

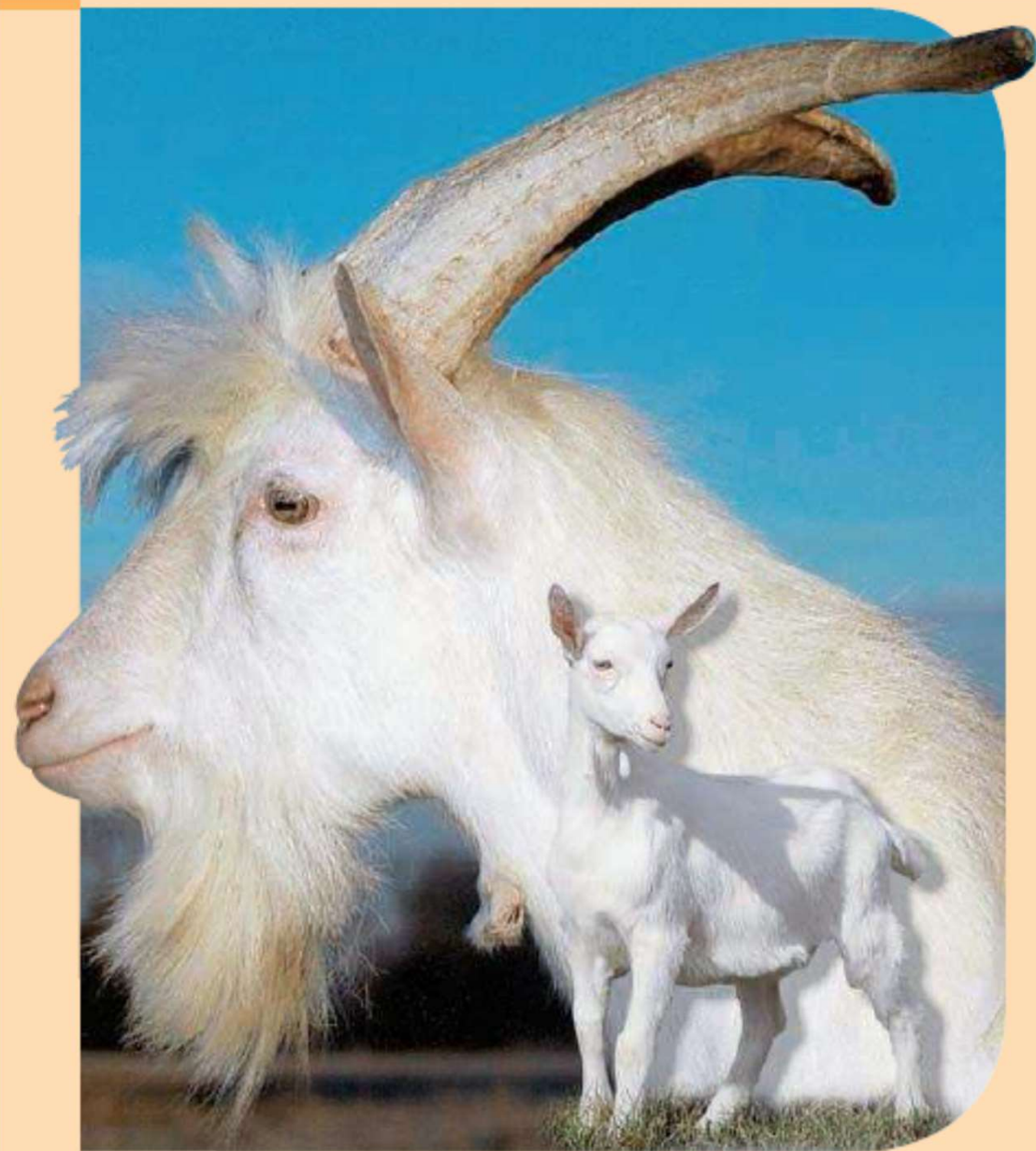


بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

اصلاح نژاد بز شیری پر بازده

محسن دادار

عضو هیئت علمی مرکز تحقیقات و
آموزش کشاورزی استان اصفهان
زمستان ۱۳۹۸



Production (P) of a sheep is dependent upon:

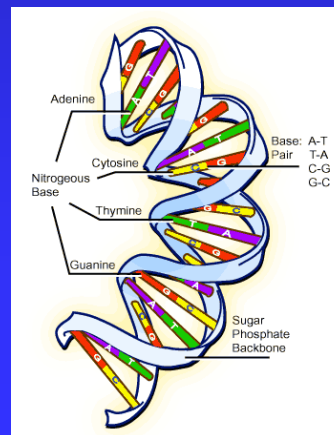
- The genes of the sheep (genotype, G)
- The environment in which the sheep is raised (E), i.e. nutrition, health program, housing, temperature, humidity, parasite challenge, etc.

Production = Genotype + Environment

$$P = G + E$$



=



+



عوامل بهره وری

- ۱- عوامل مدیریتی
- ۲- عوامل تغذیه ای
- ۳- عوامل مربوط به تاسیسات و تجهیزات دامداری
- ۴- عوامل بهداشتی
- ۵- عوامل ژنتیکی و اصلاح نژاد

فئوتیپ (عملکرد تولیدی) = عوامل محیطی + عوامل ژنتیکی

پراکندگی گوسفند و بز در جهان

منطقه	گوسفند (%)	بز (%)
آفریقا	۱۷	۳۲
آمریکای شمالی و مرکزی	۱,۶	۳
آمریکای جنوبی	۹,۳	۴,۴
آسیا	۲۸,۵	۵۶,۴
اروپا	۱۱,۹	۲,۸
اقیانوسیه	۱۹,۵	۰
روسیه و کشورهای تازه استقلال یافته	۱۲	۱,۴

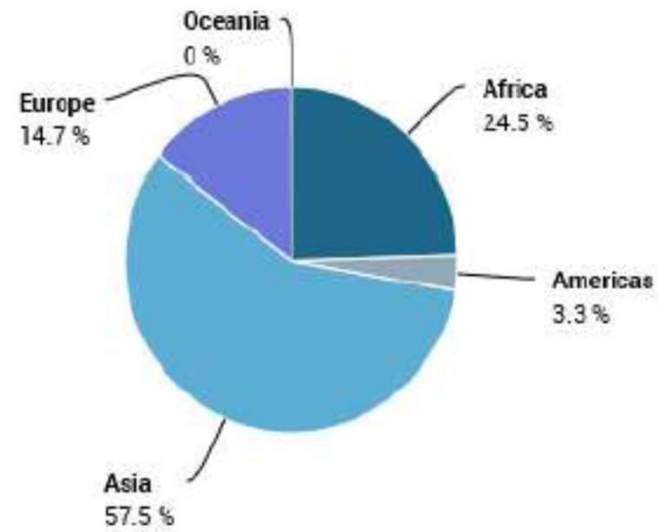
جمعیت گوسفند آسیا و آفریقا حدود ۴۵,۵٪ کل
جمعیت گوسفندان دنیا

جمعیت بز آسیا و آفریقا حدود ۸۸,۴٪ کل
جمعیت بزهای دنیا

کشور	راس (میلیون)	تولید شیر بز (میلیون تن)	تولید سرانه هر راس (کیلوگرم)
هند	۳۵	۴	۱۳۳
پاکستان	۵	.۱۷	۱۴۲
اسپانیا	۲	.۱۶	۴۲۳
فرانسه	۱	.۱۶	۷۰۴
یونان	۴	.۱۵	۱۲۴
ایران	۱۴	.۱۴	۲۹
سومالی	۶/۶	.۱۴	۵۸

