

PROFILE OF A NEW CULTURED SPECIES (*Argyrosomus regius*)

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Argyrosomus regius

Is a fish of the Sciaenidae family. Known as Meagre

Origin

Mediterranean Sea, Black Sea, a long the Atlantic coasts of Europe and the west coast of Africa.



It's characterized by big head with elongated body, quite small eyes. Body color is silver-grey, and bronze traits are seen dorsally. Fin base is reddish brown and mouth cavity is yellow-gold. They can reach up to 2 m in length and 50 kg in weight.

AIM

- Two different size of this meagre species were compared for the consumers' preference. And the nutriment profile of the specie was determined.

Biometrical measurements

		Group A	Group B
Net w.	g	203.18±31.81	1231.02±265.99
Intestine w.	g	21.31±2.99	88.46±8.15
Fillet w.	g	94.02±19.60	606.25±14.59
Fleshless w.	g	83.03±13.75	674.11±83.53
Total length	cm	25.50±1.30	51.20±3.36
Height	cm	6.34±0.50	10.16±0.66
Wide	cm	3.30±0.15	5.57±0.85
Head length	cm	6.10±0.43	12.55±0.74



Rearing conditions

Turkish hatchery (Egamar Su Urunleri-Aydın, Didim, Akbuk) in June 2006 and 2007.



Group A.....August 2007.
(8 g average b.w.)

Group B..... August 2006
(5,8 g average b.w.)



Both of them were transferred into 5x5m cages type wooden square net cage systems

The commercial feed was used containing
45% protein,
20% fat,
3% crude fiber,
10% moisture
12% ash.



Harvested after 6 months



Harvested after 18 months

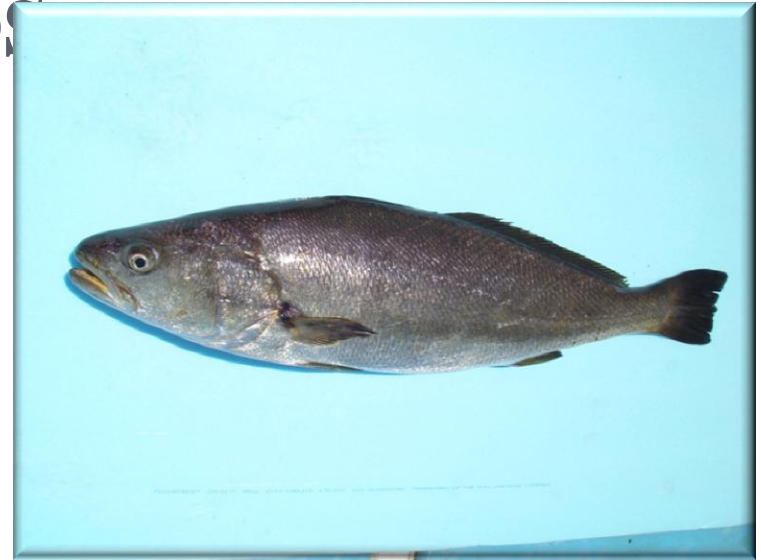


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ANALYTICAL METHODS

- Crude protein (AOAC 1990)
- Moisture (Ludorff and Meyer, 1973)
- Crude fat (Bligh & Dyer, 1959)
- Ash (Ludorff and Meyer, 1973)
- Carbohydrate



- Vitamin contents HPLC (A, B1, B2, B6 & E)
- Amino acid content
- Fatty acid composition
- Color (Schubring & Meyer, 2003)
- Textural (TPA) (Schubringi2002)
- Sensorial (Ruiz-Capillas and Moral ,2001)

