

REPRODUCIBLE ABILITY AND MEAT PRODUCTIVITY OF CATTLE OF THE MEN-ANJOU BREED IN THE STEPPE ZONE OF UKRAINE

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Studies have been carried out on the possibility of raising cattle of the Men-Anjou breed in the conditions of the steppe zone of Ukraine. It is proved that animals are well acclimatized to the hot climate of the south – body temperature, respiration rate and pulse rate remain normal. However, their habitus somewhat decreases in comparison with analogues in the homeland of France). This process we called "graduation", as a result of which the amount of moisture in the muscles, fat and bones is less. But the reproductive capacity of the breeding stock and the sexual activity of bulls-producers does not deteriorate. Meat production and slaughter indicators remain high.

When using this meat breed in industrial cross with dairy breeds, the obtained crosses (F1 and F2) showed good fattening qualities, which increases the production of high-quality beef.

Key words: breed, acclimatization, reproductive ability, productivity, meat qualities.

Men-Anjou, red-motley suit (second name red meadow) – one of the largest french and world breeds of cattle for live weight, body length and height [1, 2]. Taking into account that the climatic and fodder conditions of north-western French differ significantly from the steppe zone of Ukraine, the study of biological and economic characteristics, their adaptation and meat productivity in this region is actuality.

Material and methods. The bull-calves (7 heads) and the heifer (20 heads) lines of Dalby, Paver, Nino and Uplaité were imported from Belarus to agroformation «Ukraine» of the Dni-pro-petrovsk region. Observations were conducted until they reached 36 months of age. Rations were balanced by nutrients and mineral substances at the expense of traditional feed (straw and green mass of winter crops, hay and haylage from alfalfa, green mass and corn silage, and feed). Animals were kept all year round indoors on straw bedding with free access to the walking and stern area, in the summer (May-September) grazed on natural pastures. Calves were grown on the suction until 6 months of age. Only in bad weather (rain, wind, snow) the cat was freely entering the premises.

Research results. From the fertilized in Belarus heifer, the bull-calves were born with a live weight of 53 kg (individual weighed more

than 60 kg), heifers – 46 kg (individual over 50 kg). There have been cases of necessary assistance in the calving [3, 4, 5]. The further ukrainian generation was much smaller: bull-calves – 47 kg, heifers – 41 kg.

It is believed that from the Men-Anjou, as well as with other imported classical beef breeds (Sharole, Hereford, Aberdeen-Angus, Limousine, light Aquitaine), there was a "stepping", as a result of which the habitats of the animals became smaller, the younger ones were born smaller, the hotels passed It is easier but its growth energy remained at the level of the breed standard. Sexual maturity of bull-calves was manifested at 12 months of age, heifers – 18 months, with a live weight of 450 kg [6, 7].

The live weight of cows was within 600–700 kg of the elite class (integrated score of 89).

For the body structure – in comparison with raion dairy cattle, these are large animals (257 heavy weight index, 156 massiveness), compact (138 loss index), harmonic (113 stretch index), broad and deep breast (broad-breed index 37, dehydration – 51), the back of the body is well developed (hip index – 90, awl – backside – 60).

Grown bulls have a live weight of 800–1000 kg (a record in France and the world-1700 kg), while hunted into the elite class (91 points).

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They are high (height at the withers is 170 cm) and long (torso length up to 175 cm), broad-necked (up to 65 cm) and deep-necked (up to 80 cm) with well-developed meat forms behind (width 70 cm). The temperament is calm.

The character positively characterizes reproductive ability [8]. The first calving took place in 27–30 months, service period – 65–70 days, which allows the calves to receive annually (interjection period does not exceed 12 months). As a rule, bulls are born – 60 %, calf – 40 %. The placenta is separated in 40–80 minutes, and the involution of the genital organs

is completed 3 weeks after the calving and the animals immediately come to willingly. Unlike some breeds of meat, they show a high maternal dominant and careful attitude towards the descendants. Peaceful behavior does not prevent cows from actively protecting their offspring from other animals and do not allow strangers to suck their own but are friendly towards humans. Mother massages the newborn tongue until he begins to suck his breast independently, receiving colostrum, which (like milk) is sufficient to grow a healthy offspring (milk yield 2500 kg, fat content of 3.7 %).

1. Development of animals of the breed of Men-Anjou, $X \pm S_x$

Indexes	Sex	Age, monts						
		at birth	6	12	18	24	30	36
Live weight, kg	bull-calf	47	216 ± 3	398 ± 7	579 ± 8	723 ± 12	811 ± 17	874 ± 12
	calf-cow	41	203 ± 5	329 ± 6	474 ± 9	566 ± 11	630 ± 10	681 ± 14
Average gain for previous period, g	bull-calf	-	939	1014	1005	803	489	352
	calf-cow	-	900	701	804	511	357	283

For all time observations of animals developed normally (death was not), as evidenced by the dynamics of live weight and average daily increments (Table 1).

Ethological studies confirm a calm, to some degree even phlegmatic status of the nervous system. The young from the first months of life is not active (bulls are a little more moving than the heifers).

The data in Table 1 indicate that the Men-Anjou breed is long-growing and shows high growth energy up to 2.5 years of age and in hot, dry conditions of the steppe zone of Ukraine. The average daily gain during this period of Bull-calf growth was 835 g (Table 2).

