# INHERITANCE OF PROPERTY NUMBER OF MAMMARY COMPLEXES IN PIGLETS FROM CERTAIN BREEDS OF PIGS

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## ABSTRACT

The number of mammary places is of particular importance for quality nutrition of piglets, which further conditions economic viability.

The aim of the research is to see the number of mammary places (breast) in certain breeds of pigs for the production of racial hybrids for meat. The number of mammary places is of particular importance for quality nutrition of piglets, which further conditions economic viability.

In the research, 3 pigs of pigs were taken on the farm of the agricultural Cooperative "Edinstvo" in the village. Chelopek, municipality of Tetovo, R. Macedonia, a sample of 50 pigs was taken separately from each breed in the production year 2018.

From the results obtained in the Landrace race, the average value of the number of mammary complexes (breast) is M ± m = 13.84 breast, compared to the breeder's provisional breeding standard, which is PSSt = 14 breast, the deviation from the PSSt on the farm is 0.16 with a variation coefficient (VC% = 1.14). From the presented results it can be concluded that there is little negative deviation.

While in the Yorkshire race, the average value of the number of mammary complexes (breast) is (M ± m = 12.60 tits), compared to the provisional breeding standard of the farm that is PSSt = 12.picks, the deviation from the PSSt on the farm is + 0.60 s variation coefficient (V% = 5.00). In the Duro race, the average value of the number of mammary complexes (breast) is M ± m = 12.60 tits, compared to the provisional breeding standard of the farm that is PSSt = 12. cats, the deviation from the temporary breeding standard of the farm is + 0.60 with a variation coefficient (VC% = 5.00). From the presented results it can be concluded that both races (Yoxhir and Durok) have a positive improvement in this feature.

***Keywords:*** *mammary places, breeds, pigs, feature, temporary selection standard.*

The pig belongs to euretic mammals, which have vermicelli with a larger number of mammary complexes; each gland belongs to one breast, 2 short channels of 3-4 mm length pass through each breast, which end with one aperture at the tip of the breast ( L Konig HE, Liebich H.-G. 2004).Fertility plays an important role nowadays in the industrial breeding of pigs, which seeks to impose not only a high number of piglets per litter, regularity and durability in piglets, by raising as much percentage of polluted piglets and those pigs better and properly are developing.In their development, it is particularly important that the period from right to right is a period of first development, when the diet of piglets depends mainly on the milk of the sows. That is why the farmers try to choose which juniper pigs to ensure a better quality diet of piglets. (Vidović Vitomir, et al., 2011).

The good lactation of the pigs is not conditioned only by the proper diet and individual ability to produce milk, but also the beautiful and equally developed vim with a sufficient number of mammary complexes. (Vidović Vitomir., 2009).

In pigs, the mammary gland is quite long and is located on the entire ventral surface of the stomach region. It consists of two rows of the mammary complexes, which are arranged on both

sides of the median line of the stomach. Tribal breeds have a significantly higher number of mammary complexes than primitive ones. Only syringes with 12 or more breasts are taken.In contrast to the position in pigs, we distinguish normal, excessive and rectal breasts. Normal breasts are located on the right and left sides of the medial side of the stomach, from the chest to the inguinal regions. These breasts are important for the production of pig milk and therefore they must pay the most attention. Among the normal can be accommodated, especially in pigs with a larger number of breasts, too numerous breasts, which are as a rule poorly developed and most of them are not functional. Rectal breasts are located completely at the back of the pigs, between the thighs, and in the scrap of the scrotum. Rectal breasts can also be considered too numerous breasts and rudimentary or curved creations (Jovanov T. and Jovanov V., 2011; Stančić B. Ivan., 2014).

