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FEED FROM FOOD INDUSTRY BY-PRODUCTS

The Impact of Broiler Feed on Growth and Performance by Valorisation of Olive Cake as By-product in the Ration

ROHDES 2024 Conference

The Impact of Broiler Feed on Growth and Performance by Valorisation of Olive Cake as By-product in the Ration

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ROHDES 2024 Conference

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Introduction

Objective

Material and Method

Result

Conclusion

Introduction

Olive tree in Egypt

Egypt's production of olive oil is forecast to reach 42,200 tonnes in 2026. Egypt Olive Oil industry, reportlinker.com

The country ranked 10th, behind Argentina.

Greece, Italy, and Tunisia were the top three in terms of production.

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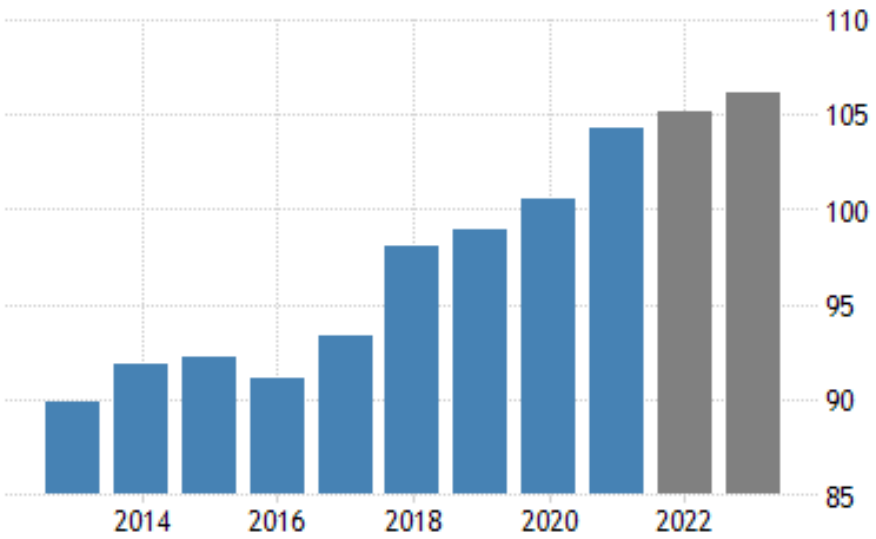
Raw material


زيادة معدلات الإفراج عن أعلاف الدواجن والماشية
هاتفيا: عبد العزيز السيد – رئيس شعبة الدواجن


النهار
الستات
استمرار أزمة ارتفاع أسعار الدواجن
الستات
متى تنخفض أسعار الدواجن؟

2 main raw material



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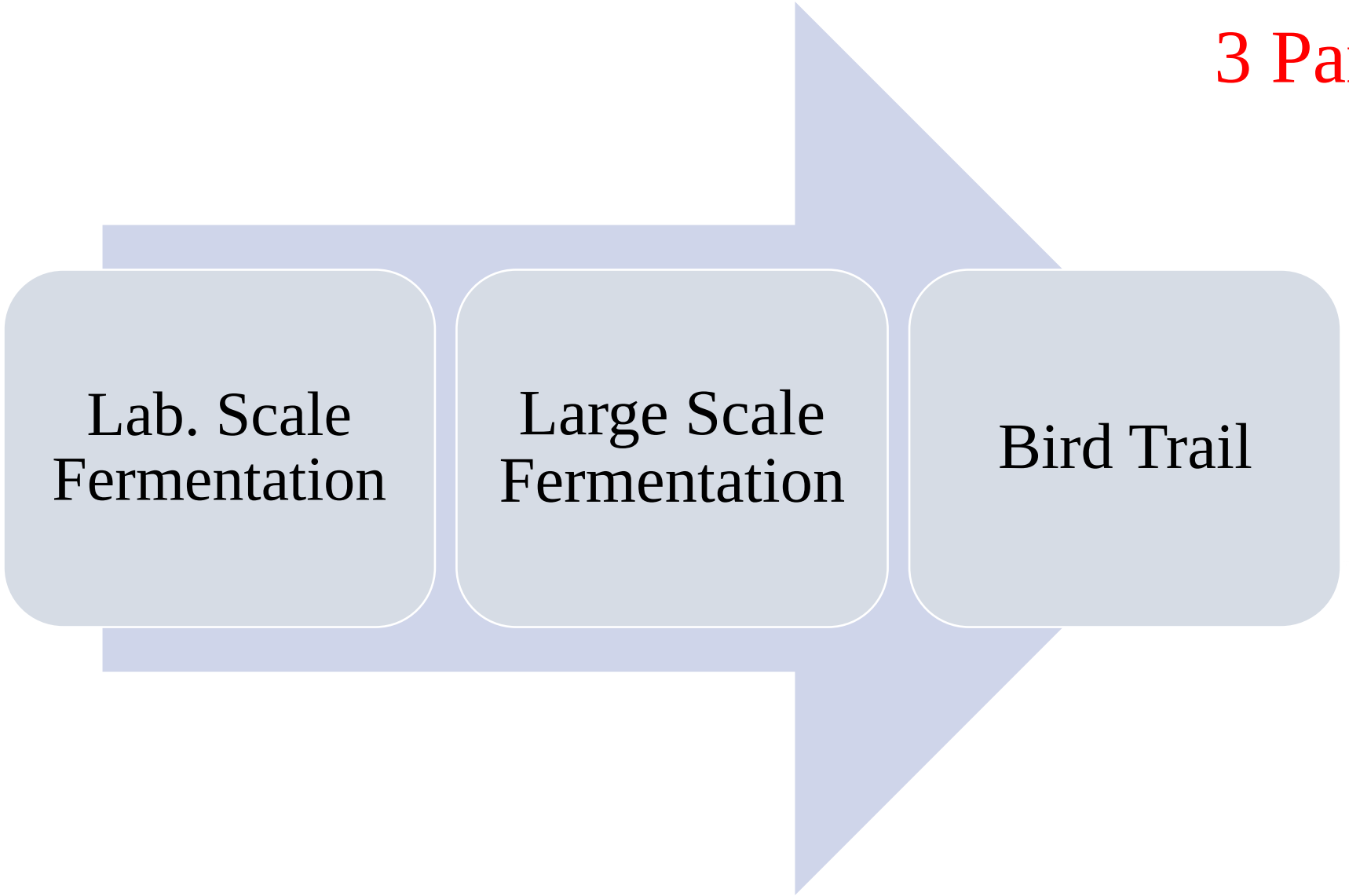
Objective

In this case, the challenge is to allow the complex fibers in the olive cake—lignin, cellulose, and hemicellulose—to decompose and be ingested by birds and **by supplementation of herbal and aromatic plants**, also study the effects of production on the growth rate, feed intake, Feed conversion ratio, blood parameters, and Carcass Characteristic.

