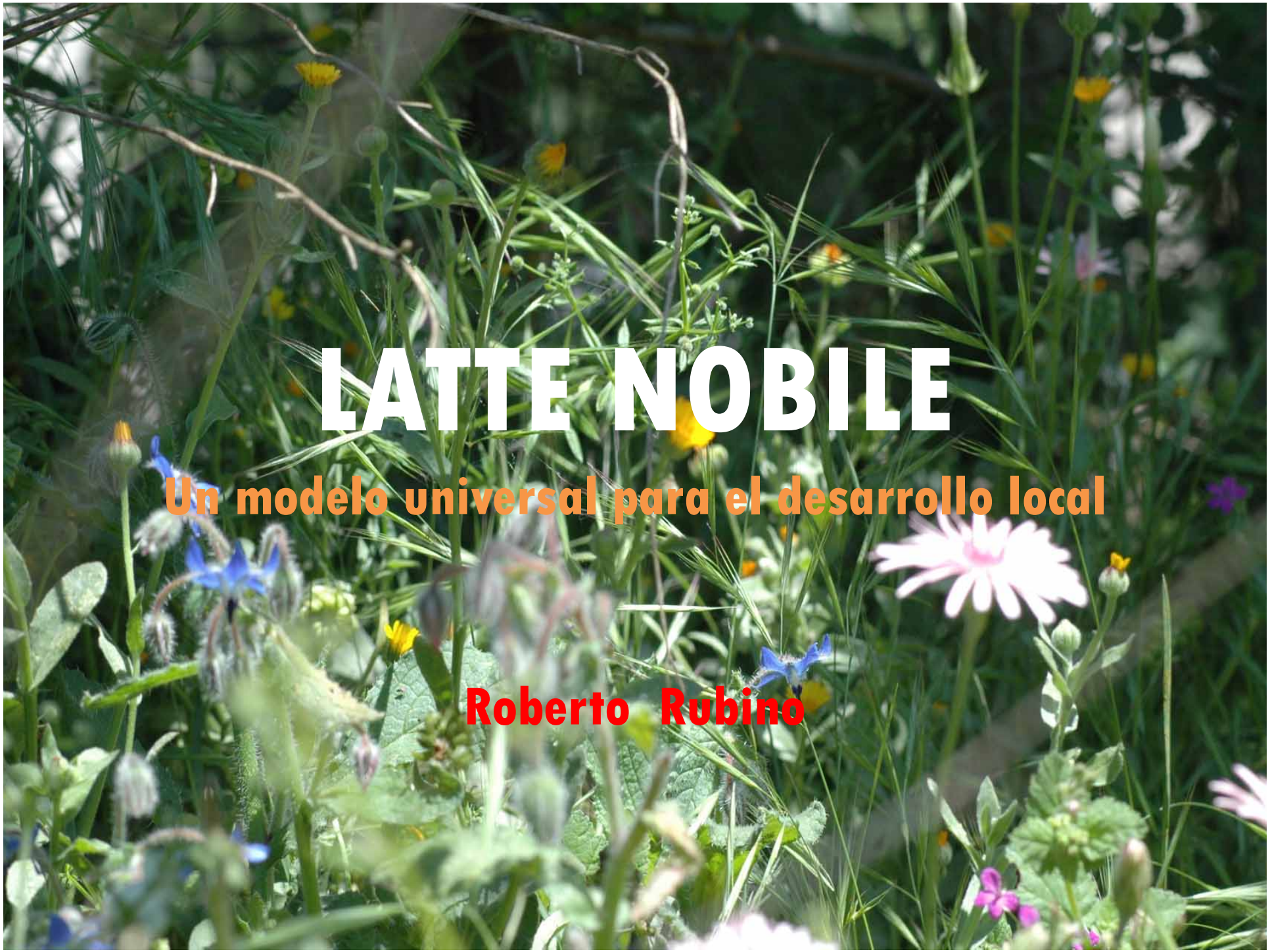
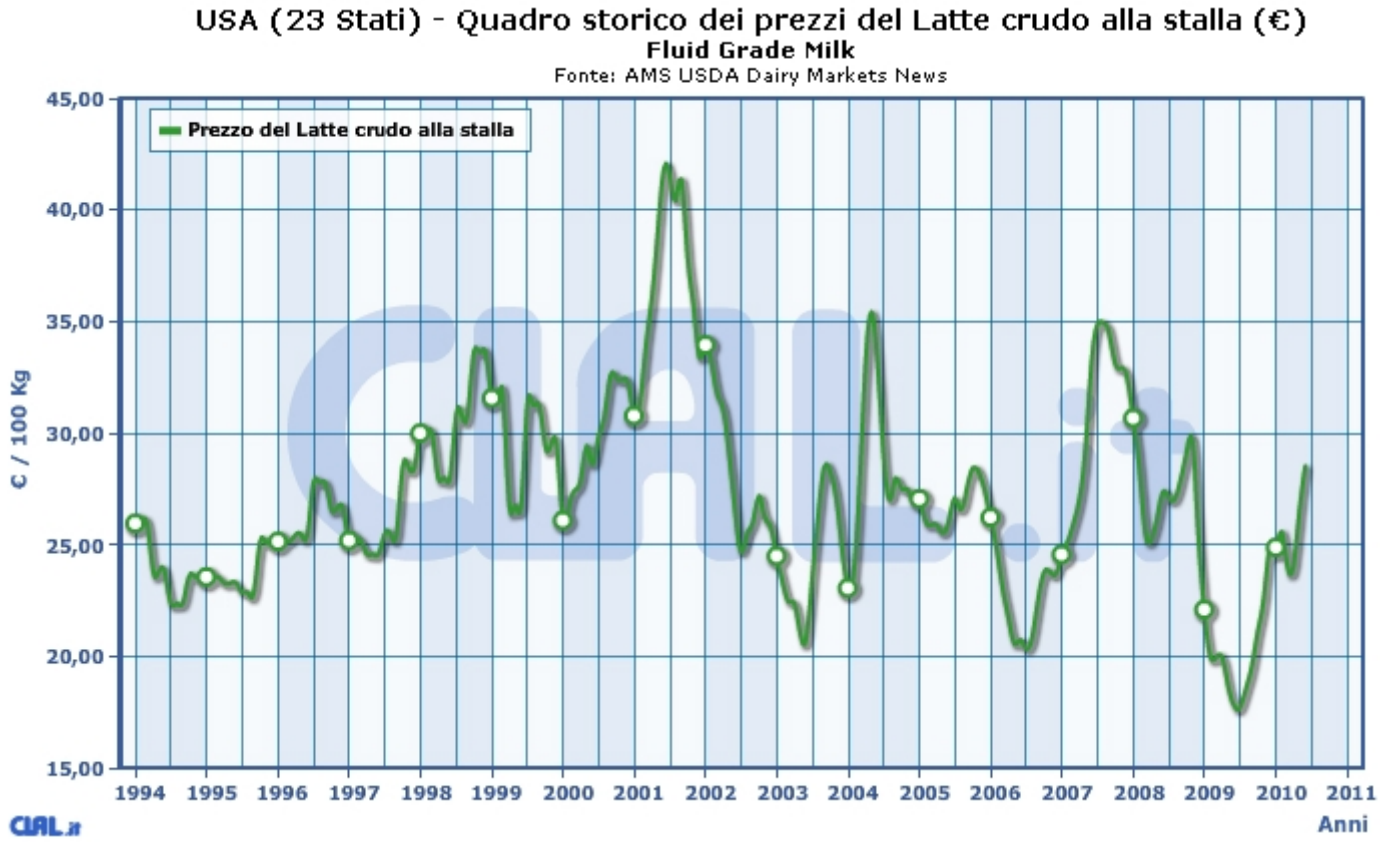