As a condition, for entering the Pig Breeding Associations, a temporary temporary minimum number of breasts is set as a standard for certain races. In the registers of associations of breeding and pig breeding associations, special columns have been introduced in which the number of breasts is noted as an important breeding ground for pigs. It comes especially in some races that are praying for a large number of descendants, more often than not the number of breasts. Because in sucking each pig is taught to suck only one breast, there are difficulties for the stock breeders to grow piglets in small breast pigs. In the registers, there is a separate column "number of breastbone", where the absolute number of tits in animals is marked, and the temporary breeding standard for white cranberries requires that there be at least 10 tick marks. it can be said that until now, only breeds have been compared to each other, and not individuals with a larger number of breasts with those with smaller breeds of the same breed, since fertility as well as the number of breasts are racial, not only individual properties (Ilančić D i Romic S., 1939). The number of tigers in pigs is a genetic hereditary property and it is inherited intermediately. While pork fertility is often noted that it is in a positive correlation with the succession of breast numbers.

## MATERIAL AND METHODS

The study provided a comparative analysis of the results obtained on a representative sample of a total of 50 piglets separately from each race. In order to determine the inheritance of the number of breast complements in certain pig breeds of the "Edinstvo" agricultural union in the village Chelopek, municipality of Tetovo, R. Macedonia, in the production year 2018. For the statistical data processing we used a variation coefficient (V%) in the selected samples. We presented the results tabular and graphic.

## RESULTS AND DISCUSSION

Table 1. Inheritance of the number of maternal complexes - Breasts in piglets from the Landrace (a sample of 50 piglets)

| Sex | Number individuals | number breasts | | | | in % | | | | M ±m | PSSt. | V% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **10** | **12** | **14** | **16** | **10** | **12** | **14** | **16** | | | |
| ♂ | 17 | / | 3 | **9** | 5 | 0 | 17.65 | 52.94 | 29.41 | **14.23** | +0.23 | 1.64 |
| ♀ | 33 | 2 | 6 | **21** | 4 | 6.06 | 18.18 | 63.64 | 12.12 | **13.64** | -0.36 | 2..57 |
| ♂+♀ | 50 | 2 | 9 | **30** | 9 | 4 | 18 | 60 | 18 | **13.84** | -0.16 | 1.14 |

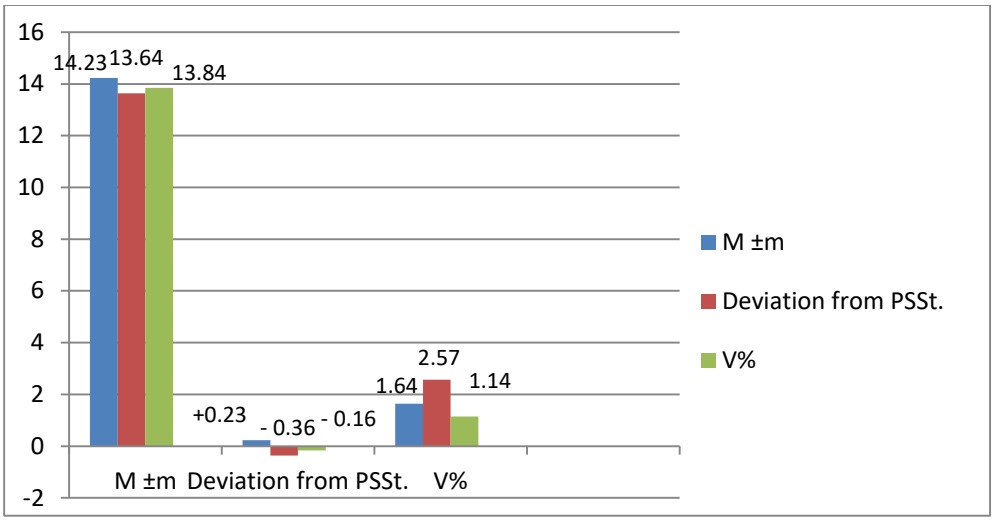


Chart 1. Inheritance of the number of mammary complexes in piglets from the Landrace (a sample of 50 piglets)