Materials AND Methods

3 Parts


Lab. Scale Fermentation
Large Scale Fermentation
Bird Trail

Olive Cake

Olive Cake is an olive oil industry by-product that is available in large quantities, especially in the Mediterranean Sea region.

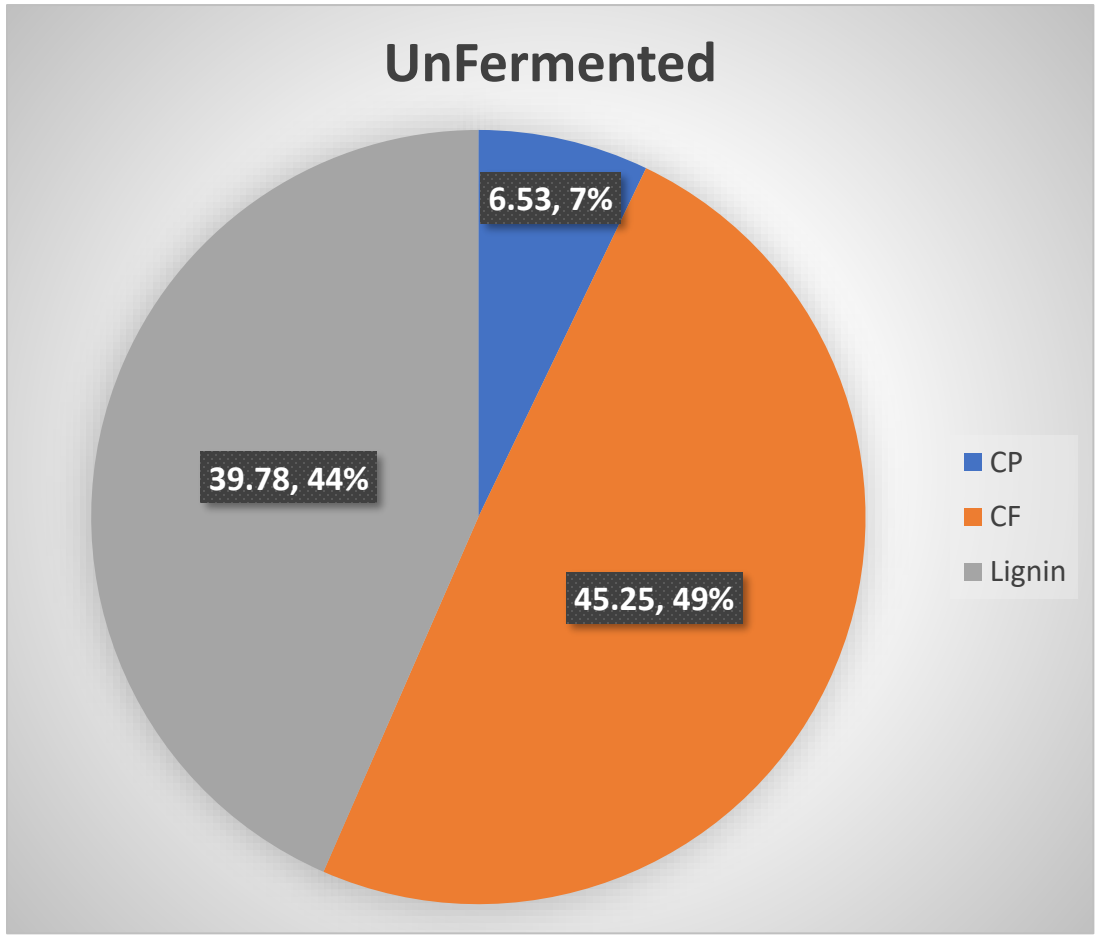
The challenge in our Case Study is how to improve the **nutritional value** of the Olive Cake with its **high fiber content** to be used in **poultry** feeding.

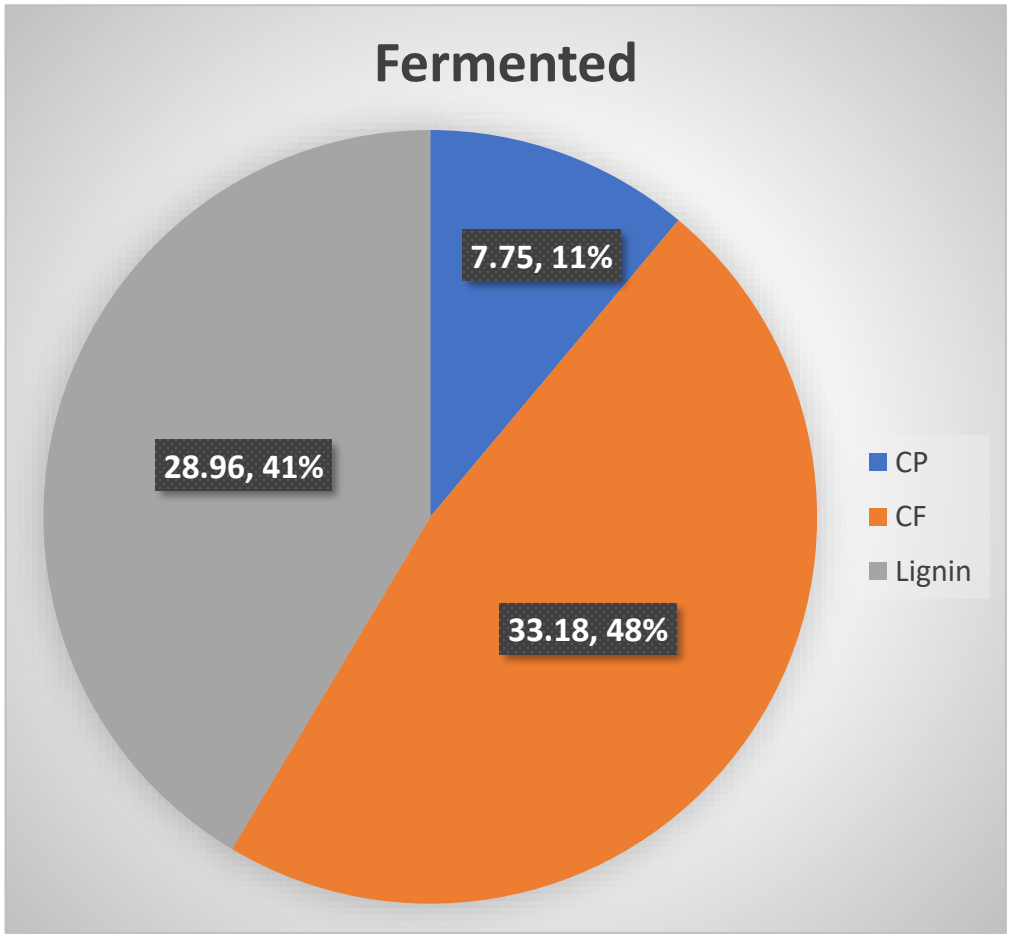
Sample collection and chemical analysis

The chemical composition of the Untreated olive cake OC

	Untreated OC %(DM)
Ash	3.43
CP	6.53
CF	45.25
EE	14.77
NFE	35.19
NDF	91.77
ADF	74.26
ADL	41.74
HEMI.	17.83
CELL.	32.19
LIGN.	39.78
GE cal/Kg	4613

