***Table 1.*** *Flock**size across households that practice indigenous poultry (N = 7538****)***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Chicken age group | Villages (Mean± SE ) | | | | | |
| Falakahla | Ciko | Gosani | Dokodela | Nqabarha | Ludondolo |
| Chicks | 4.16±1.1NS | 5.83±1.1a | 6.37±1.2b | 6.80±1.2b | 6.50±1.4b | 7.09±1.9NS |
| Cock | 6.12±1.3a | 7.16±1.3a | 9.14±1.4ab | 11.38±1.4b | 9.80±1.6ab | 9.36±2.1ab |
| Laying | 2.74±0.9 NS | 4.26±1.0a | 4.51±1.1a | 5.92±1.1b | 5.81±1.2b | 4.81±1.6NS |
| Hen | 18.67±4.1a | 23.36±4.2a | 26.0±4.4ab | 32.23±4.4b | 26.10±5.1ab | 25.9±6.9ab |
| Lay- Incubating | 1.38±0.6NS | 2.60±0.6a | 2.74±0.7a | 3.15±0.7a | 2.65±0.8NS | 2.45±1.0NS |

*SE= Standard error, NS means Not significant; (\*) means significant at 0.05; (\*\*) means significant at 0.01*

There are variations in flock size with hen having the highest (4094), followed by cock (1413), chicks (960), laying hen (684), and incubating layers (387). The mean of chicks (23.13), cock (8.82), chicks (7.46), lay incubating (4.78), and laying hen (2.9).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| FACTORS | | TRAITS | | | | |
| EGC | CPY | HATCH | EGY | SURV |
| Breed | VN | 13.36±0.31b | 4.17±0.16 | 86.03±0.31c | 55.71±2.14 | 68.70±0.26c |
| PK | 15.11 ±0.25b | 3.22±0.13 | 81.83±0.39b | 60.28±1.75 | 75.48±0.21b |
| OV | 11.37±0.30ab | 3.71±0.15 | 79.61±0.41a | 42.18±2.04 | 71.13±0.25ab |
| NN | 9.69±0.30a | 3.56±0.15 | 80.26±1.81ab | 34.49±2.65 | 60.08±0.25a |
|  | \*\* | NS | \*\* | NS | \*\* |
| Village | Falakahla | 13.37±0.24c | 3.66±0.12 | 73.94±0.48 | 39.96±1.66 | 66.08±0.20c |
| Ciko | 10.69±0.34ab | 4.33±0.17 | 72.19±0.44 | 40.41± 2.31 | 58.33±0.28b |
| Gosani | 10.69±0.36ab | 3.96±0.18 | 75.58±0.50 | 30.20±2.50 | 49.49±0.29a |
| Dokodela | 9.43±0.35a | 4.80±0.18 | 73.24±0.50 | 36.38±2.40 | 47.30±0.29a |
| Nqabarha | 11.76±0.41b | 3.91±0.21 | 72.80±0.55 | 33.61±2.83 | 58.59±0.35b |
| Ludondolo | 11.10±0.76b | 3.63±0.36 | 75.83±0.67 | 33.23±4.80 | 56.65±0.59ab |
|  | \*\*\* | NS | NS | NS | \*\* |
| Rearing System | Cage Con. | 12.77±0.5b | 3.81±0.46 | 72.86±0.44 | 36.45±2.79 | 59.27±0.35 |
| S.I | 12.36±0.3b | 3.99±0.27 | 70.06±0.27 | 36.92±1.64 | 57.26±0.21 |
| U.S | 11.33±0.5ab | 3.90±0.46 | 74.61±0.46 | 33.09±2.85 | 48.85±0.36 |
| Scavengers | 10.70±0.5a | 4.80±0.47 | 73.80±0.47 | 40.95±2.92 | 49.80±0.37 |
|  | \*\* | NS | NS | NS | NS |

**Table 2.** Least square means ± standard error of productive traits of indigenous chicken

*NS means Not significant; (\*\*) means significant at 0.05; (\*\*\*) means significant at 0.01. NN: Naked Neck. OV:*

*SE= Standard error, NS means Not significant; (\*) means significant at 0.05; (\*\*) means significant at 0.01*

*Ovambo, VN: Venda, PK: Potchefstroom Kooekok, Cage Conf: Cage Confinement S.I: Semi Intensive, U.S: Unimproved Scavengers, EGC: Egg per clutch, CPY: Clutch per year, HATCH: hatchability, EGY: Egg per year, SURV: Survivability*