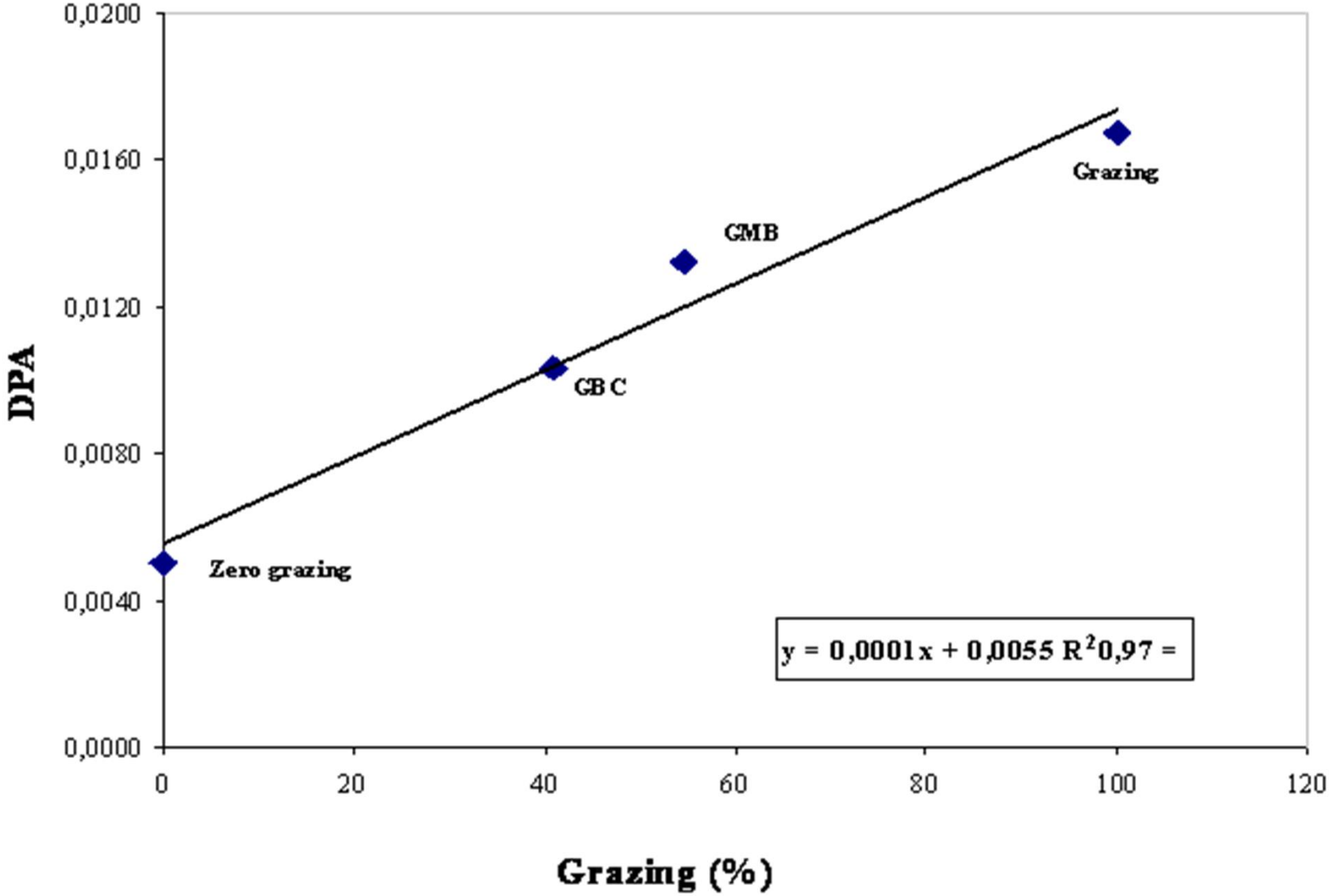