Chemical analysis for the Fermented and un-fermented Olive Cake (on DM basis).

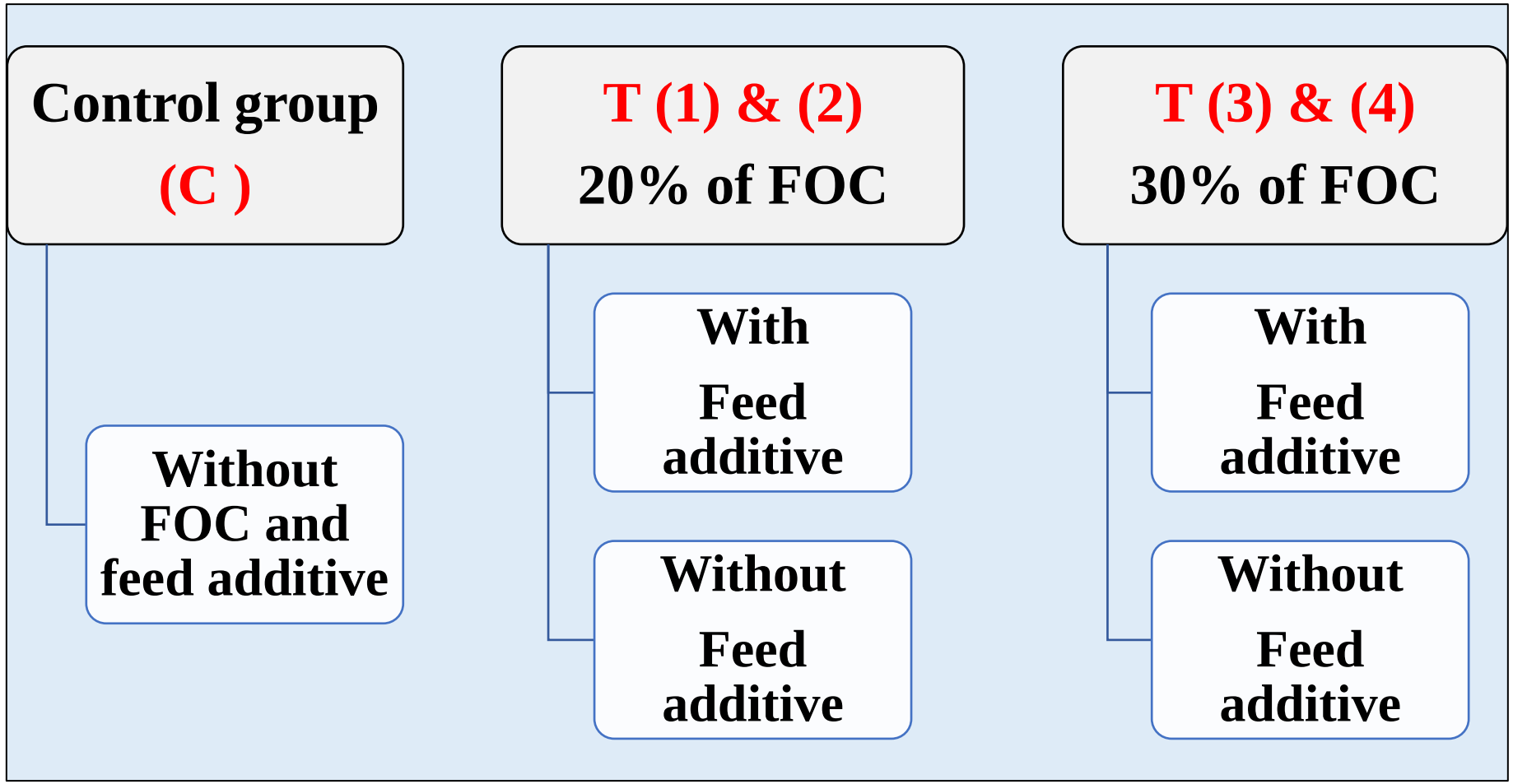




Experimental design

Experimental design

(600 broiler chicks)