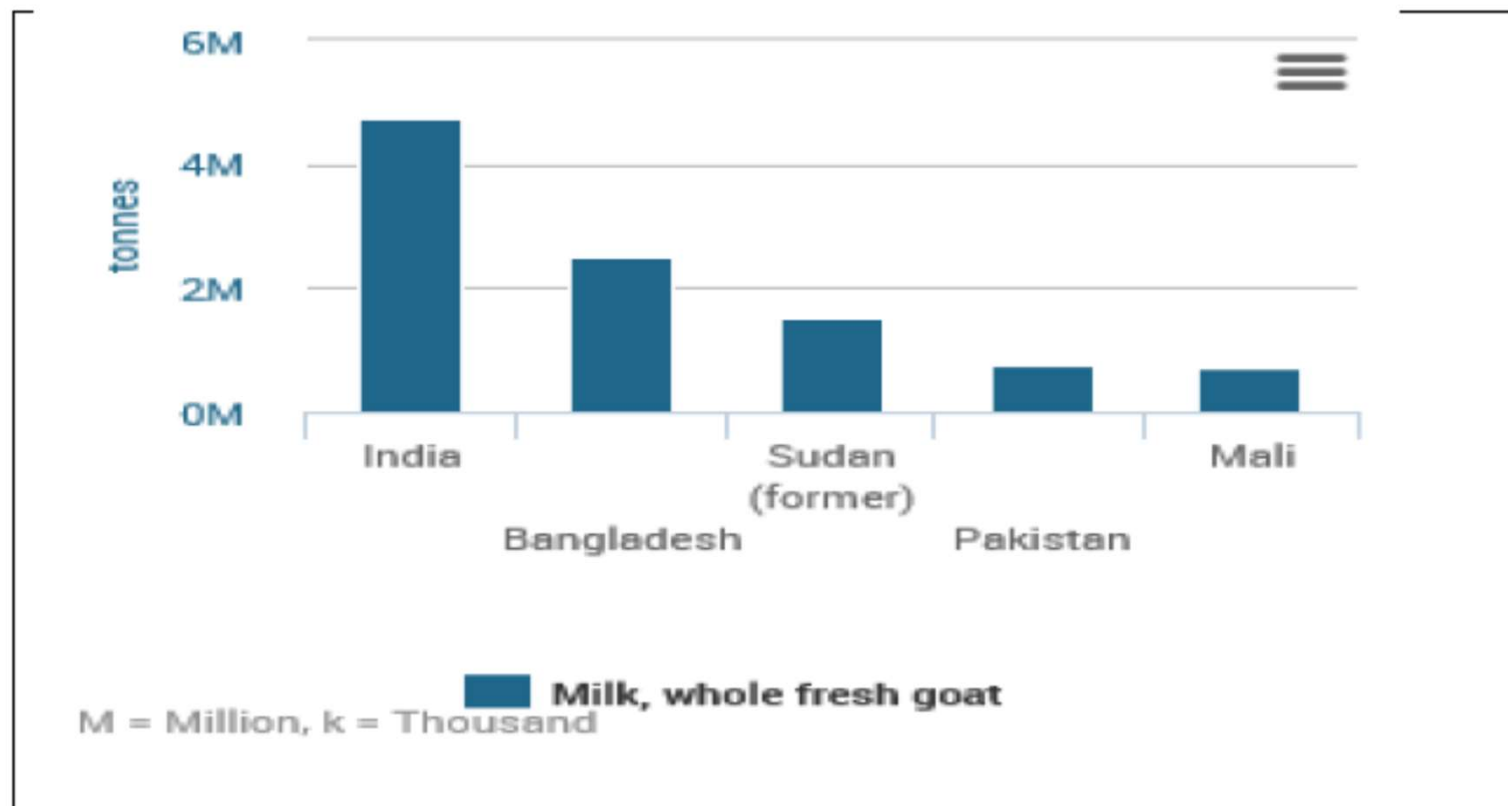
منبع - FAO سال ۲۰۰۸

Figure 5: Production of Goat Milk by Region (2009-2013)



Source: FAOSTAT 2016

Figure 6: Top Five Goat Milk Producers (2009-2013).