LATTE NOBILE
Un modelo universal para el desarrollo local
Roberto Rubino

La leche es toda igual?


USA (23 Stati) - Quadro storico dei prezzi del Latte crudo alla stalla (€)
Fluid Grade Milk
Fonte: AMS USDA Dairy Markets News
Prezzo del Latte crudo alla stalla
€ / 100 Kg
45,00
40,00
35,00
30,00
25,00
20,00
15,00
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
Anni

La leche no es toda igual

Grado de protección antioxidante en leche de cabra



Relación Omega6/omega3 en la leche comercial

Campione	Ac. linoleico ω6	Ac. linolenico ω3	ω6/ ω3
17.10.13 media*	3,15±0,03	0,28±0,00	11,25
14.01.14 media*	2,88±0,08	0,31±0,03	9,29
10.22.14 media*	2,95±0,18	0.31±0,01	9,51
21.03.14 media**	2,30±0,04	0,40±0,01	5,75
24.04.14 media***	3,20±0,08	0,48±0,01	6,67

Evolucion de la relación **Omega6/omega3** de Latte Nobile de vaca

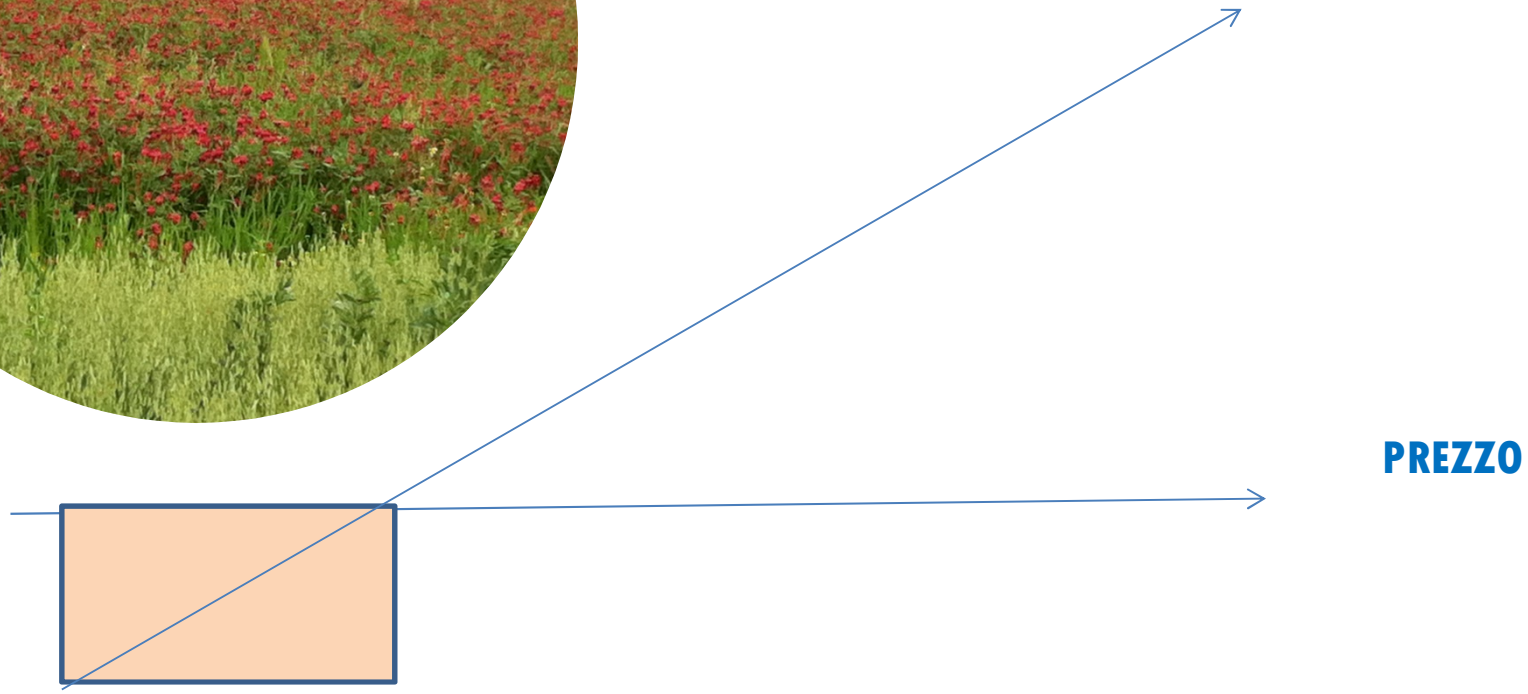
Campione	Ac. linoleico ω6	Ac. linolenico ω3	ω6 : ω3
07.02.13 media	2,12±0,04	0,28±0,01	7.50
13.03.13 media	1,87±0,02	0,36±0,01	5,20
17.05.13 media	1,71±0,03	0,38±00,0	4,50
03.06.13 media	1,73±0,04	0,41±0,04	4,20
18.07.13 media	1,53±0,09	0,46±0,04	3,20
02.09.13 media	1,60±0,00	0,63±0,00	2,54
03.10.13 media	1,43±0,04	0,52±0,01	2,75
05.11.13 media	1,52±0,06	0,60±0,01	2,53