The achievement of a higher living weight at a young age is very important in the economic assessment of the breed – reducing the period of growing animals to difficult conditions greatly increases the efficiency of the use of capital investments and feed (due to a significant dynamic decline in the cost of age rations). At the same time, the cost of feed for 1 metric center of growth within the norm at their eating rate – 99 %. Regardless of the fact that in the feeder (even

the remains of animals from a dairy farm), this cattle eats everything and struggles for the place and there is no front feeding.

In the post-dairy period, the cost of 1 ts of gain is 70–110 MJ (with an increase in the age of animals and their live weight, this figure increases). Up to 18–20 months of age from bull-calf per 1000 MJ receive 13–14 kg of gain, and in 20–30 months – 8–9 kg. Live animals weighing up to 300 kg spend on a 1 kg gain less than 70 MJ, from 300 to 400 – 80, from 400 to 500 kg – 90, from 500 to 600 kg – 110, from 600 to 700 kg – 130, from 700 to 800 kg – 150 and more than 800 kg – 180 MJ.

Bulls of the Men-Anjou breed have good mortality rates – the slaughter output is 63–65 %, the meatiness ratio is 5.3–5.6 and the yield of pulp in the carcasses is 81–83 % (with age these figures increase). The presence of moisture in meat is lower than that of analogues grown in countries with humid climates. This process is called "stepping" in the conditions of the steppe zone of Ukraine.

The tasting evaluation and culinary qualities of meat and broth with the age of animals

2. Age of animals when reaching the corresponding live weight (days), $X \pm S_x$

Indexes	Days	
	bulls	heifers
Live weight, kg		
300	269 ± 6	324 ± 5
400	368 ± 7	455 ± 8
500	469 ± 9	601 ± 10
600	577 ± 12	825 ± 14
700	701 ± 16	-
800	888 ± 27	-

and the increase in live weight is somewhat reduced, but not so much as to affect their consumer properties (4,5 points).

Animals of the Maine-Anjou breed, as well as other clear breeds, are characterized by the phenomenon of bonits – the excess of the live weight of live animals over the actual sales of meat-processing enterprises and mutual payments for slaughtered output, which is due to higher carcass yields.

We have carried out the trial experiments with the use of bulls in industrial crosses with the royal stock of red, red-rumpy milk and Simmental cattle [9, 10]. Local calves are born smaller, but heavier than pure-breed dairy and combined breeds (bulls – 40 kg, heifers – 35 kg). At the same time there was no need for help with

hospitality. An animal-age segment becomes more cost-effective [11].

Conclusions

1. In the steppe zone of Ukraine, bull-calf of the Men-Anjou breed should be grown up to 30 months of age in a voluminous and grazing land, and sold for slaughter with a live weight of up to 800 kg.

2. It should be considered the main direction of selection work with the breed of Men-Anjou – pure breeding and the use of bulls-breeding for industrial crossing with red and red-rash milk and Simmental cattle.

3. For the steppe zone, the Men-Anjou breed is not only a source of high-quality beef production but also a genetic diversity in the breeding process.

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Козырь В. С. Воспроизводительная способность и мясная продуктивность скота породы Мен-Анжу в степной зоне Украины. *Зерновые культуры. 2018. Т. 2. № 2. С. 382–385.*

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Освещены результаты научных исследований по выращиванию крупного рогатого скота породы Мен-Анжу в кормовых условиях степной зоны Украины. Доказано, что животные, родиной которых является приморская зона Франции, где умеренный влажный климат, хорошо акклиматизировались к жаркому климату юга – температура тела, частота дыхания и пульса остаются нормальными. Однако габитус их несколько уменьшается в сравнении с аналогами на родине. Этот процесс мы назвали «остепенением», результатом которого является уменьшение количества влаги в мышцах, жире и костях, но при этом воспроизводительная способность маточного поголовья и половая активность быков-производителей не ухудшаются. Мясная продуктивность и убойные показатели остаются высокими и не уступают мировым классическим мясным породам.

При использовании этой мясной породы в промышленном скрещивании с районированными украинскими молочными породами, полученные помеси (F_1 и F_2) проявили хорошие откормочные качества, что способствует увеличению производства высококачественной говядины и обеспечению продовольственной безопасности страны.

Ключевые слова: порода, акклиматизация, воспроизводительная способность, продуктивность, мясные качества.

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Козир В. С. Відтворна здатність і м'ясна продуктивність худоби породи Мен-Анжу в степовій зоні України. *Зернові культури. 2018. Т. 2. № 2. С. 382–385.*

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Висвітлені результати дослідження можливості вирощування великої рогатої худоби породи Мен-Анжу в умовах степової зони України. Доведено, що тварини добре акліматизувалися до жаркого клімату півдня – температура тіла, частота дихання і пульсу в нормі. Але габітус їх децю зменшується порівнянно з аналогами на батьківщині (Франція). Цей процес ми назвали „остепенінням” – його результатом є зменшення кількості вологи в м'язах, жиру і кістках. Однак відтворна здатність маточного поголів'я і статева активність бугаїв-плідників не погіршуються. М'ясна продуктивність і забійні показники залишаються високими.

При використанні цієї м'ясної худоби у промисловому схрещуванні з районованими молочними породами одержані помісі (F_1 і F_2) проявили добрі відгодівельні якості, що зумовлює збільшення виробництва високоякісної яловичини.

Ключові слова: порода, акліматизація, відтворювальна здатність, продуктивність, м'ясні якості.