Source: FAOSTAT 2016



Table 4. Countries with the largest goat milk production in 2011

Specification	India	Bangladesh	Pakistan	Mali	France	Spain	Somalia	Greece
Goat milk production (thousand tons)	4594	2496	759	703	657	540	501	402
% of the world production	28,98	15,74	4,79	4,43	4,14	3,41	3,19	2,54

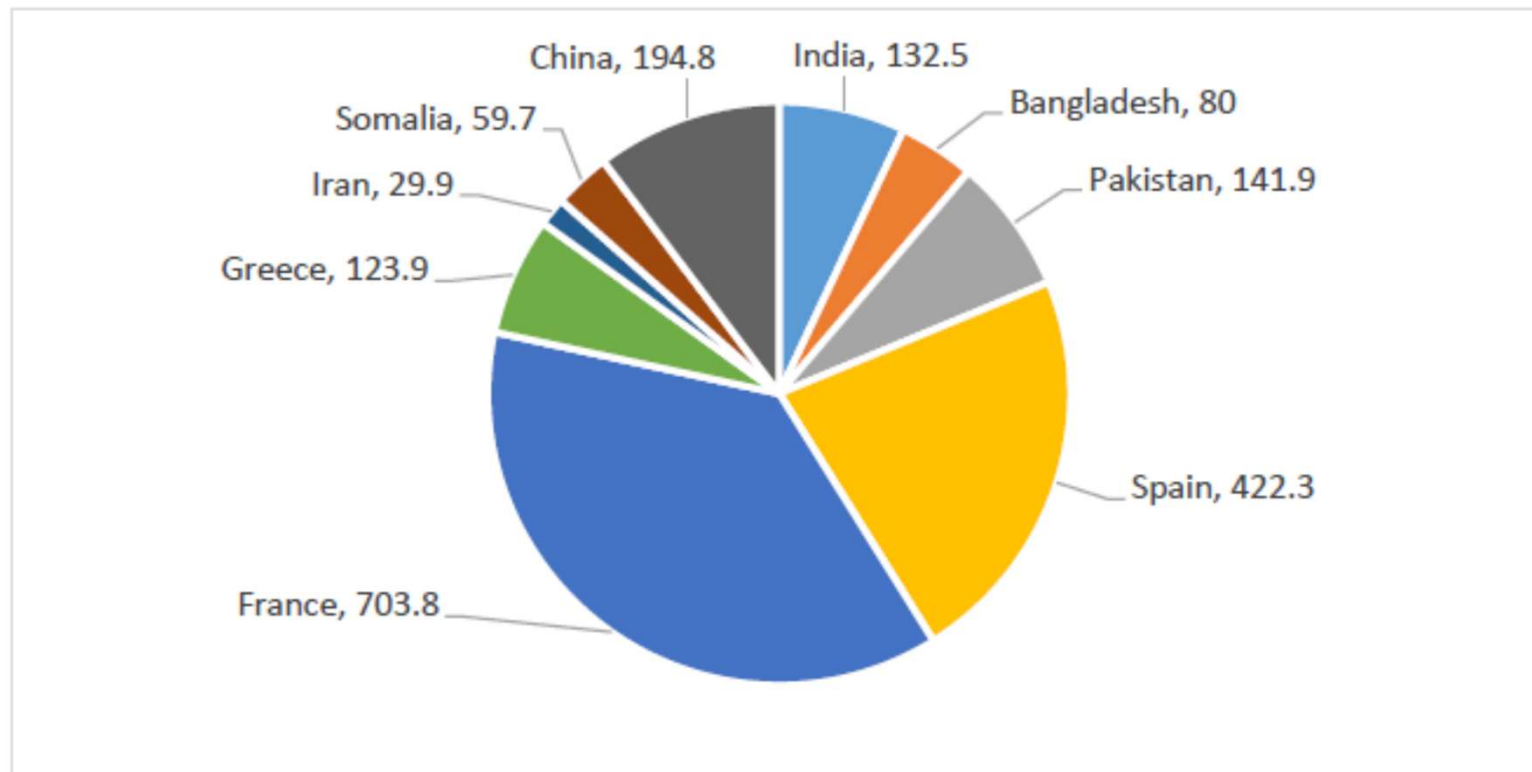
Source: FAOSTAT

Table 2. Countries with the largest goat population in 2011

Specification	China	Pakistan	Nigeria	Bangladesh	Iran	Ethiopia	Indonesia	Mali
Number (thousand heads)	142230	61480	57300	50500	23500	22787	17483	17349
% of the total	18,9	8,2	7,6	6,7	3,1	3,0	2,3	2,3