Compound	Chem Class	Odour perception	LRI[a]	Ident[b]	A	B	D	E	F	G	H	I	L	M
butyric acid	acid	rancid	818	PI		x	x	x	x					x
phenyl acetic acid	acid	soap,spicy	1267	PI						x			x	
methyl-2-butenol	alcohol	herbaceous	779	PI				x		x				
heptanol	alcohol	onion	926	PI						x			x	
2-ethyl hexanol	alcohol	green	1032	PI,MS		x								
2-phenyl ethyl alcohol	alcohol	honey,floral	1116	PI					x					
2,6-nonadienol	alcohol	cucumber	1163	PI						x	x		x	
2-octenal	aldehyde	green	1061	PI						x	x			
3,6-nonadienal	aldehyde	floral	1096	PI	x									
perilla aldehyde	aldehyde	spicy	1274	PI		x								
decadienal	aldehyde	rancid,fat	1322	PI								x		x
o-amino acetophenone	aromatic hyd	sweet	1313	PI					x		x			
ethyl butyrate	ester	apple	798	PI	x	x	x			x	x			
butyl acetate	ester	pear	816	PI	x	x	x	x	x	x	x	x	x	x
ethyl methyl butyrate	ester	apple	848	PI	x			x		x	x			
methyl-2-(methylthio)-acetate	ester	fried,potato	891	PI		x	x			x			x	
ethyl isohexanoate	ester	fruity	967	PI						x			x	
ethyl hexanoate	ester	honey,floral	1001	PI				x						
hydroxy pentanone	ketone	mushroom,earth	824	PI	x			x		x			x	
octadienone	ketone	floral	980	PI					x		x			
2-nonanone	ketone	hot milk	1104	PI	x								x	
ethyl dimethyl pyrazine	pyrazine	potato	1087	PI					x		x			
acetyl pyrroline	pyrrole	fried,nut	924	PI						x			x	
propionyl pyrrole	pyrrole	roast	1026	PI						x				
dimethyl disulfide	sulfur	garlic	777	PI						x	x			
mercapto pentanone	sulfur	onion	899	PI					x		x			
thenylthiol	sulfur	sulfur	1077	PI					x		x			
sulfurol	sulfur	garlic	1260	PI	x									
methylfuranthiol	sulfut	garlic	865	PI								x		x
limonene	terpene	floral	1035	PI				x		x	x			
(Z)-linalool oxide	terpene	soap,floral	1070	PI		x	x		x					x
(E)-rose-oxide	terpene	green	1132	PI				x						
(Z)-limonene oxide	terpene	citrus	1136	PI					x	x	x	x		x
carveol	terpene	fresh	1198	PI					x					
linalool oxide	terpene	floral	1214	PI		x	x	x		x	x		x	x
myrtenal	terpene	floral,spicy	1235	PI	x									
1,3-p-menthadien-7-ol	terpene	spicy	1292	PI				x						
acethyl thiazole	thiazole	green,earthy	1019	PI	x									
Totale					**9**	**8**	**6**	**10**	**11**	**17**	**14**	**4**	**10**	**7**

[a] LRI, Linear Retention Index, capillary column HP-5. [b] Identification: MS (Wiley library);
PI (Internet database:flavornet); ST (standard solution); * LRT calculated on the normal alkans RT