**Table 3.** Correlation among productive traits of indigenous poultry

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Traits | Correlation ± SE of correlation | | | | |
| EGC | HATCH | SURV | CPY | EGY |
| EGC | 1 | 0.81±0.02\*\* | 0.50±0.04\*\*\* | 0.25±0.06\*\* | 0.66±0.04\*\*\* |
|  |  |  |  |  |  |
| HATCH | 0.81±0.02**\*\*** | 1 | 0.54±0.03**\*\*\*** | 0.28±0.07\*\*\* | 0.47±0.05\*\* |
|  |  |  |  |  |  |
| SURV | 0.50±0.04\*\*\* | 0.54±0.03\*\*\* | 1 | 0.05±0.02NS | 0.36±0.07**\*\*\*** |
|  |  |  |  |  |  |
| CPY | 0.25±0.06**\*\*** | 0.28±0.07**\*\*\*** | 0.05±0.02NS | 1 | 0.11±0.03NS |
|  |  |  |  |  |  |
| EGY | 0.66±0.04\*\*\* | 0.47±0.05\*\* | 0.36±0.07\*\*\* | 0.11±0.03NS | 1 |

*Note: NS = Not significant , (\*\*) significant at 0.05% level of probability (P≤0.05), (\*\*\*) significant at 0.01% level of probability (P≤0.001), EGC- egg per clutch, CLY- clutch per year, HATCH- hatchability, SURV- Survivability. SE: Standard error*

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| FACTORS | | TRAITS | | | | | | | |
| RP | CL | AA | DR | Mortality | EGL | NBP | NIP |
| **Breed** | | NS | NS | \*\* | NS | NS | \*\* | \*\* | \*\*\* |
|  | VN | 19.64±0.2ab | 16.89±0.2 | 124.08±0.2a | 82.36±0.4a | 30.51±0.4 | 158.89±3.1b | 56.330±0.1b | 21.17±0.8a |
| PK | 18.55±0.2a | 16.86±0.2 | 128.15±0.2b | 82.06±0.4a | 55.60±0.4 | 141.50±3.3a | 56.84±0.1a | 21.05±0.9a |
| OV | 19.18±0.2ab | 16.72±0.2 | 127.98±0.2b | 82.81±0.4a | 36.40±0.5 | 147.93±3.4ab | 56.25±0.1a | 21.29±0.9a |
| NN | 20.09±0.3b | 16.69±0.2 | 126.09±0.3a | 83.70±0.6b | 70.94±0.7 | 150.72±4.7ab | 56.09±0.2a | 21.42±0.1a |
| Breed x village | \*\* | NS | \*\* | \*\* | NS | \*\* | \*\* | \*\* |
| **Village** | |  |  |  |  |  |  |  |  |
|  | Willow-vale | 19.16±0.2a | 16.63±0.2 | 126.80±0.2a | 83.29±0.9 | 40.82±0.5 | 158.98±3.5b | 56.28±0.1a | 21.10±0.1a |
| Ciko | 21.55±0.3b | 16.74±0.2 | 128.41±0.2b | 81.74±0.4 | 57.91±0.5 | 160.51±3.5b | 56.14±0.1a | 21.12±0.1a |
| Gosani | 18.03±0.3a | 16.94±0.2 | 124.27±0.2a | 81.68±0.5 | 47.89±0.5 | 147.12±3.6a | 56.61±0.1a | 21.42±0.1b |
| Dokodela | 20.32±0.4b | 17.04±0.2 | 125.31±0.2a | 82.56±0.5 | 46.32±0.5 | 149.26±3.6ab | 56.38±0.1a | 21.41±0.1b |
| Nqabarha | 19.60±0.3a | 16.65±0.2 | 126.67±0.2a | 83.79±0.6 | 37.30±0.6 | 157.07±4.2b | 56.32±0.1a | 21.33±0.1a |
| Ludondolo | 19.70±0.7a | 16.80±0.3 | 126.56±0.2a | 82.71±0.8 | 47.71±0.2 | 142.90±5.8a | 56.32±0.1a | 21.28±0.2a |
|  | Village x rearing | \*\* | NS | \*\* | NS | NS | \*\* | \*\* | \*\* |
| **Rearing System** | |  |  |  |  |  |  |  |  |
|  | Cage Con. | 19.49±0.3a | 16.99±0.2 | 128.05±0.3b | 81.94±0.7 | 36.18±0.7 | 158.19±5.3b | 56.38±0.2a | 21.19±0.1a |
| Semi- Intensive | 19.76±0.2a | 16.88±0.1 | 123.32±0.1a | 82.28±0.3 | 57.96±0.3 | 160.06±2.5b | 56.20±0.1a | 21.29±0.0a |
| Un. Scavengers | 20.65±0.2b | 16.74±0.2 | 124.67±0.2a | 82.40±0.4 | 67.61±0.4 | 142.85±3.0a | 56.67±0.1a | 21.02±0.1a |
| Scavengers | 21.49±0.3b | 16.85±0.2 | 128.71±0.2b | 82.89±0.5 | 69.43±0.5 | 147.75±3.9a | 56.29±0.1a | 21.19±0.1a |
| Breed x rearing | \*\* | NS | \*\* | NS | NS | \*\*\* | \*\* | \*\* |

**Table 4.** Least square means ± standard error of reproductive traits of indigenous chicken

*SE= Standard error, NS means Not significant; (\*) means significant at 0.05; (\*\*) means significant at 0.01*