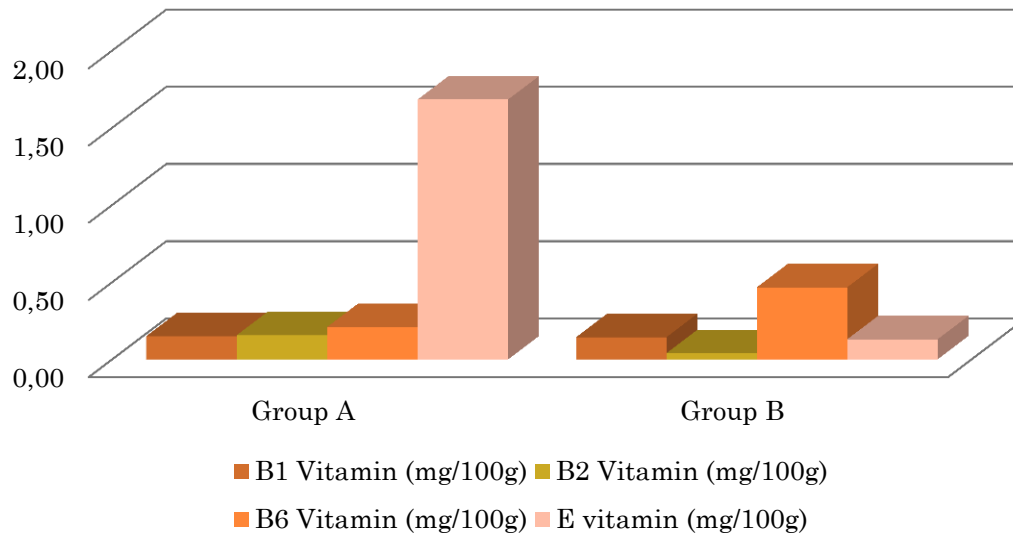
Chemical Composition

%	Group A	Group B
Moisture	75.43±2.07	68.88±2.35
Fat	2.73±0.34	9.85±0.78
Ash	1.26±0.10	1.16±0.01
Protein	19.51±0.17	17.35±0.18
Carbohydrate	1.07±0.05	2.77±0.09

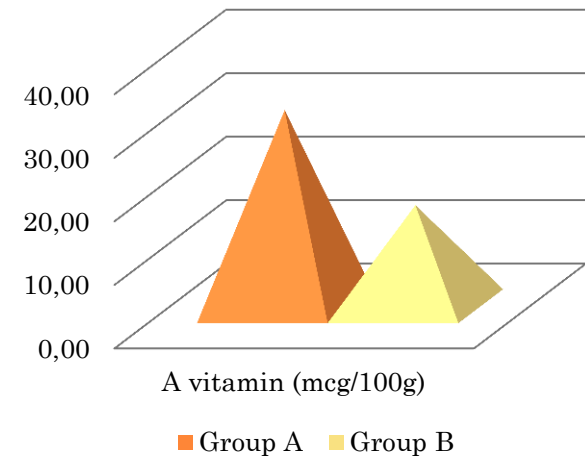


VITAMIN CONTENTS OF *rgyrosomus regius*

Vitamin Contents



Vitamin A



	Group A	Group B
B1 Vitamin (mg/100g)	0.15±0.00	0.14±0.01
B2 Vitamin (mg/100g)	0.16±0.01	0.04±0.00
B6 Vitamin (mg/100g)	0.21±0.00	0.47±0.01
A Vitamin (mcg/100g)	30.87±0.31	15.89±0.40
E Vitamin (mg/100g)	1.68±0.01	0.13±0.01

Fatty acid composition

	Group A	Group B
ΣSFA (%)	29.55 \pm 0.07	27.54 \pm 0.13
ΣMUFA(%)	29.61 \pm 0.02	28.86 \pm 0.11
ΣPUFA(%)	28.74 \pm 0.11	33.34 \pm 0.06
EPA/DHA (%)	0.55	0.60
n:3	15.16	13.02

- The pattern of individual polyunsaturates in fish can be a characteristic of the specie, though in practice, the potential variations like weather conditions, feeding grounds, water temperature, water salinity, stage of breeding cycle, and the season of the year are all factors which can and do complicate this issue.
- According to the results PUFA contents of group B brought us higher results with the higher EPA/DHA value.

	Group A			Group B		
Protein (%)	19.51±0.17			17.35±0.18		
Amino acids (mg/100g)						
Valine*	841.73	±	5.61	1040.63	±	13.51
Leucine*	1392.43	±	11.82	1795.43	±	13.56
Isöloysin*	846.17	±	11.81	995.87	±	9.48
Threonine*	657.90	±	5.20	877.10	±	9.64
Serine	606.13	±	7.82	832.23	±	11.18
Proline	666.37	±	15.69	804.83	±	5.75
Aspartic acid	3350.40	±	22.87	2799.10	±	7.98
Methionine*	501.33	±	5.29	644.33	±	8.00
Hydroxy-L- proline	0.00	±	0.00	76.70	±	3.7
Glutamic acid	2329.10	±	22.79	3001.00	±	43.66
Phenylanine*	733.50	±	3.91	877.00	±	22.07
Lysine*	1583.20	±	9.60	2118.13	±	45.70
Histidine	357.03	±	29.62	331.27	±	15.27
Tyrosine	688.63	±	8.86	731.93	±	16.29
E/N	0.66			0.75		

Textural results

In the parameters of hardness, adhesiveness and chewiness Group B brought us higher results.

Color measurements

Group A				Group B		
	L*	a*	b*	L*	a*	b*
Skin color	59.43±19.35	-0.05±1.14	3.35±2.74	46.43±19.43	0.29±0.67	6.15±2.86
Flesh color	51.89±2.13	-2.10±0.12	8.24±0.70	47.51±2.93	-1.57±0.32	10.95±1.24

Sensorial results

Group A was preferred in the parameters of aroma, firmness, odour and general appearance.

But each groups got higher results in acceptability.

CONCLUSION

- The cultural advantages of this meagre came from its; fast growing nature, adaptation in wide range of salinity, high FCR and also high nutrient content.
- With these advantages this fish became alternative aquaculture species instead of sea bass and gilthead sea bream.
- The aquaculture production of this fish has been done successfully in Turkey since 2005.



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