In table 1 and graph 1, the results obtained in the Landrace race are presented, the number of mammary complexes compared to the provisional breeding standard of the farm (PSSt = 14 cents), in 17 male piglets (♂), the average value of this property is (M ± m = 14.23 breast), the deviation from the breeding standard is +0.23 with a variation coefficient (V% = 1.64). And in 33 female piglets (♀) the average value of this property is (M ± m = 13.64 tits), the deviation from the breeding standard is - 0.36 with a variation coefficient (V% = 2.57). While the average value of breeding breed status in the tested sample of 50 piglets in this breed is (M ± m = 13.84 tits), the deviation from the breeding standard is - 0.16 with a variation coefficient (V% = 1.14). From the presented values of the statistical parameters for the breast number, we can conclude that they are slightly higher than the temporary breeding standard specified on the farm in male piglets. The average value of the number of polluted piglets per litter of sesame from a diversified level, per 1 - in pig breeding at this race is 13.60.

Table 2. Inheritance of a number of mammary complexes - tits in piglets from the Yorkshire race (sample of 50 piglets)

| Sex | Number individuals | number breasts | | | | in % | | | | M ±m | PSSt. | V% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 10 | **12** | 14 | | | 12 | 14 | 16 | | | |
| ♂ | 10 | 1 | **5** | 3 | 1 | 10 | 50 | 30 | 10 | 12.80 | +0.80 | 6.67 |
| ♀ | 40 | 2 | **26** | 11 | 1 | 5 | 65 | 27.5 | 2.5 | 12.55 | +0.55 | 4.58 |
| ♂+♀ | 50 | 3 | **31** | 14 | 2 | 6 | 62 | 28 | 4 | 12.60 | +0.60 | 5.00 |

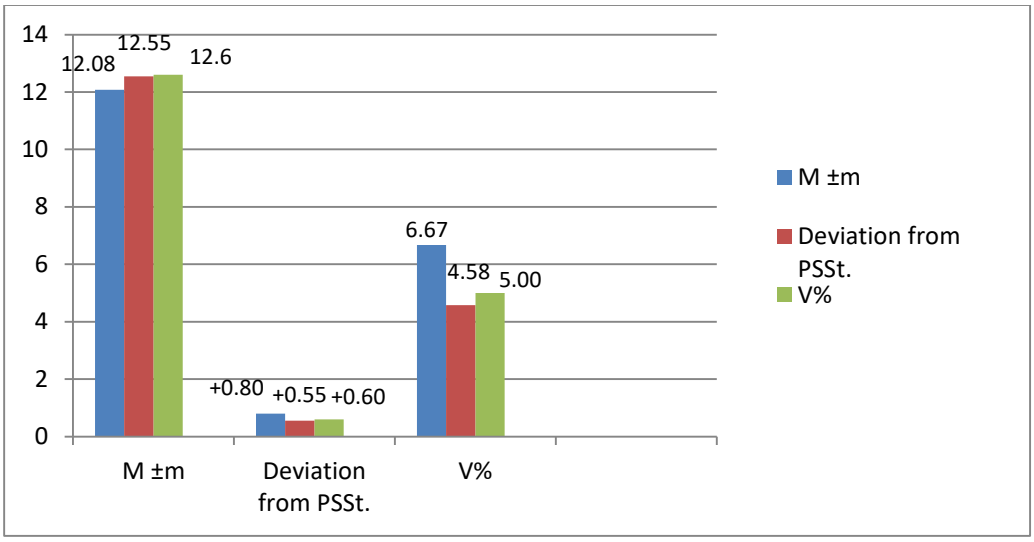


Chart 2. Inheritance of the number of mammary complexes in piglets from the Yorkshire race (a sample of 50 piglets)