	Erba	Latte Alpeggio	Semolina	Pasta
1-Pentanol			1,22	3,03
2-Propanol, 1-(2-methoxypropoxy)-	188,53	44,49		
Eucalyptol	27,46	35.27		
1- Octanol	617,43	795,48	15,57	7,94
1-Hexanol			1,96	6,28
1-Octen-3-ol				
Linalool	49,29	64,44		
Menthol	35,52	48,73		
Dicyclopentadiene alcohol	80,38	77,73		
Aldehydes				
Hexanal	87,01	684,34		30,47
Heptanal	11,00	362,00		3,83
Benzaldehyde	30,41	60,84		
Octanal	1,48	160,15		
Nonanal	37,43	180,48	1,22	4,65
Decanale	20,64	65,13		1,26
Undecanal	5,20	10,29		
Ketones				
Acetophenone	6,78	42,48		
Geranyl acetone	16,14	15,63		
Esters				
Fenchyl acetate	11,95	13,15		
Isopulegol acetate	16,57	15,95		
Isobornyil acetate	63,19	87,82		
Geranyl acetate	11,48	10,08		
Hydrocarbons				
Hexane		6,49		
Toluene	31,38	73,07	0,152	
Ethylbenzene	76,06	540,61	10,06	1,63
Xylene	85,36	576,17	10,84	2,36
Styrene	9,70	563,71		
Undecane	11,08	17,94	1,74	
Naphtalene	18,03	21,83		
Tetradecane	5,74	6,64		
Pentadecane	3,48	7,34		
Diethyl phtalate	10,61	29,89		
Terpenes				
α-Pinene	16,50	134,88	0,28	
Camphene	41,88	754,39		
β-Pinene	26,61	114,77		
Limonene	83,82	56,83		
Camphor	18,23	25,24		
α-Terpineol	112,21	91,25		

Precio y qualitad

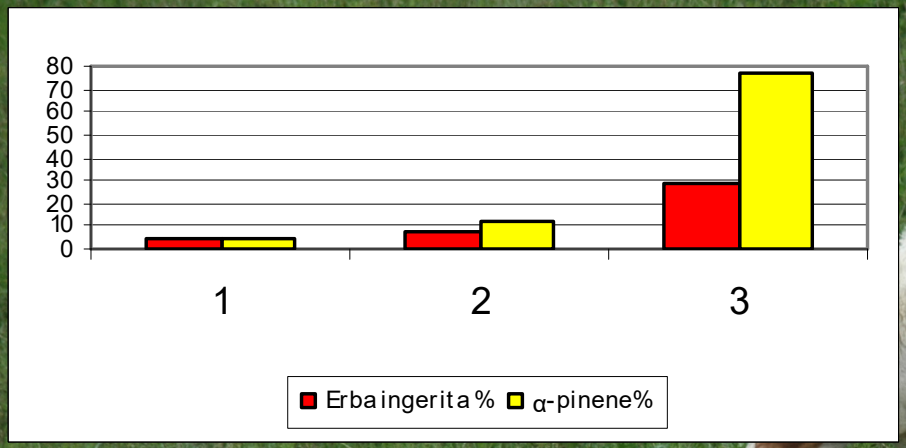


QUE AFFECTA LA CALIDAD?