Experimental Feed

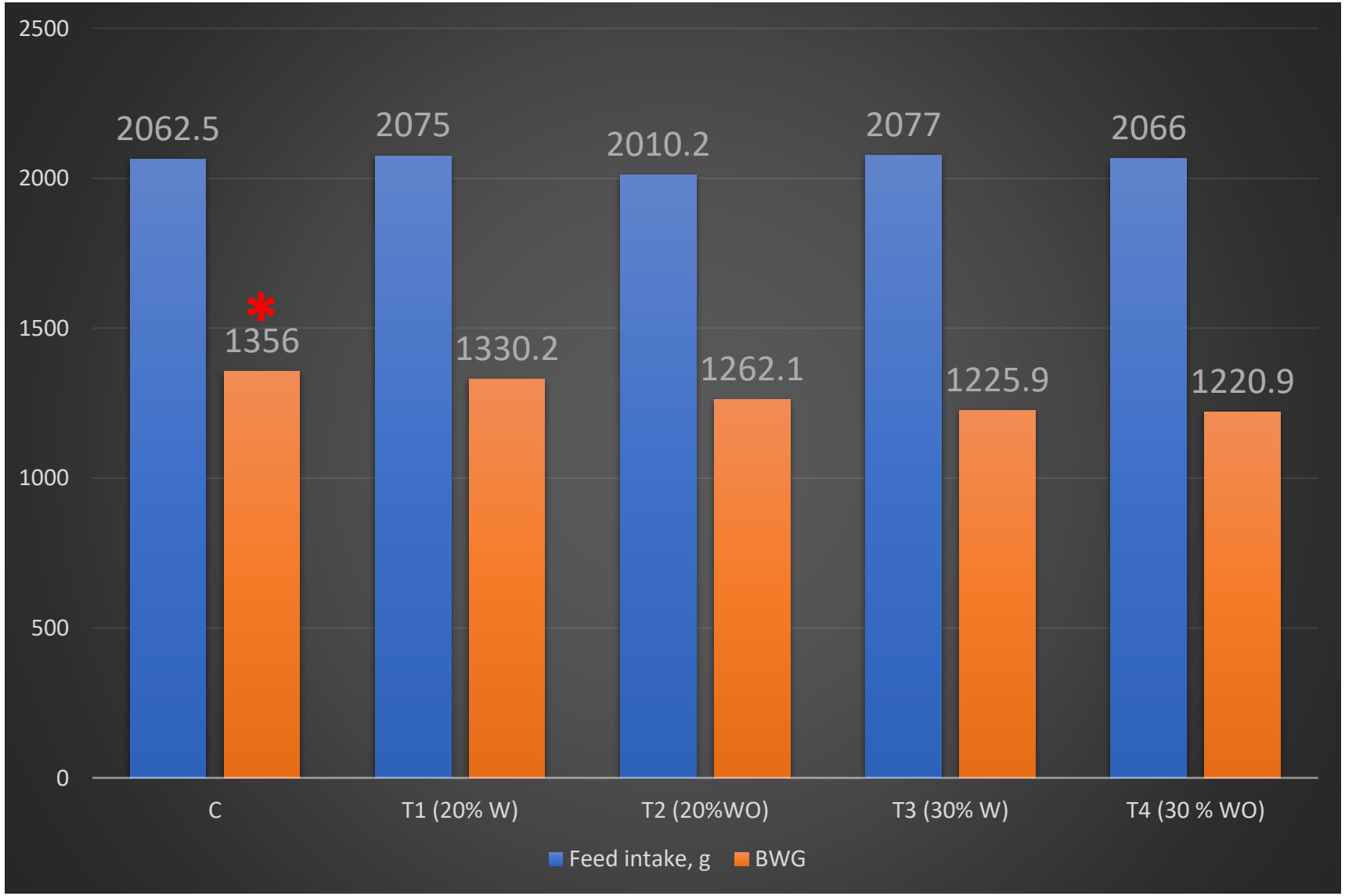
	Experimental Diet				
	C	T1	T2	T3	T4
Item	0%	20% W	20% WO	30% W	30% WO
Yellow corn	580	464	464	406	406
Soybean meal (44 %)	304	303	303	316	316
Corn gluten meal	48	48	48	48	48
Soybean oil	29	30	30	21	21
Olive cake	0	116	116	174	174
Herbal mixture	0	4	0	4	0
Calcium carbonate	12	10	12	10	12
Di-calcium phosphate	15	13	15	13	15
Common salt	3.5	3.5	3.5	3.5	3.5
Premix1	3	3	3	3	3
DL- Methionine	1.8	1.8	1.8	1.8	1.8
L-Lysine HCl	1.4	1.4	1.4	1.4	1.4
Toxenil	2.3	2.3	2.3	2.3	2.3


RESULTS

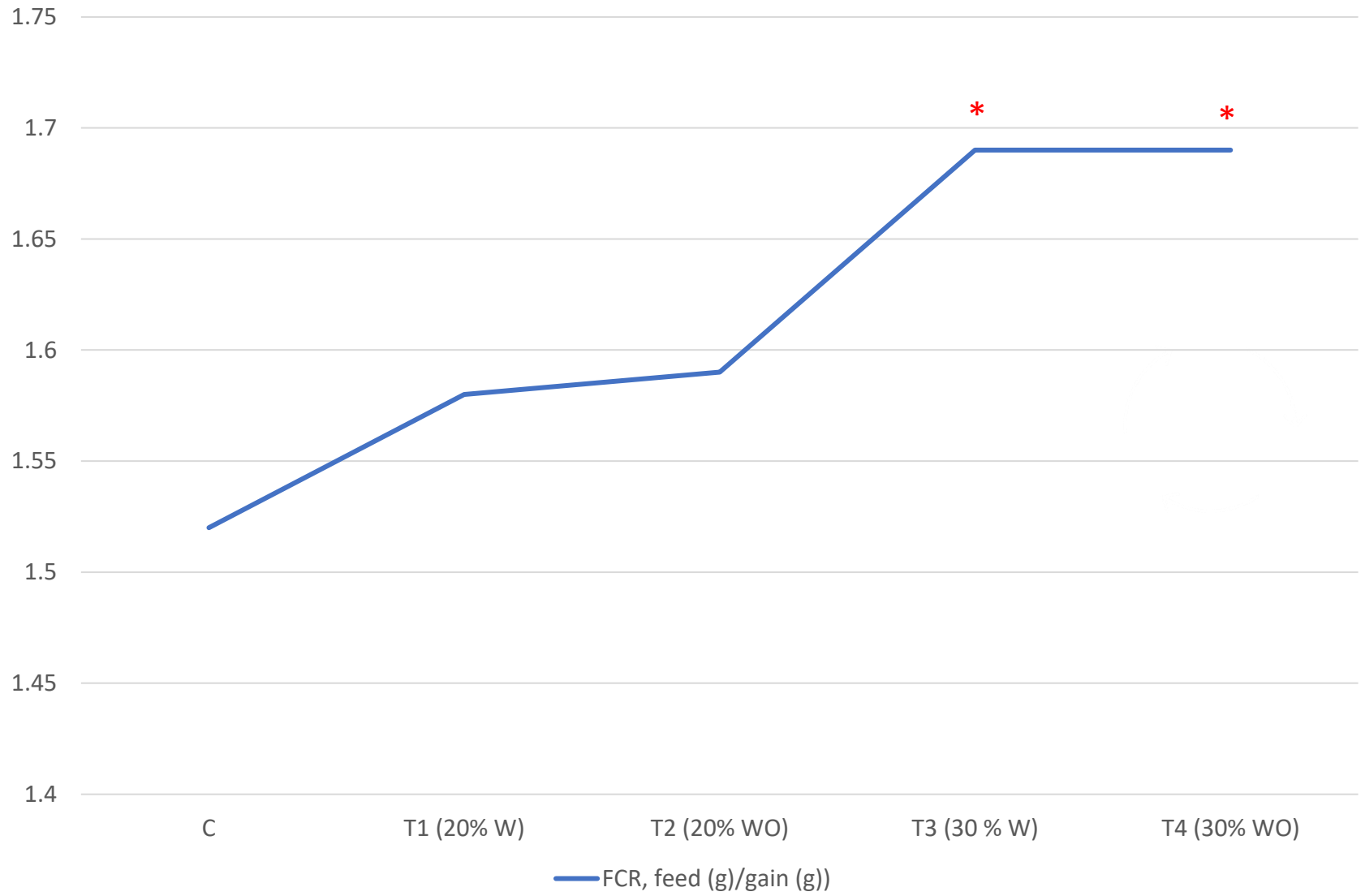
Experimental Result

Feed intake, body weight gain (BWG), and FCR

Feed intake, body weight gain (BWG) of broiler chickens fed diets with varying amounts of F-olive cake from 21 to 48 d of age