In Table 2 and Graph 2, the results obtained in the Yorkshire race are presented, the number of breast sites (breast) compared to the breeding standard of the farm (PSSt = 12 breast) in 10 male piglets (♂), the average of this property is (M ± m = 12.80 breast), the deviation from the breeding standard is +0.80 with a variation coefficient (V% = 6.67). And in 40 female piglets (♀) the average value of this property is (M ± m = 12.55 breast), the deviation from the breeding standard is - 0.36 with a variation coefficient (V% = 4.58). While the average value of the breast number property in the examined sample of a total of 50 piglets in this breed is (M ± m = 12.60 breast), the deviation from the breeding standard is 0.60 with a variation coefficient (V% = 5.00). From the stated values of the statistical parameters for the breast number property, it can be concluded that they are somewhat higher than the temporary breeding standard determined on the farm and in this breed in male piglets. The average value of the number of polluted piglets per litter (the names of the diversified level, for 1 - in piglets) in this breed is 12.90.

Table 3. Inheritance of the number of maternal complexes - breast pork breeds Durok (sample of 50 piglets)

| Sex | Number individuals | number breasts | | | | in % | | | | M ±m | PSSt. | V% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 10 | **12** | 14 | 16 | 10 | 12 | 14 | 16 | | | |
| ♂ | 15 | 3 | **9** | 2 | 1 | 20 | 60 | 13.3 | 6.7 | 12.13 | +0.13 | 1.08 |
| ♀ | 35 | 2 | **20** | 10 | 3 | 5.71 | 57.14 | 28.57 | 8.57 | 12.80 | +0.80 | 6.67 |
| ♂+♀ | 50 | 5 | **29** | 12 | 4 | 10 | 58 | 24 | 8 | 12.60 | +0.60 | 5.00 |

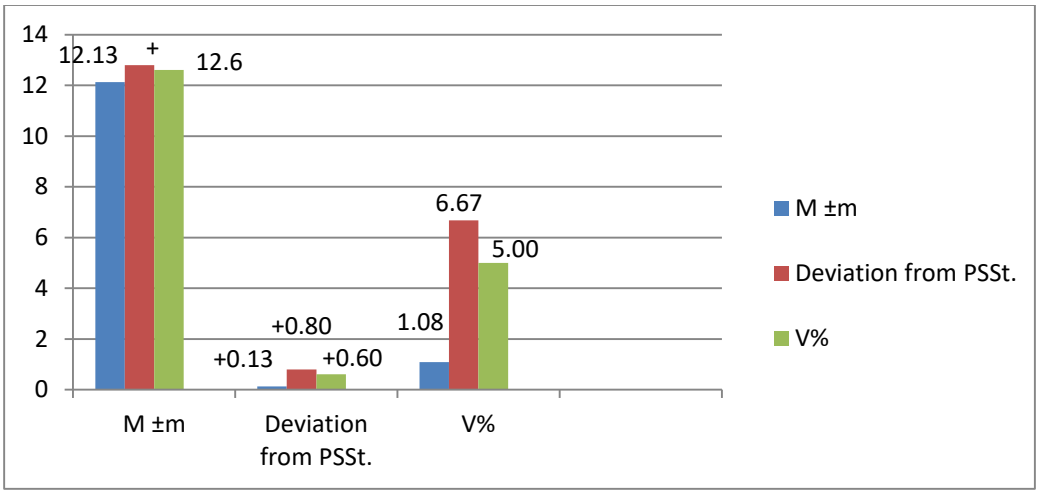


Chart 3. Inheritance of the number of mammary complexes in piglets of the Durok breed (sample of 50 piglets)

