
***Cyprinus carpio* Linneaus 1758)**

*

(/ / : / / :)

(Electrical conductivity; EC)

EC / / . / / / / /
/ / / / / / / / / /
EC

/ /

Cyprinus carpio :

...

(Sing *et al.*, 2004)

(Hedaiat, 1999)

(Awaiss *et al.*, 1993 Sattari, 2002)

(Howell *et al.*, 1998)

Shariati,)

(2004

(Engstrom *et al.*, 2005)

(Wendelaar Bonga, 1997)

(Luz *et al.*, 2004, 2008)

Na_K_ATPase

Houston and Rupert,)

Furriel *et al.*, Pequeux, 1995)

(1997

(2000

Pequeux, 1995)

Na_K_ATPase

)

(Roy *et al.*, 2007

(

(Houston and Rupert, 1997)

(Davis *et al.*, 2005)

(EC)

(Huet, 2000)

(2004

Luz *et al.*,)

(2008

EC

) (

(

(Amini and Oryan, 2002)) ()

(

(Jenway pfp 7, England)

S2000-)

Turker *et al.*,)

(UV/IS England

()

(2004

()

±

:

±

$$\frac{W}{L^p} \times 100$$

=L

= W

(HORIBA, U-10)

= b

:

$$w = aL^b$$

=

×

$$(W_2 - W_1) \times 100 / (t_2 - t_1)$$

= W 2

= W1

= T2 T1

Turker *et al.*,)

...

EC

() (*Cyprinus carpio*)

							()
/	/	/	/	/	/		()
/	/	/	/	/	/	/	()

(*Cyprinus carpio*)

(mg/dl)	(mg/dl)	(mMol/l)	(mMol/l)	
/ ± /	/ ± /	/ ± /	/ ± /	±
/ /	/ /	/ /	/ /	

(*Cyprinus carpio*)

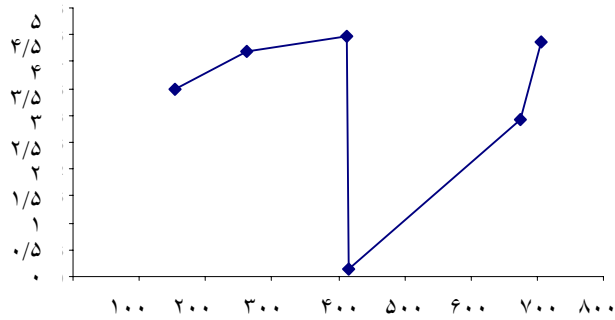
µm/cm ² EC	gr/l	EC (%)	
/ ± /	/ ± /	/ ± /	±
	/ /	/ /	

(Cyprinus carpio)

()	()	()	()	()	()	()
/	/	/	/ **	/ **	/ **	/ ()
/	/	/ *	/ *	/ **	/ **	/ ()
.	/	*	.	/	**	

(P < /)
(*)

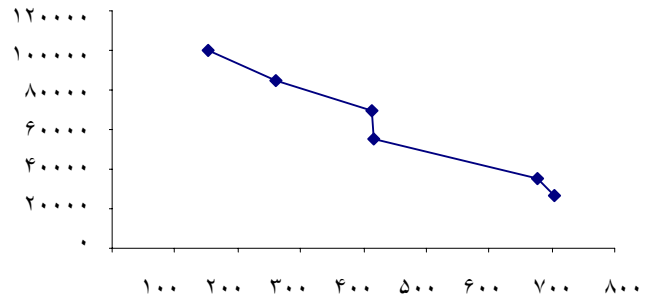
(P < /)
(P < /)
(P < /)



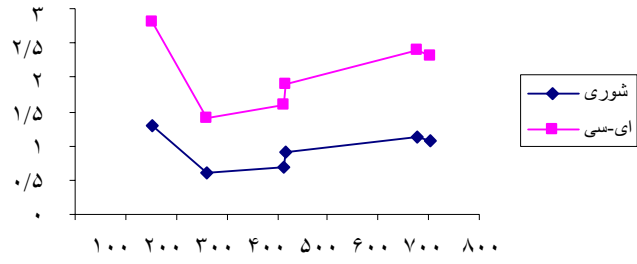
()



()