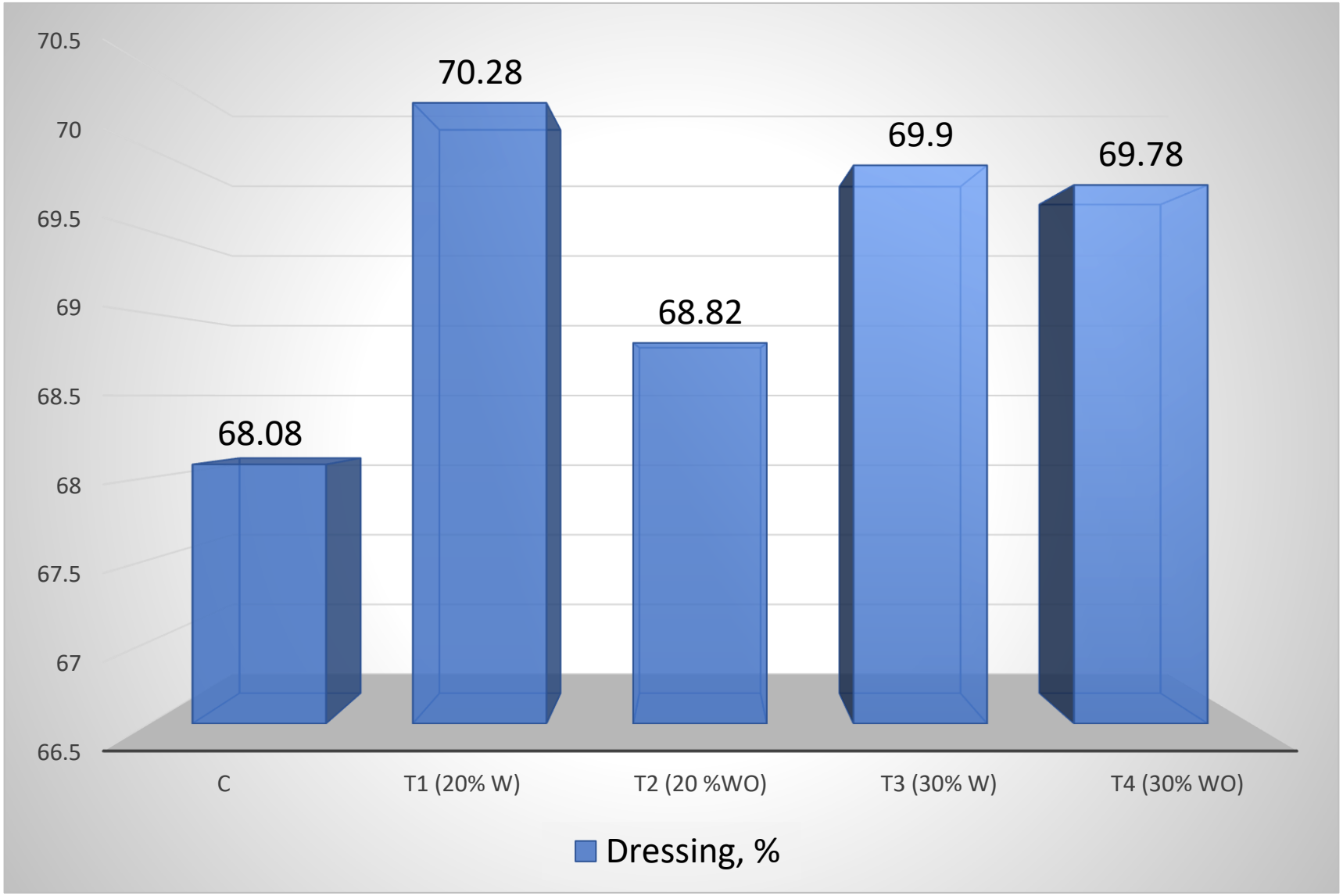
FCR , feed (g)/gain (g))of broiler chickens fed diets with varying amounts of F-olive cake from 21 to 48 d of age