In Table 3 and Graph 3, the results obtained in the Drook breed, the number of breast complexes (breast), compared to the provisional breeding standard of the farm (PSSt = 9), in 15 male piglets, the average value of this property is (M ± m = 12.13 breast), the deviation from the breeding standard is +0.13 with a variation coefficient (V% = 1.08). And in 35 female piglets (♀) the average value of this property is (M ± m = 12.80 breast), the deviation from the breeding standard is +0.80 with a variation coefficient (V% = 6.67). While the average value of the number of maternal complexes (breast) in the examined sample of a total of 50 piglets in this breed is (M ± m = 12.60 tits), the deviation from the breeding standard is + 0.60 with a variation coefficient (V% = 5.00). From the stated values of the statistical parameters for the number of maternal complexes (breast), it can be concluded that they are somewhat higher than the temporary breeding standard determined on the farm in this breed in female piglets. The average value of the number of polluted piglets per litter of sesame from a diversified level, for 1 - in piglets) for this breed is 11.80.

Table 4. Inheritance of the number of mammary complexes-cubes in piglets from the Landrace, Yorkshire and Durok (a sample of 50 piglets)

| Sex | Number individuals | number breasts | | | | in % | | | | M ±m | PSSt. | V% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 10 | **12** | 14 | 16 | 10 | 12 | 14 | 16 | | | |
| **L(♂+♀)** | 17+33=50 | 2 | 9 | **30** | 9 | 4 | 18 | 60 | 18 | **13.84** | -0.16 | 1.14 |
| **J (♂+♀)** | 10+40=50 | 3 | **31** | 14 | 2 | 6 | 62 | 28 | 4 | 12.60 | +0.60 | 5.00 |
| **D(♂+♀)** | 15+35=50 | 5 | **29** | 12 | 4 | 10 | 58 | 24 | 8 | 12.60 | +0.60 | 5.00 |

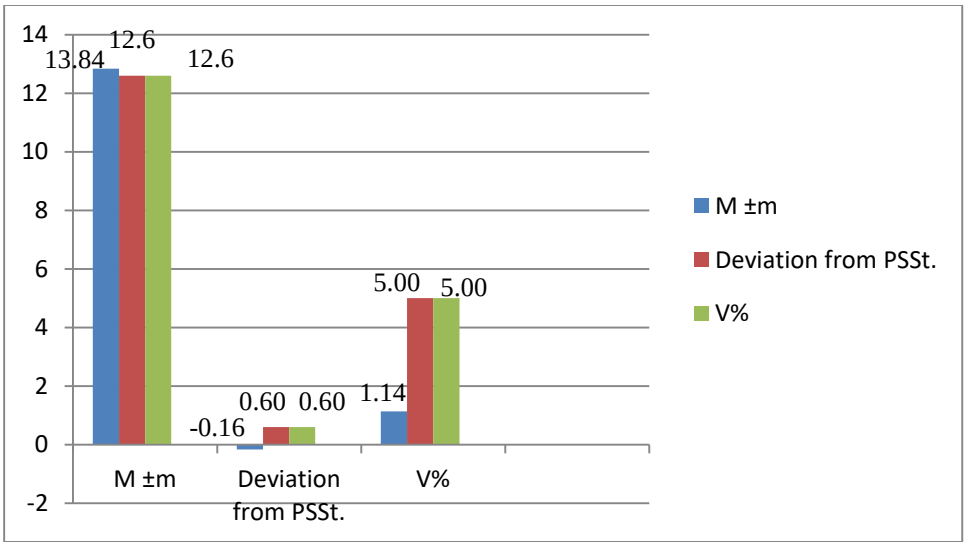


Chart 4. Inheritance of the number of mammary complexes (tits) in piglets from the Landrace, Yorkshire and Durok (a sample of 50 piglets)