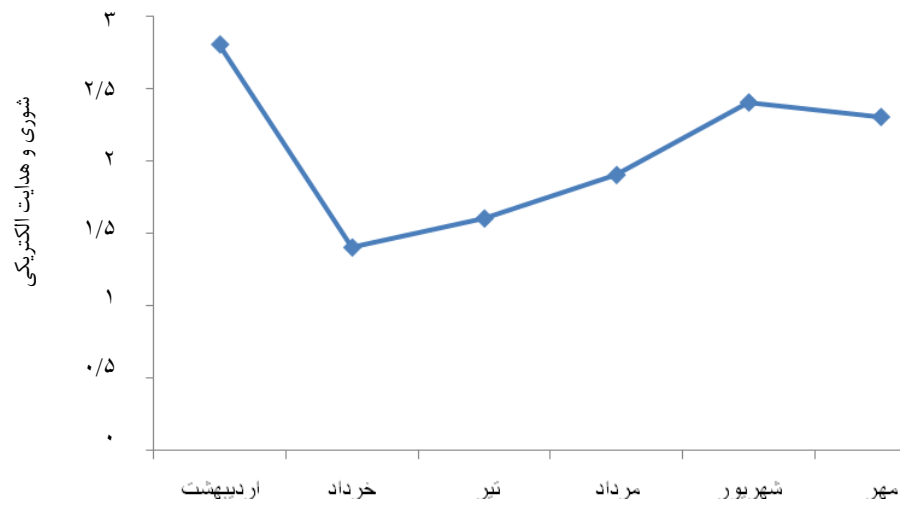


()



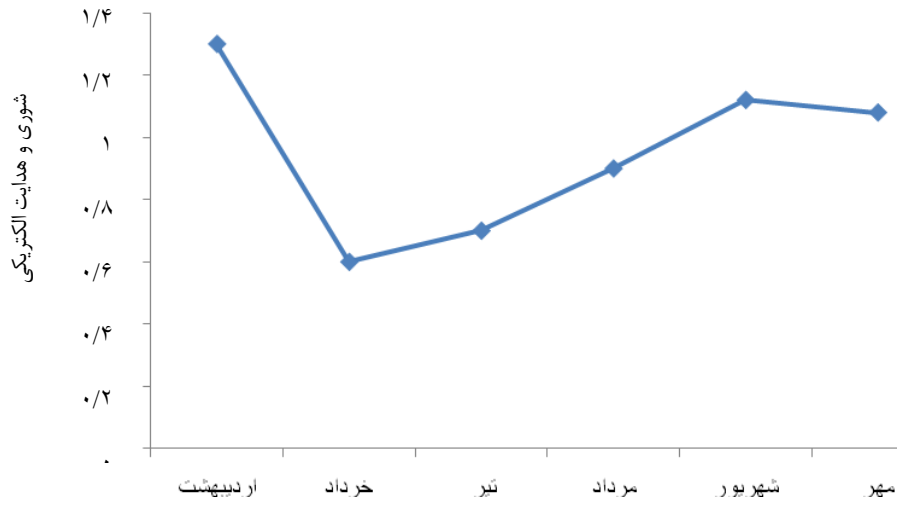
()

