 0.24                                  |
| xxxxxx | 12         | 1069        | 2111.49 | 199.84             | 9.46                     | 6.11                   | 0.29                      | 0.21                                  |

Statistical analysis - Cocks on the age of 39 days

Tab. No. 13c

| Breed  | Treat. No. | Sample size | Average | Standard deviation | Coefficient of variation | Standard error of mean | Precision select. average | Standard error of coeff. of variation |
|--------|------------|-------------|---------|--------------------|--------------------------|------------------------|---------------------------|---------------------------------------|
|        |            |             | g/birds | g/birds            | %                        | g/birds                | %                         | %                                     |
| xxxxxx | 1          | 121         | 3184.88 | 324.49             | 10.19                    | 29.50                  | 0.93                      | 0.66                                  |
| xxxxxx | 2          | 127         | 2956.38 | 310.20             | 10.49                    | 27.53                  | 0.93                      | 0.67                                  |
| xxxxxx | 3          | 125         | 3129.12 | 381.40             | 12.19                    | 34.11                  | 1.09                      | 0.79                                  |
| xxxxxx | 4          | 125         | 3160.56 | 322.12             | 10.19                    | 28.81                  | 0.91                      | 0.65                                  |
| xxxxxx | 5          | 128         | 3101.48 | 321.17             | 10.36                    | 28.39                  | 0.92                      | 0.66                                  |
| xxxxxx | 6          | 124         | 3233.95 | 333.82             | 10.32                    | 29.98                  | 0.93                      | 0.67                                  |
| xxxxxx | 7          | 126         | 3169.37 | 396.71             | 12.52                    | 35.34                  | 1.12                      | 0.80                                  |
| xxxxxx | 8          | 125         | 3045.60 | 344.24             | 11.30                    | 30.79                  | 1.01                      | 0.73                                  |
| xxxxxx | 9          | 126         | 3191.27 | 313.52             | 9.82                     | 27.93                  | 0.88                      | 0.63                                  |
| xxxxxx | 10         | 121         | 3173.64 | 321.90             | 10.14                    | 29.26                  | 0.92                      | 0.66                                  |
| xxxxxx | 11         | 125         | 3138.80 | 351.86             | 11.21                    | 31.47                  | 1.00                      | 0.72                                  |
| xxxxxx | 12         | 125         | 3211.76 | 231.02             | 7.19                     | 20.66                  | 0.64                      | 0.46                                  |

Statistical analysis - Hens on the age of 39 days

Tab. No. 13d

| Breed  | Treat. No. | Sample size | Average | Standard deviation | Coefficient of variation | Standard error of mean | Precision select. average | Standard error of coeff. of variation |
|--------|------------|-------------|---------|--------------------|--------------------------|------------------------|---------------------------|---------------------------------------|
|        |            |             | g/birds | g/birds            | %                        | g/birds                | %                         | %                                     |
| xxxxxx | 1          | 125         | 2623.76 | 253.77             | 9.67                     | 22.70                  | 0.87                      | 0.62                                  |
| xxxxxx | 2          | 129         | 2732.25 | 212.74             | 7.79                     | 18.73                  | 0.69                      | 0.49                                  |
| xxxxxx | 3          | 130         | 2571.62 | 226.65             | 8.81                     | 19.88                  | 0.77                      | 0.55                                  |
| xxxxxx | 4          | 124         | 2707.10 | 262.72             | 9.71                     | 23.59                  | 0.87                      | 0.62                                  |
| xxxxxx | 5          | 125         | 2652.00 | 225.09             | 8.49                     | 20.13                  | 0.76                      | 0.54                                  |
| xxxxxx | 6          | 127         | 2757.01 | 314.57             | 11.41                    | 27.91                  | 1.01                      | 0.73                                  |
| xxxxxx | 7          | 128         | 2877.97 | 227.11             | 7.89                     | 20.07                  | 0.70                      | 0.50                                  |
| xxxxxx | 8          | 120         | 2723.50 | 269.46             | 9.89                     | 24.60                  | 0.90                      | 0.65                                  |
| xxxxxx | 9          | 127         | 2640.94 | 275.36             | 10.43                    | 24.43                  | 0.93                      | 0.66                                  |
| xxxxxx | 10         | 129         | 2855.74 | 255.39             | 8.94                     | 22.49                  | 0.79                      | 0.56                                  |
| xxxxxx | 11         | 126         | 2829.44 | 357.09             | 12.62                    | 31.81                  | 1.12                      | 0.81                                  |
| xxxxxx | 12         | 128         | 2788.67 | 272.55             | 9.77                     | 24.09                  | 0.86                      | 0.62                                  |