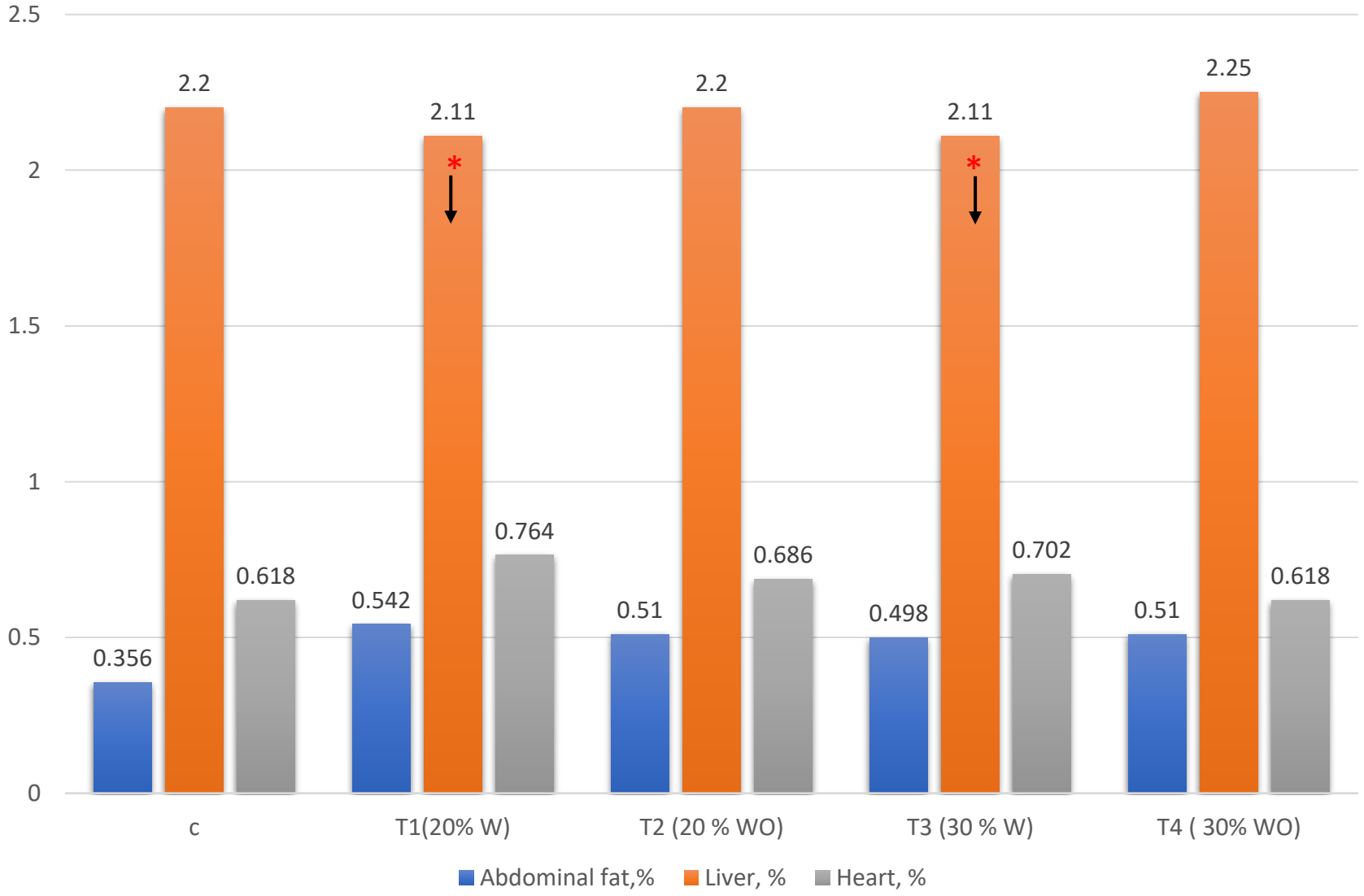
Experimental Result

Carcass and Inner organs ratios

The effect of F-olive cake with and without herbal mixture on carcass and inner organs ratios of 21 to 48-day-old.



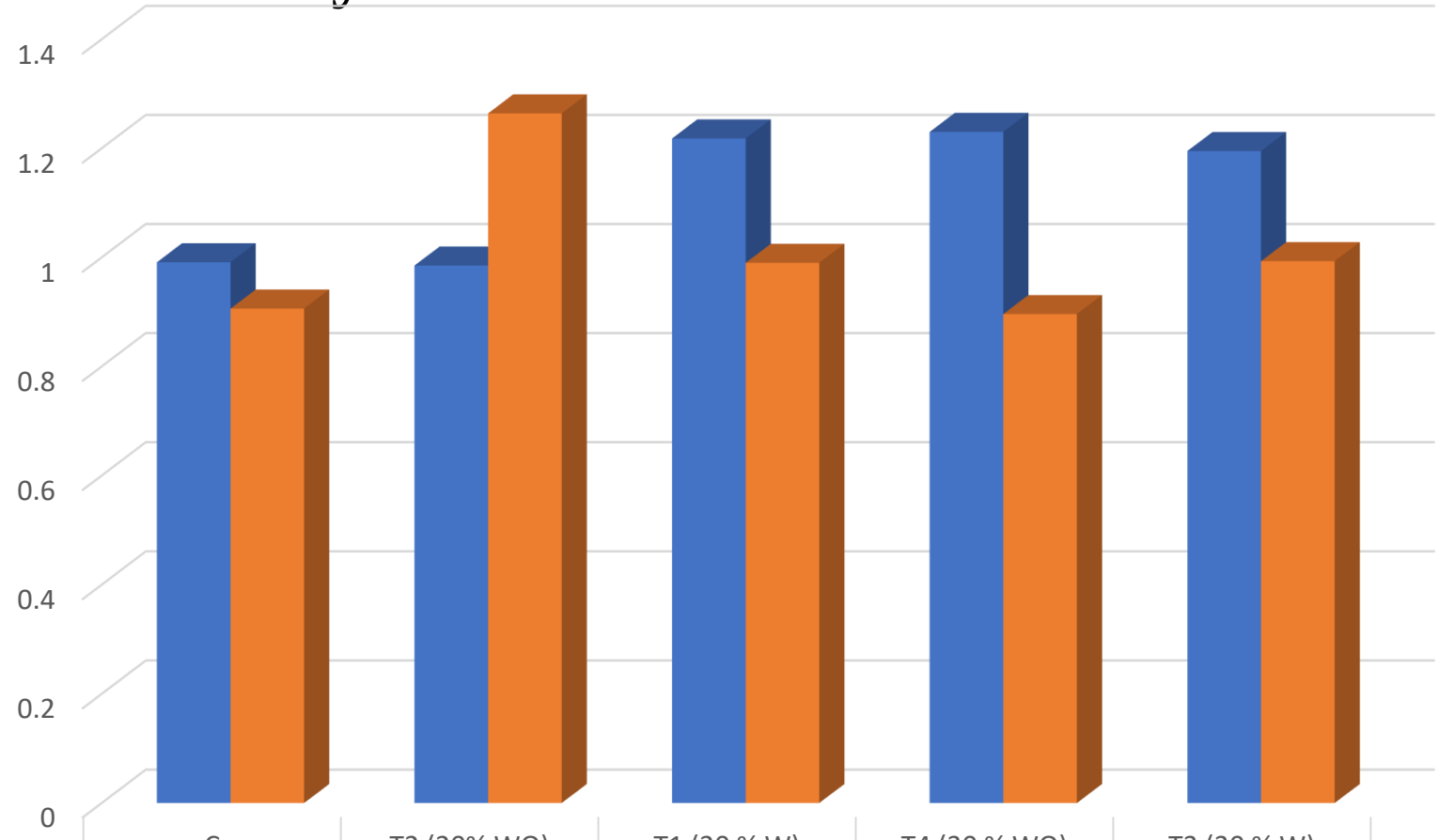
The effect of F-olive cake with and without herbal mixture on carcass and inner organs ratios of 21 to 48-day-old.