Table 4 and Graph 4 show the average results obtained in the research on the number of breast complexes (breast) in pig breeds subject to Landrace, Yorkshire and Durok analysis on a sample of 50 piglets of each breed bred for production of racial hybrids (J x L) x D., for the production of meat. In the Landrace race, the average value of the number of breastmilk complexes (breast) is (M ± m = 13.84 tits), the deviation from the temporary breeding standard of the farm is - 0.16 with a variation coefficient (V% = 1.14) from the presented statistical results it can be concluded that there is little negative deviation. While in the Yorkshire race, the average value of this property is (M ± m = 12.60 breast), the deviation from the temporary breeding standard is 0.60 with a variation coefficient (V% = 5.00), from the presented statistical results it can be concluded that in this breed has a positive improvement in this feature. And in the Duro race, the average value of the number of breast complexes (breast) is (M ± m = 12.60 breast), the deviation from the temporary breeding standard on the farm is + 0.60 with a variation coefficient (V% = 5.00). From the presented statistical results we can conclude that in this race there is a positive improvement of this characteristic. And from the results presented on the status of the number of polluted piglets per litter in these breeds, one can conclude that the highest average value is in the Landrace race which amounts to 13.60 piglets of piglets per litter, followed by the Yokshir race with 12.90 pigs, while It is the lowest in the Durok race and is 11.80 piglets.

Number of maternal complexes (breast) in piglets: right Landrace (PSSt = 14), in the middle Yotshire (PSSt = 12) and left Durok (PSSt = 12)

## III.CONCLUSIONS

In the development of piglets, the period from the right to the rejection is especially important - the period of the first development, when the diet of piglets depends mainly on the milk of the sows. That is why the farmers try to choose which juniper pigs, with the beautiful and equally developed vim with a sufficient number of breast complexes (breast) and thus provide as much quality nutrition for piglets as possible.

Therefore, for certain breeds in piglets, a different minimal number of breast complexes (breast) has been set, which is an important feature in the breeding of pigs, this is especially important in certain breeds that are praying for a large number of descendants, sometimes larger than the number the breasts.

When sucking, each pig is taught to suck only one breast, and therefore there are difficulties for cattle breeders in pig breeding with a small number of breasts. Farm breeders determine a temporary breeding standard with the lowest number of breast forms - PSSt.

In the research on certain races (Landrace, Yorkshire and Durok) grown to produce racial hybrids (J x L.) x D., for the production of meat, which were the subject of research, for the analysis of the number of maternal complexes (breast) in piglets, a sample of 50 piglets was taken separately for each breed, in the production year 2018.

From the analysis of the results the following conclusions can be drawn:

From the obtained average results in the Landrace race, with a temporary breeding standard on the PSSt = 14 breast, the average value of the number of breastmass complexes (breast) on a sample of 50 piglets is (M ± m = 13.84 breast), the deviation from the interim breeding standard the farm is - 0.16 with a variation coefficient (VC% = 1.14). From the presented results for the tested properties, it can be concluded that there is little negative deviation, while in male piglets they have little positive sticking compared to the prevailing selection standard. While in the Yorkshire race, with a temporary breeding standard on the PSSt = 12 breast, the average value of

the number of breastmass complexes (breast) on a sample of 50 piglets is (M ± m = 12.60 breast), the deviation from the interim breeding standard is +0.60 with a variation coefficient (V% = 5.00). From the presented results of the tested properties it can be concluded that in this race there is a positive improvement in the two sexes of piglets, while the positive improvement of this feature is slightly more pronounced in this breed in male piglets. And in the Drook breed, with a temporary breeding standard on the PSSt = 12 breast, the average value of the number of breast complexes (breast) on a sample of 50 piglets is (M ± m = 12.60 breast), the deviation from the temporary breeding standard of the farm is + 0.60 with variation coefficient (V% = 5.00). From the presented statistical results it can be concluded that this race has a positive improvement in this characteristic, and while in this race, the positive improvement is more pronounced in female piglets.

From the results shown for the properties, the number of polluted piglets per litter in the races (Landrace, Yorkshire and Durok), it can be concluded that the highest average value is found in the Landrace race which amounts to 13.60 piglets per litter, followed by the Yokshir race, which is 12, 90 piglets, while the lowest in the Durok race is 11.80 pigs.

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