EC

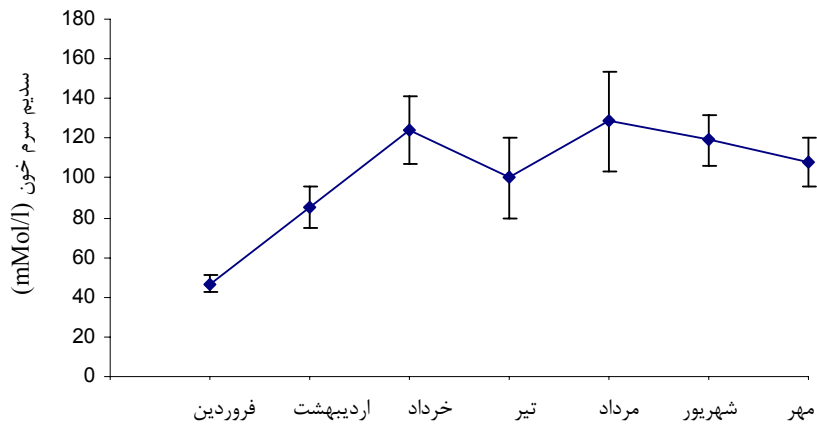


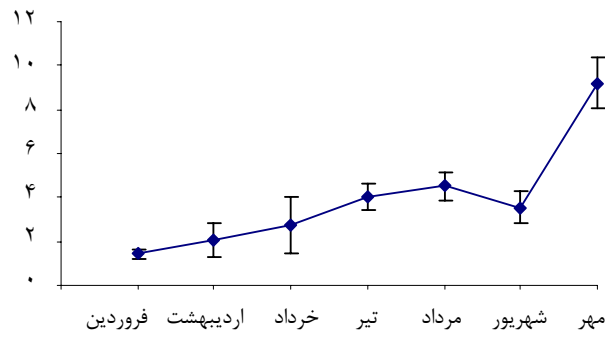
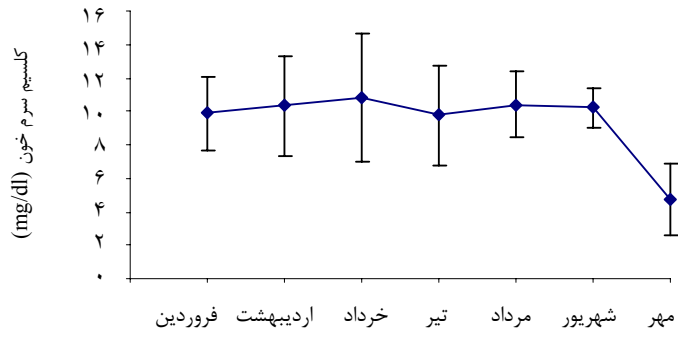
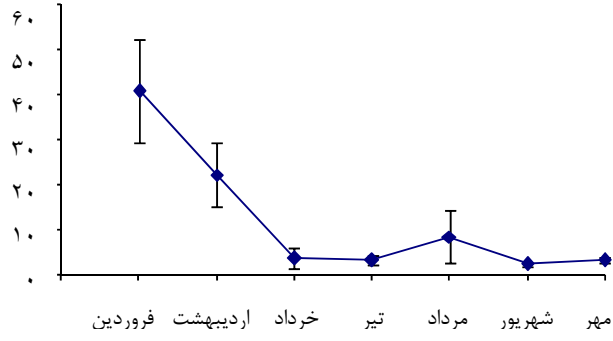
EC

شوری و هدایت الکتریکی



:





(R ²)			
R ² = /	Y= /	X ² + /	X+
R ² = /		Y= /	X+ /
R ² = /	Y= /	X ² + /	X+ /
R ² = /	Y= /	X ² + /	X+ /

EC

(P< /)

(P< /)

(P< /)

(P< /)

EC

EC μm/cm ²	gr/l	
/	/	(%)
/ **	/ **	mg/dl
/ **	/	mg/dl
/	/	mMol/l
/	/ *	mMol/l
/	*	/ **

Ritvo

(Flos *et al.*, 1990)

Affonso)

(Ballarin *et al.*, 2004 *et al.*, 2002

Franklin

(Kestemont, 1995)

2002

Amini and Oryan

Asha and)

2005

Imanpoor

(Muthia, 2005

Jensen (*Rutilus frissikutum*)

...

(*Platichthy flesus*)

Wang

(*Gymnocypris przewalskii*)

Luz

Sampaio and Bianchini

(Huet, 2000)

Romano and
(*Portunus*)

Van Dijk

Oram

Zeng
(*pelagicus*)

De Boec.

2000

/

Mojabi

Sampaio

Imanpoor

2005

Thrall

/

Luz

() Luz -

/ /

(2005) Imanpoor

() Turker .

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Shortnose () Franklin

() Amini and Oryan *Sturgeon*

Jensen () Imanpoor

Wang ()

- ()

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The Relationship Between Water Salinity and EC with Hematocrite, Blood Serum Ionic Parameters, Growth, Survival and Stress Indices in Common Carp (*Cyprinus carpio* Linneaus 1758)

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Abstract

This study was carried out within 7 months in Dikjeh area, Golestan province, Iran. During that time the relationship between water salinity and EC with hematocrit, blood serum ionic parameters, growth, survival and stress indices in common carp (*Cyprinus carpio*) were investigated. Hematocrit as stress index was measured by hemocytometry standard method using microhematocrit reader. Fish biology assay characteristics such as length, weight, condition factor and growth rate in every month were determined. Common carp with average weight of 45 g was abandoned and after 7 months average gaining weight reached to 705 g. The range of salinity (0.3-2.7 ppt), EC (843-5230 $\mu\text{m}/\text{cm}^2$), Na^+ (43.59-408.7 mMol/l), K^+ (0.90-9.21 mMol/l), Ca^{2+} (2.69-18.29 mg/dl) and Mg^{2+} (0.80-10.88 mg/dl) were measured. According to the Pierson, water EC with length, weight and Mg^{2+} of blood serum and biomass of fish had positive correlation but with condition factor and Ca^{2+} of blood serum had negative correlation. Water salinity with length, weight, biomass of fish and Mg^{2+} of blood serum and with K^+ of blood serum showed positive correlation. But survival and blood hematocrit had not significant correlation with this range of water salinity and EC. As a result, common carp in this range of water salinity (0.3-2.7 g/l) and EC (843-5230 $\mu\text{m}/\text{cm}^2$) without stress has a suitable growth and because of iso-osmotical status with environment and less energy expenditure, has a higher growth.

Keywords: *Cyprinus carpio*, Salinity, Hematocrit, Stress, Growth