Experimental Result

Chemical analysis of Carcass (Brest meat)

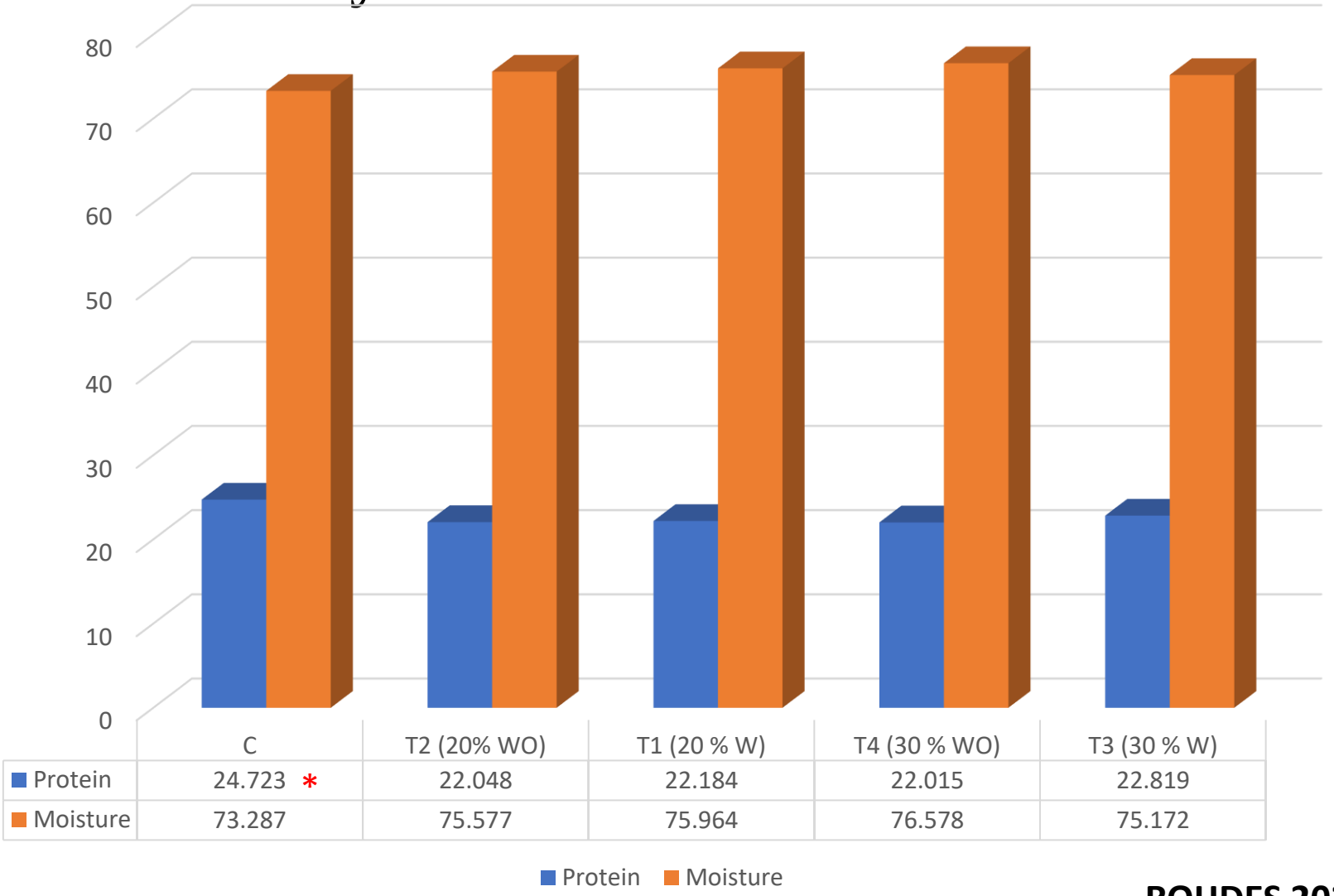
Chemical analysis of Carcass (Brest meat only) using olive cake with and without herbal mixture on carcass and inner organs ratios of 21 to 48-day-old.



	C	T2 (20% WO)	T1 (20 % W)	T4 (30 % WO)	T3 (30 % W)
Collagen	0.991	0.985	1.218	1.23	1.195
Fat	0.906	1.264 *	0.99	0.896	0.993

Collagen Fat

Chemical analysis of Carcass (Brest meat only) using olive cake with and without herbal mixture on carcass and inner organs ratios of 21 to 48-day-old.

