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(/ / : // :)

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(% : % : % : :)
)

(

(P< /)

(P< /)

()

(P< /)

(P< /)

(PUFA)

%

:

.()

(DHA EPA))

()

EPA, C20:5 n-3

() (DHA,C22:6n-3

. () () NRC

% : % : % : :
(

()

) () ()
() () (

() ()

LDL ()
() HDL

n-3

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oc

()

(/)

(GLM) SAS

()

%

(P< /)

)

(

(P< /)

/ a	/	/ c	/ a	/	/ d	/ a	/	/ c	
/ b	/	/ b	/ b	/	/ c	/ b	/	/ b	
/ c	/	/ a	/ c	/	/ b	/ c	/	/ a	
/ c	/	/ a	/ d	/	/ a	/ c	/	/ a	
/	/	/	/	/	/	/	/	/	SEM

% : % : % : () % :

(P<0.05) :a-d

()	()
SEM	SEM

/	/ b	/ b	/ b	/ a	/	/ b	/ ab	/ a	/ a
/	/ b	/ b	/ ab	/ a	/	/	/	/	/
/	/ b	/ b	/ b	/ a	/	/	/	/	/
/	/	/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/	/	/

(P<0.05) :a-d

) (C18:3 ω-3)
 (P< /)
 (C20:5 ω-3)
 (C22:6 ω-3) (C14:0)
 (P< /)
 (C20:5 ω-3)
 (C22:6 ω-3) (C16:0)
 (C18:0)
 (TSAT)
 (TSAT)
 (MUFA)
 (TMUFA)
 C16:1)
 (ω-7)
 (C18:1, ω-9)
 TMUFA C18:1 ω-7
 C20:1, ω-9
 TMUFA
 (PUFA)
 (TPUFA) (PUFA)
 (P< /) ()
 (C18:2, ω-6 cis) (P< /)
 ()

								()
/	/	/	/	/	/	/	/	(C18:3n3 , LNA)
/	/	/	/	/	/	/	/	(C20:5n3 , EPA)
/	/	/	/	/	/	/	/	(C22:6n3, DHA)
/	/	/	/	/	/	/	/	(LC n-3 PUFA)

% : % : % : () % :
 . / . / . / . /
 () / %

(ω-6 : ω-3)

(SAT : PUFA)
(P< /)

()

(MUFA: PUFA)

(LA : LNA)

LNA

DHA EPA

(FE)

()

()

()

(TPUFA)

()

... :

()					()					(%)
SEM					SEM ¹					
/	/	/	/	/	/	/	/	/	/	(C 14:0)
/	/	/	/	/	/	/	/	/	/	(C16:0)
/	/	/	/	/	/	/	/	/	/	(C18:0)
-	ND	ND	ND	ND	/	/	ND	ND	ND	(C20:0)
/	/	/	/	/	/	/	/	/	/	(C22:0)
/	/	/	/	/	/	ab	ND	/	ab / a	(C14:1n5)
/	/	/	/	/	/	/	/	/	/	(C16:1n7TRANS)
/	/	/	/	/	/	/	/	/	/	(C18:1n9)
/	/	/	/	/	/	b	/	b / ab / a	/	(C18:1n7)
/	/	a	/	ab / b / b	/	/	a	ND	ND	(C20:1n9)
/	/	/	/	/	/	/	/	/	/	(C22:1n9)
/	/	/	/	/	/	/	/	/	/	(C18:2N6cis)
/	/	ND	/	/	/	/	ND	/	ND	(C20:4 n6)
/	/	/	/	/	/	/	/	/	/	(C18:3n3)
/	/	/	/	/	/	/	/	/	ND	(C20:3 n3)
/	/	a	/	ab / b / b	/	/	a	/	a / ab / b	(EPA;C20:5n3)
/	/	a	/	ab / b / b	/	/	a	/	ab / ab	(DHA C22:6) n3
/	/	/	/	/	/	/	/	/	/	TSAT
/	/	/	/	/	/	b	/	b / ab / a	/	TMUFA
/	/	a	/	ab / b / b	/	/	a	/	ab / ab / b	TPUFA
/	/	ab	/	b / ab / a	/	/	a	/	ab / ab / b	6 T n6
/	/	a	/	ab / bc / c	/	/	a	/	ab / ab / b	3 T n3
/	/	/	/	/	/	/	/	/	/	SAT:PUFA
/	/	/	/	/	/	b	/	ab / ab / a	/	MUFA:PUFA
/	/	/	/	/	/	/	/	/	/	LA:LAN
/	/	b	/	b / b / a	/	/	/	/	/	N6:n3

(P<0.05) % : % : % : () % :
 ()

()
 () E3 ()

())