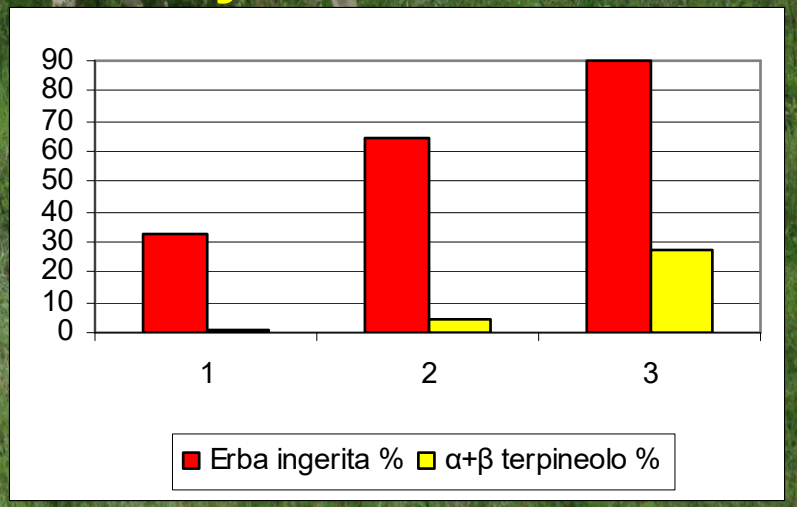

MUCHA HIERBA Y
MUCHAS HIERBAS

VOC en la planta y en la leche

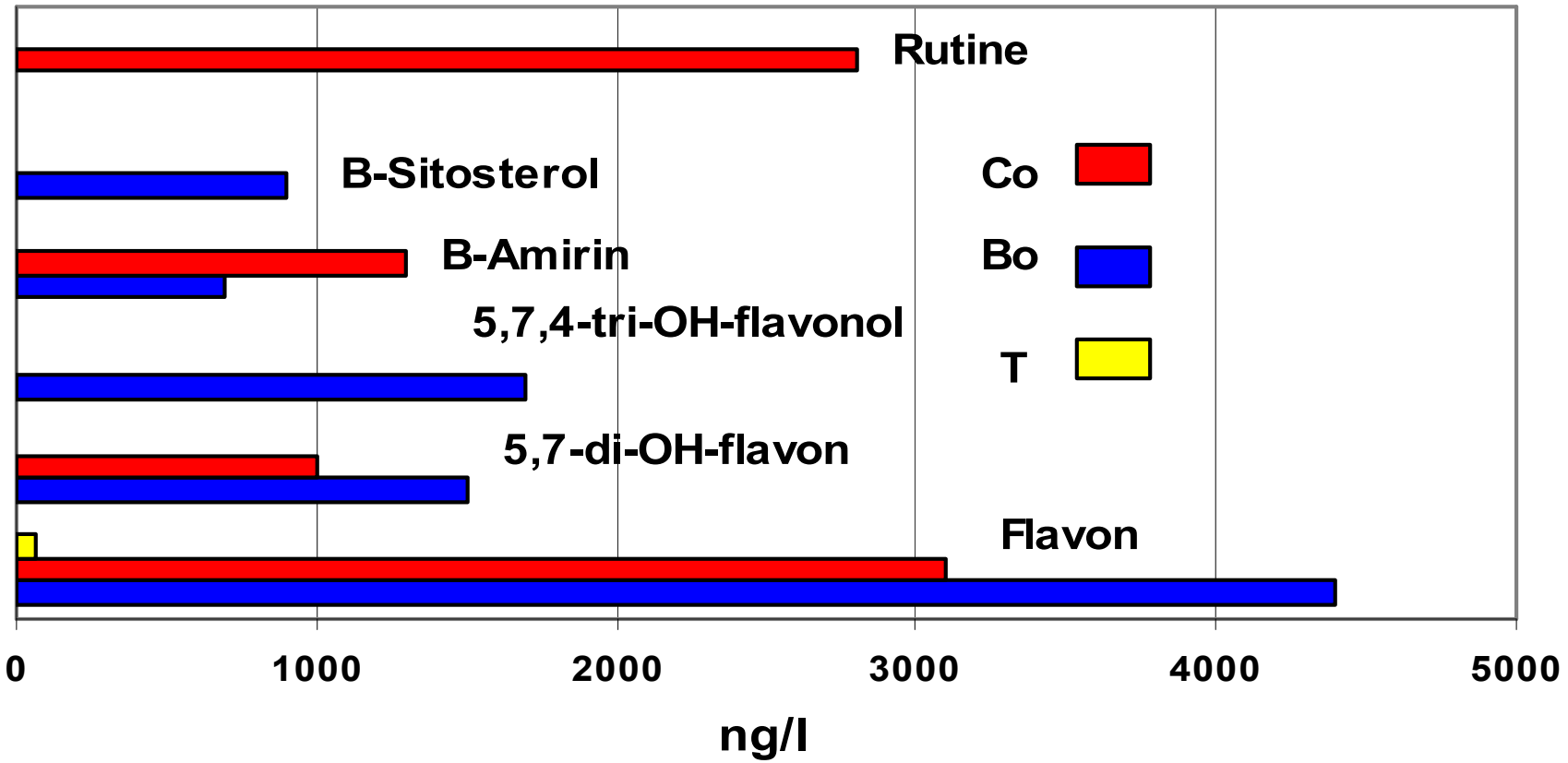
Geranio *(Fedele et al., 2004)*



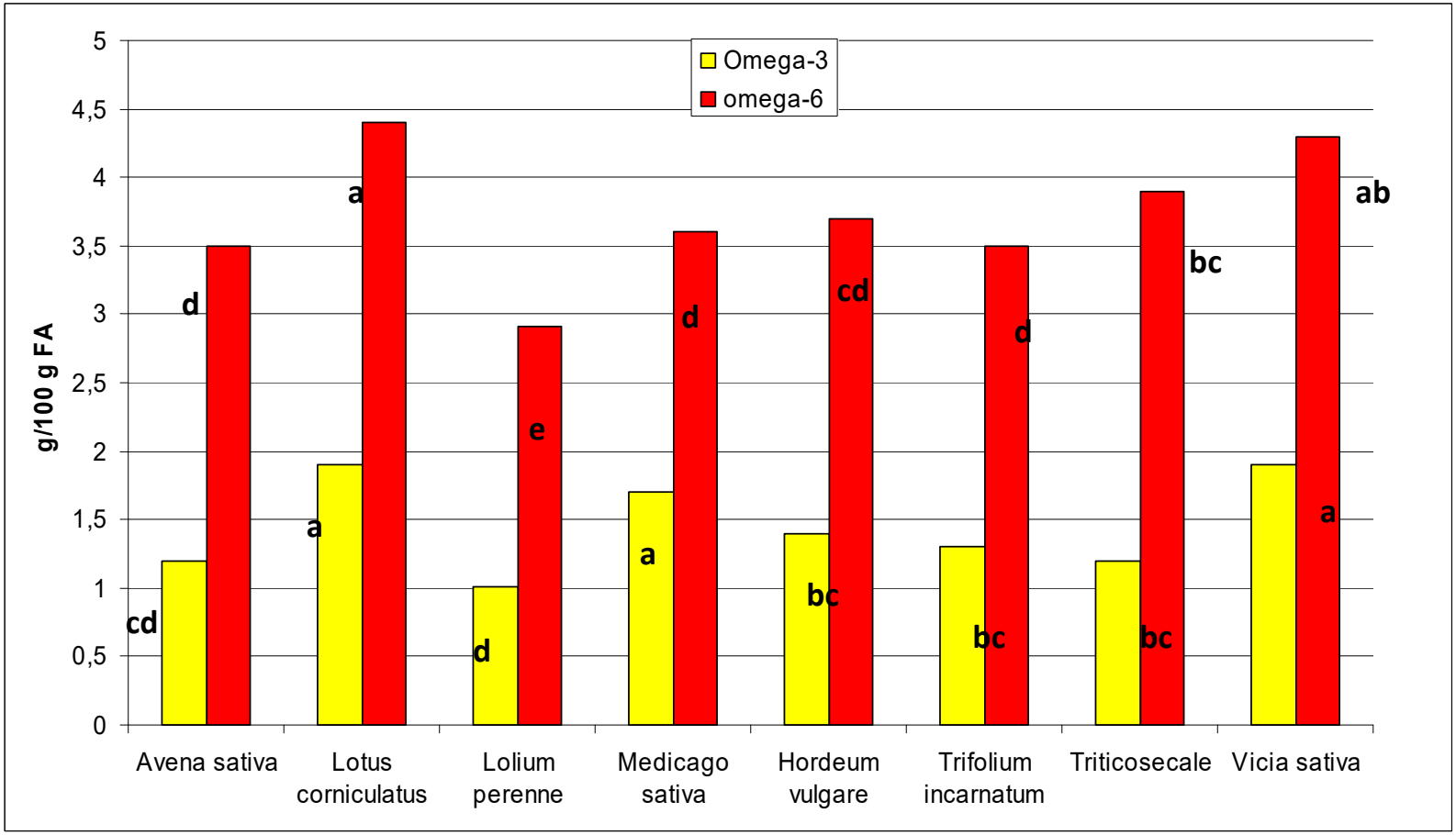
Dactylis *(Fedele et al., 2004)*



BORRAJA Y ESPINO



Contenuto di Omega-3 e Omega-6 nel latte di capra



. Composición de compuestos orgánicos volátiles (VOC) en quesos de cabra en relación al tipo de hierba ingerida.

	Avena sativa	*Lolium perenne*	*Medicago sativa*	*Trifolium incarnatum*	*Significancia*
Aldehídos	9.06^{b}	8.62^{b}	24.07^{a}	8.87^{b}	**
Cetonas	9.70b^{c}	14.97^{b}	39.62^{a}	3.69^{c}	***
Ésteres	3.97	3.32	9.68	5,55	n.s.
Hidrocarburos	60.42	47.66	78.1	46.78	n.s.
Alcoholes	132.52^{a}	16.89^{b}	1.60^{b}	4.03^{b}	**
Terpenos	10.88^{a}	8.19^{b}	9.15^{b}	11.05^{a}	**
Total	226.55^{a}	99.65^{b}	162.23^{ab}	79.96^{b}	*

Protocolo de producción

- ***mas hierba (***relación forraje / concentrado 70/30)
- ***mas hierbas (minimo 5)***
- ***No OGM***
- ***No silo-mais***