Source: FAOSTAT

Figure 9: World's Top Producers Average Milk Production per Doe/Lactation (kg)



Graphic 4. The top of the first eight European countries regarding goat milk production in 2011

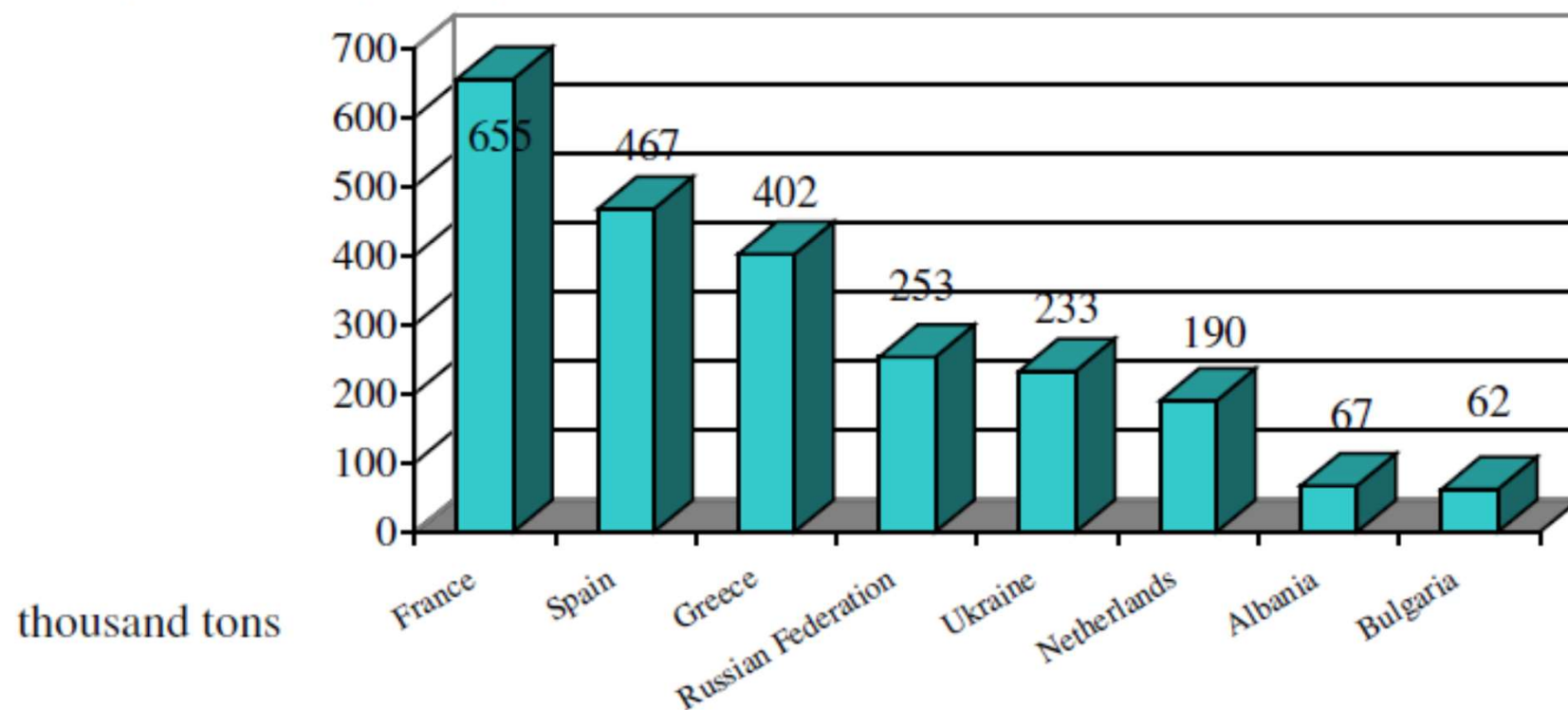
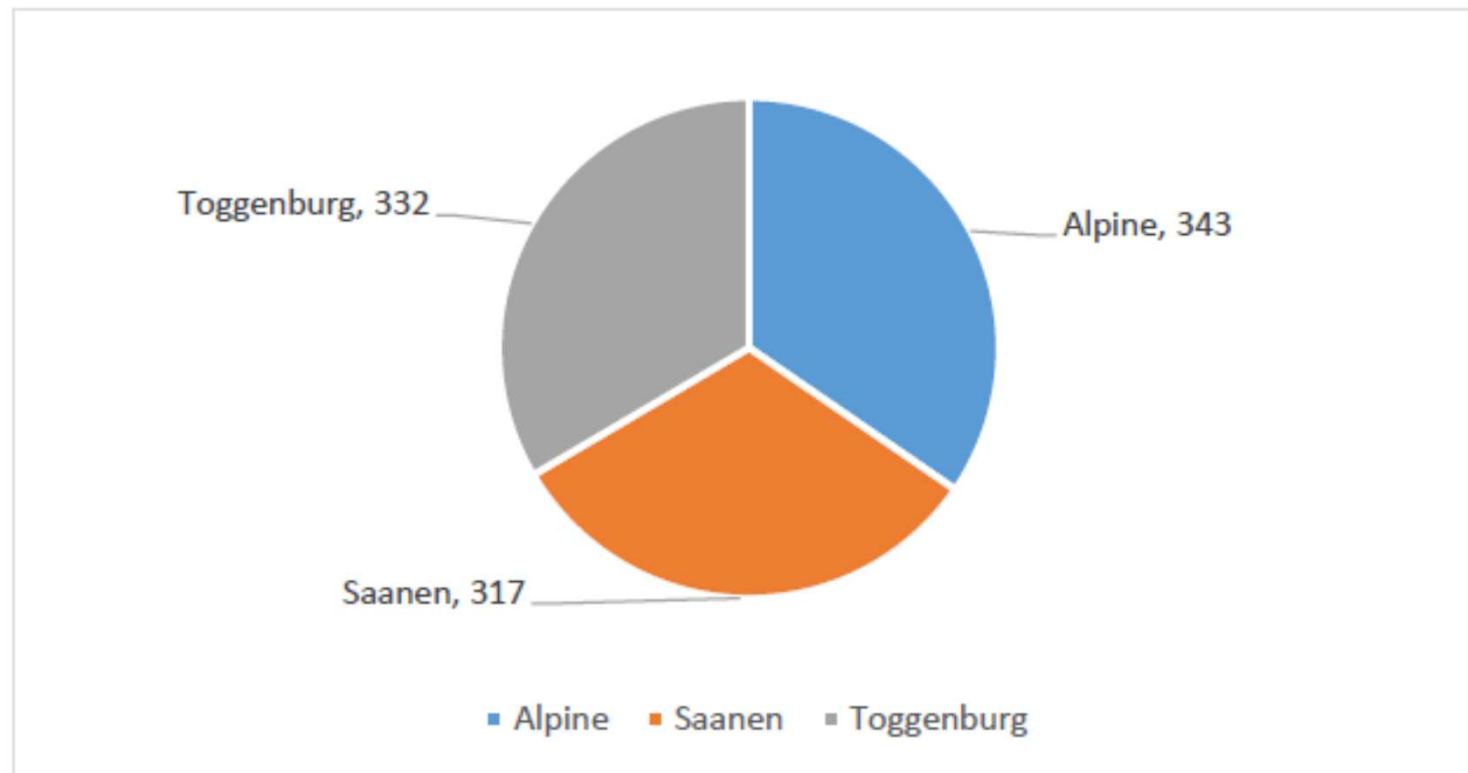


Figure 10: Average Milk Yield/Doe/Lactation in Barbados (kg) (2013)



Source: Thomas, G; Rollins, D; Lallo, C.H.O (2008). Performance of Three Dairy Goat Breeds Reared on an Intensive Pasture-Based System at Greenland Livestock Research Station Barbados.