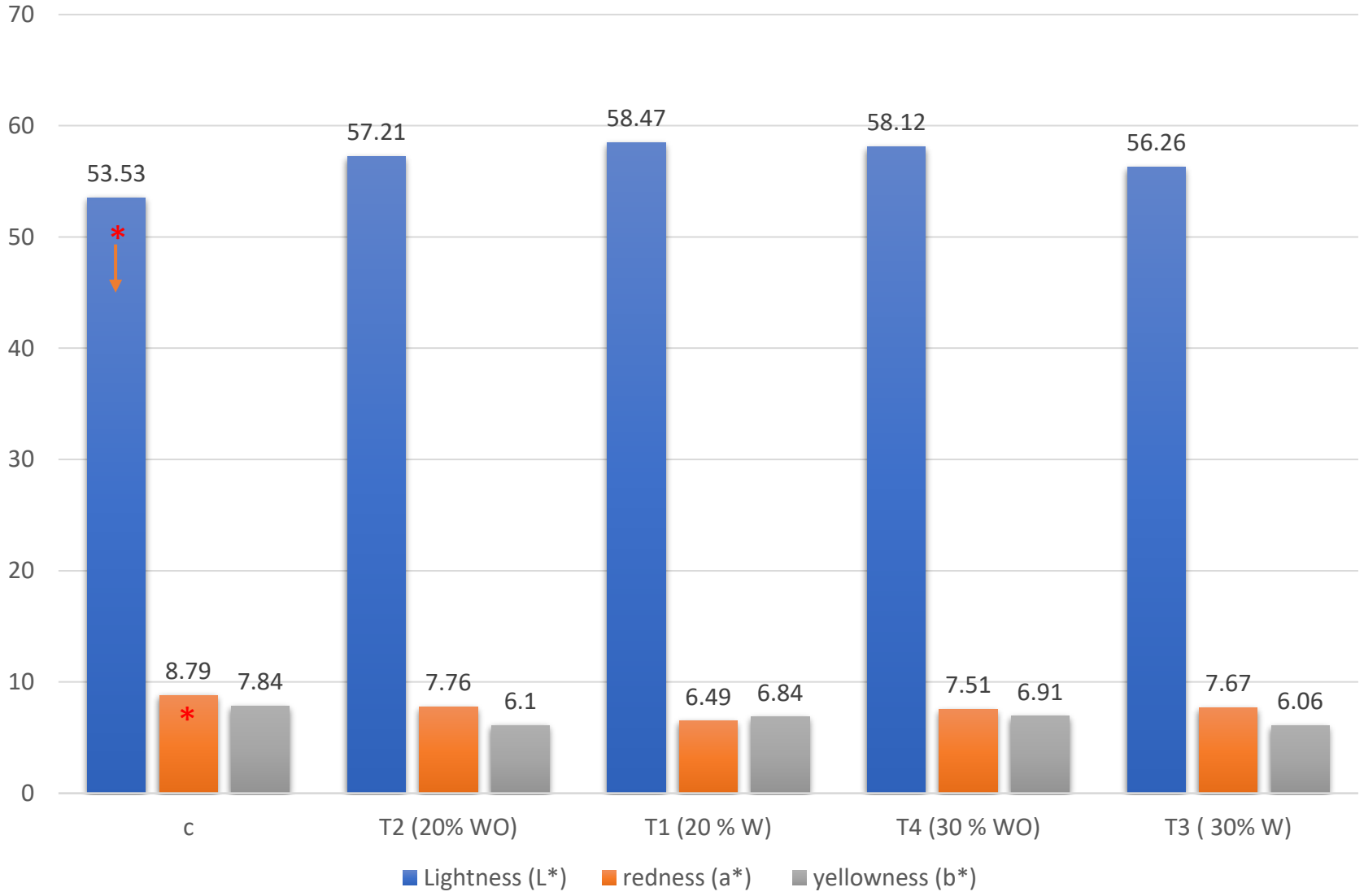


	C	T2 (20% WO)	T1 (20 % W)	T4 (30 % WO)	T3 (30 % W)
Protein	24.723 *	22.048	22.184	22.015	22.819
Moisture	73.287	75.577	75.964	76.578	75.172

Experimental Result

Color of Carcass

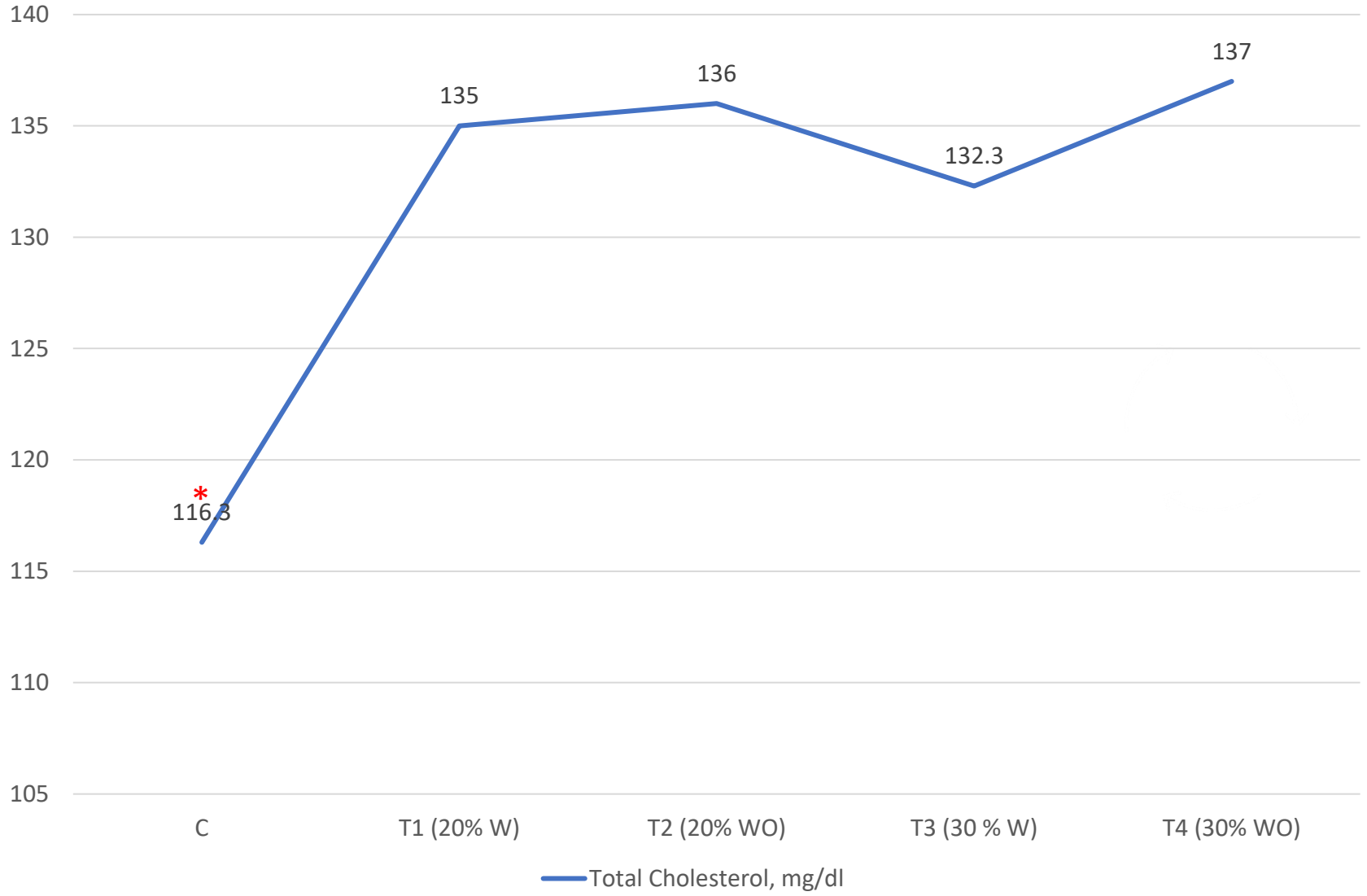
Color of Carcass using olive cake with and without herbal mixture on carcass ratios of 21 to 48-day-old.



Experimental Result

Blood plasma analysis

Effect of diets containing olive Cake with and without herbal mixture on blood parameters of broiler chickens




CONCLUSION
CONCLUSION
CONCLUSION

Conclusion

According to the findings in this study

- Even if the price of chicken ration is growing and animals are competing with humans for food, it is advised to use some of the waste portions of olives that humans do not eat as an **alternative source of feed additives for poultry.**
- Rations are administered when the appropriate processing processes are used since olive by-products can be put into broiler rations **without** impacting the Birds' health, performance, aroma, or nutrient content.

Conclusion

According to the findings in this study

- The economical and efficient utilization of these byproducts will benefit **businesses by reducing feed prices.**
- It has been found that using these wastes as a feed component in broiler rations, together with the appropriate processing methods, can enhance broiler development performance, reduce the cost of producing broiler overall, and reduce the quantity of pollutants emitted into the environment.

Acknowledge

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Thank you

Any Questions?