) LDL
) HDL ()
 .() (

()					()					(%)							
SEM					SEM												
/	/	b	/	b	/	b	/	a	/	/	(C 14:0)						
/	/	/	/	/	/	/	/	/	/	/	(C16:0)						
/	/	/	/	/	/	/	b	/	ab	/	/ a						
/	/	/	/	/	/	/	a	/	ab	/	ab / b						
/	ND	/	/	/	/	/	/	/	/	/	(C22:0)						
/	/	/	b	/	b	/	a	/	/	/	(C14:1n5)						
/	/	/	/	/	/	/	/	/	/	/	(C16:1n7TRANS)						
/	/	/	/	/	/	/	/	/	/	/	(C18:1n9)						
/	/	/	/	/	/	/	/	/	/	/	(C18:1n7)						
/	/	/	/	/	/	/	/	/	/	/	(C20:1n9)						
/	/	/	/	/	/	/	/	/	/	/	(C22:1n9)						
/	/	/	/	/	/	/	/	/	/	/	(C18:2N6cis)						
/	/	/	/	/	/	/	/	/	/	/	(C20:4 n6)						
/	/	/	/	/	/	/	a	/	b	/	b / b						
/	/	/	/	/	/	/	/	/	/	/	(C18:3n3)						
/	/	a	/	ab	/	ab	/	b	/	a	/	ab / bc / c					
/	/	/	/	/	/	/	a	/	a	/	ab	NDb					
/	/	/	/	/	/	/	/	/	/	/	/	(EPA;C20:5 n3)					
/	/	/	/	/	/	/	/	/	/	/	/	(DHA C22:6 n3)					
/	/	/	/	/	/	/	/	/	/	/	/	TSAT					
/	/	/	/	/	/	/	a	/	a	/	b	/	b	TMUFA			
/	/	a	/	ab	/	b	/	b	/	a	/	b	/	bc	/	c	TPUFA
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	6 T n6
/	/	a	/	ab	/	bc	/	c	/	a	/	b	/	c	/	c	3 T n3
/	/	/	/	/	/	/	/	b	/	b	/	b	/	a	/	/	SAT:PUFA
/	/	b	/	ab	/	ab	/	a	/	/	/	/	/	/	/	/	MUFA:PUFA
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	LA:LAN
/	/	/	/	/	/	/	b	/	ab	/	ba	/	a	/	/	/	N6:n3

. % : % : % : () % :
 .()
 .(P<0.05) :a-d .

... :
 ()
 (LDL-C)
 (HDL-C)
 ()
 LNA) ()
) (DHA EPA
 () (LDL (%))
 () (%) HDL
 LC n-3) ()
 (DHA EPA) (PUFA
)
 (LDL ()
 (LA) HDL
 () ()
)
 ((VLDL)
) (LDL)
 ()
 ()
 ()
 ()
)
 () () ()
 (AA)

()					()					(%)								
SEM	SEM ¹																	
/	/	a	/	b	/	b	ND ^b	/	/	/	/	/	(C 14:0)					
/	/	/	/	/	/	/	/	ab	/	b	/	b	/	a	(C16:0)			
/	/	/	/	/	/	/	/	a	/	ab	/	ab	/	b	(C18:0)			
-	ND	ND	ND	ND	ND ²	/	/	/	/	/	/	/	/	/	(C20:0)			
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	(C22:0)			
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	(C14:1n5)			
/	/	/	/	/	/	/	/	ab	/	ab	/	b	/	a	(C16:1n7TRANS)			
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	(C18:1n9)			
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	(C18:1n7)			
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	(C20:1n9)			
/	/	/	/	/	/	/	/	a	/	ab	/	ab	/	b	(C22:1n9)			
/	/	/	/	/	/	/	/	a	/	b	/	b	/	b	(C18:2N6cis)			
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	(C20:4 n6)			
/	/	a	/	ab	/	ab	/	b	/	a	/	ab	/	ab	/	b	(C18:3n3)	
/	/	/	/	/	ND	/	/	/	/	/	/	/	/	/	(C20:3 n3)			
/	/	/	/	/	/	/	/	a	/	b	/	b	/	b	(EPA;C20:5 n3)			
/	/	a	/	b	/	b	/	b	/	a	/	ab	/	b	/	b	(C22:6 n3 HA)	
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	TSAT			
/	/	a	/	b	/	bc	/	c	/	/	/	/	/	/	TMUFA			
/	/	a	/	a	/	b	/	b	/	a	/	b	/	b	/	b	TPUFA	
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	6	T n6		
/	/	a	/	a	/	b	/	b	/	a	/	b	/	b	/	b	3	T n3
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	SAT:PUFA			
/	/	b	/	b	/	b	/	a	/	/	/	/	/	/	MUFA:PUFA			
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	LA:LAN			
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	N6:n3			

. % : % : % : () % :

MUFA

(%) (%)

()

(MUFA)

(SAT)

PUFA

() (LA)

()

()

n-3 n-6

() (PUFA)
(de novo
EPA, C20:5, ω-)

()

(DHA, C22:6, ω-3) (3

n-3 n-6

(LNA, C18:3, ω-3)

()

DHA EPA

()

DHA EPA

DHA EPA

n-3

(n-6)

()

n-6

n-3

n-3 n-6

(LC n-3 PUFA)

SAT : PUFA)

(ω-6 : ω-3 LA : LNA MUFA : PUFA

() n-6

SAT : PUFA

MUFA : PUFA

()

(n-6:n-3) :

(%)

: n-6 : n-3

n-6 n-3

(LNA)

%

()

%

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