Índices de
calidad


Relación
Omega-6/omega-3
< 4

Rapporto

GRASOS

SATUROS/INSATUROS


NO OGM


14


7


20/08/2011


20/08/2011

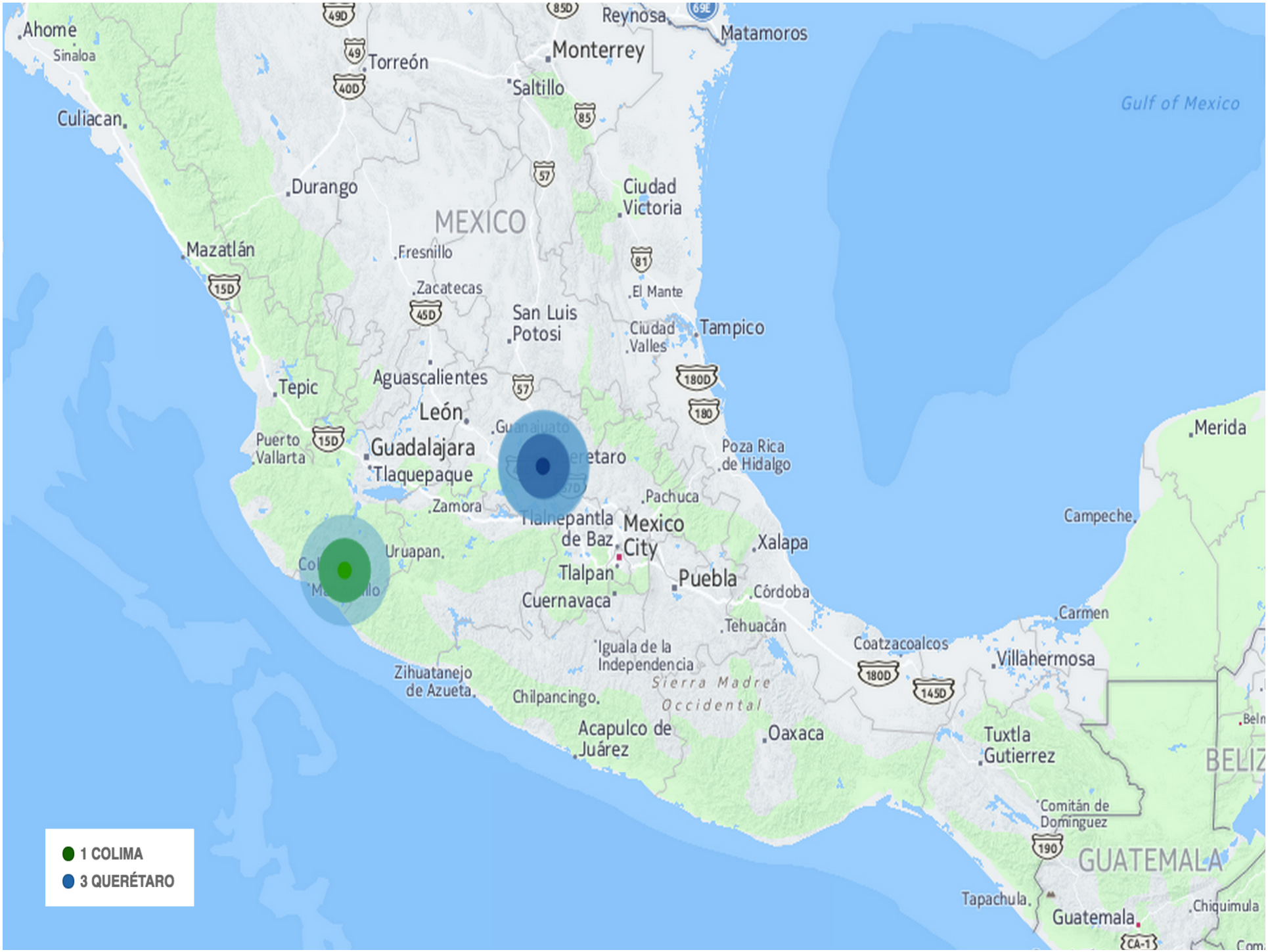
La qualità del fieno

Valutazione visiva o sensoriale

Valutazione chimica o analitica

Valutazione dietetica e biologica

	Ceneri	PG	NDF	PG/NDF
Colore	**0.65**	**0.82**	**-0.66**	**0.81**
Essenze	0.20	0.46	-0.37	0.48
Polvere	-0.04	0.32	0.08	0.20
Tattile	**0.67**	**0.64**	-0.34	**0.58**
Odore	0.01	0.47	-0.17	0.42
L/G	**0.77**	0.53	**-0.84**	**0.70**
Foglie	**0.93**	**0.83**	**-0.81**	**0.96**
Complessivo	**0.79**	**0.83**	**-0.72**	**0.86**


Ahome
Sinaloa
Culiacan
Durango
Mazatlán
Tepic
Puerto Vallarta
Guadalajara
Tlaquepaque
Zamora
Uruapan
Zihuatanejo de Azueta
Chilpancingo
Acapulco de Juárez
Iguala de la Independencia
Cuernavaca
Tlalpan
Tlalnepantla de Baz
Mexico City
Pachuca
Aguascalientes
León
Guanajuato
Fresnillo
Zacatecas
San Luis Potosi
Torreón
Saltillo
Monterrey
Reynosa
Matamoros
Ciudad Victoria
El Mante
Ciudad Valles
Tampico
Poza Rica de Hidalgo
Puebla
Tehuacán
Córdoba
Xalapa
Coatzacoalcos
Oaxaca
Villahermosa
Carmen
Campeche
Merida
Tuxtla Gutierrez
Comitán de Dominguez
Tapachula
Guatemala
Chiquimula
MEXICO
Gulf of Mexico
Sierra Madre Occidental
GUATEMALA
BELIZ
1 COLIMA
3 QUERÉTARO

LE CLASSI DEL FORMAGGIO

La qualità del formaggio dipende dalla qualità del latte, che a sua volta è strettamente legata alla dieta degli animali, e dalla tecnica di produzione.

QUALITA' DEL LATTE

DIETA DEGLI ANIMALI

A

1. Animali che vivono al pascolo,senza integrazione alimentare
2. Animali al pascolo con integrazione di Cereali al massimo al 30% della razione
3. Animali al pascolo monofita (una o poche erbe) e Cereali oltre il 30%

B

1. Alimentazione con rapporto Erba Cereali 70/30
2. Alimentazione con rapporto Erba Cereali fino al 50/50
3. Alimentazione con rapporto Erba Cereali superiore al 50/50

LA TECNICA

Alla qualità del latte si aggiunge una ulteriore valutazione basata sulle tecniche di lavorazione:

LATTE	+	Latte Crudo	−	Latte trattato termicamente
FERMENTI	−	Con Fermenti e/o Acido Citrico	+	Senza Fermenti e/o Acido Citrico

Es. Classe A2 ++ Classe B1 + -

ANFoSC

www.asyoucheeseit.com

Il Formaggio e la sua Classe

G R A Z I E