Old World sheep

Long-legged
Thin-based horns
Live in rolling arid country

Laristan Red sheep
Ovis gmelini



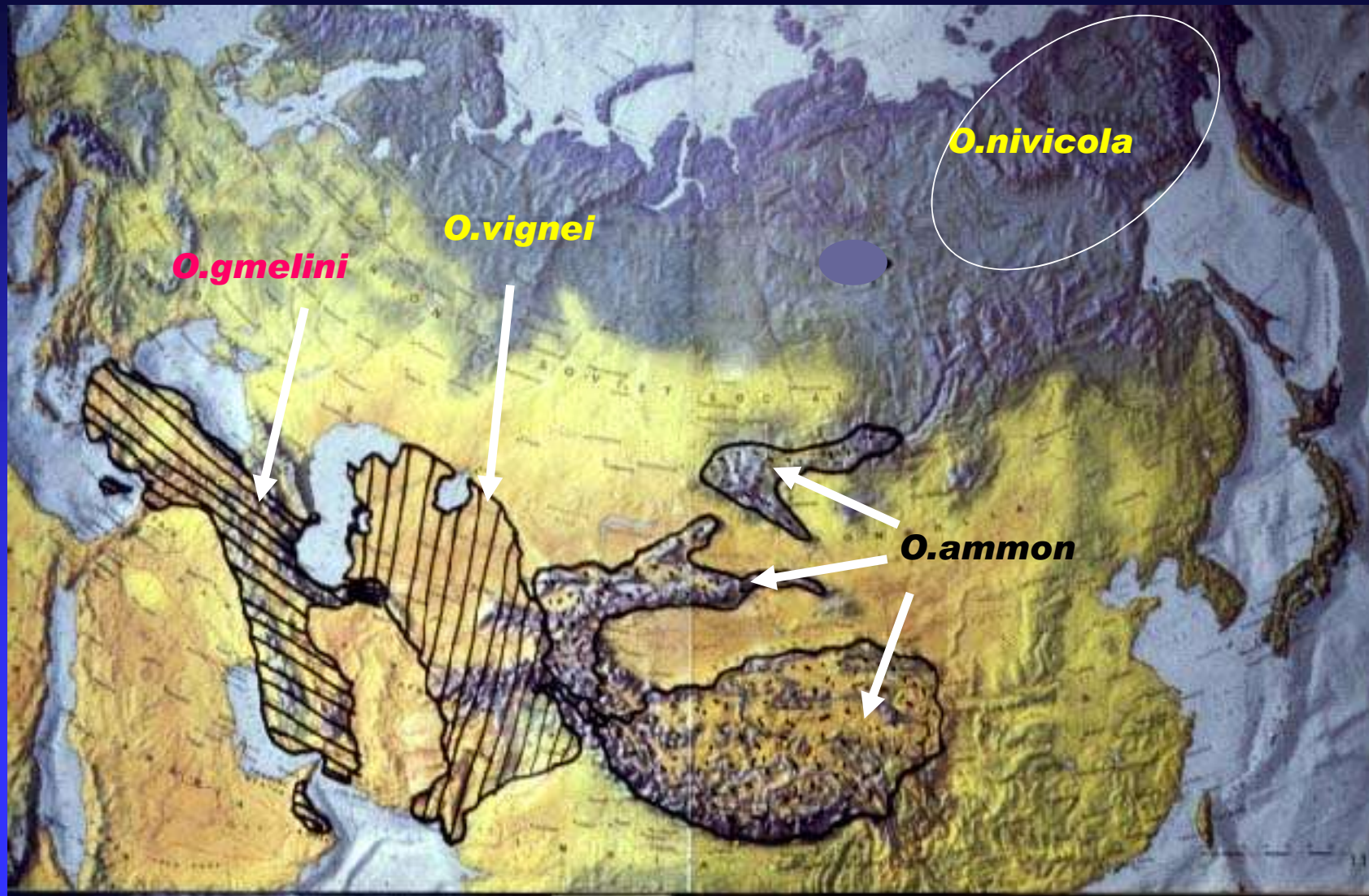
Pakistan Urial
Ovis vignei

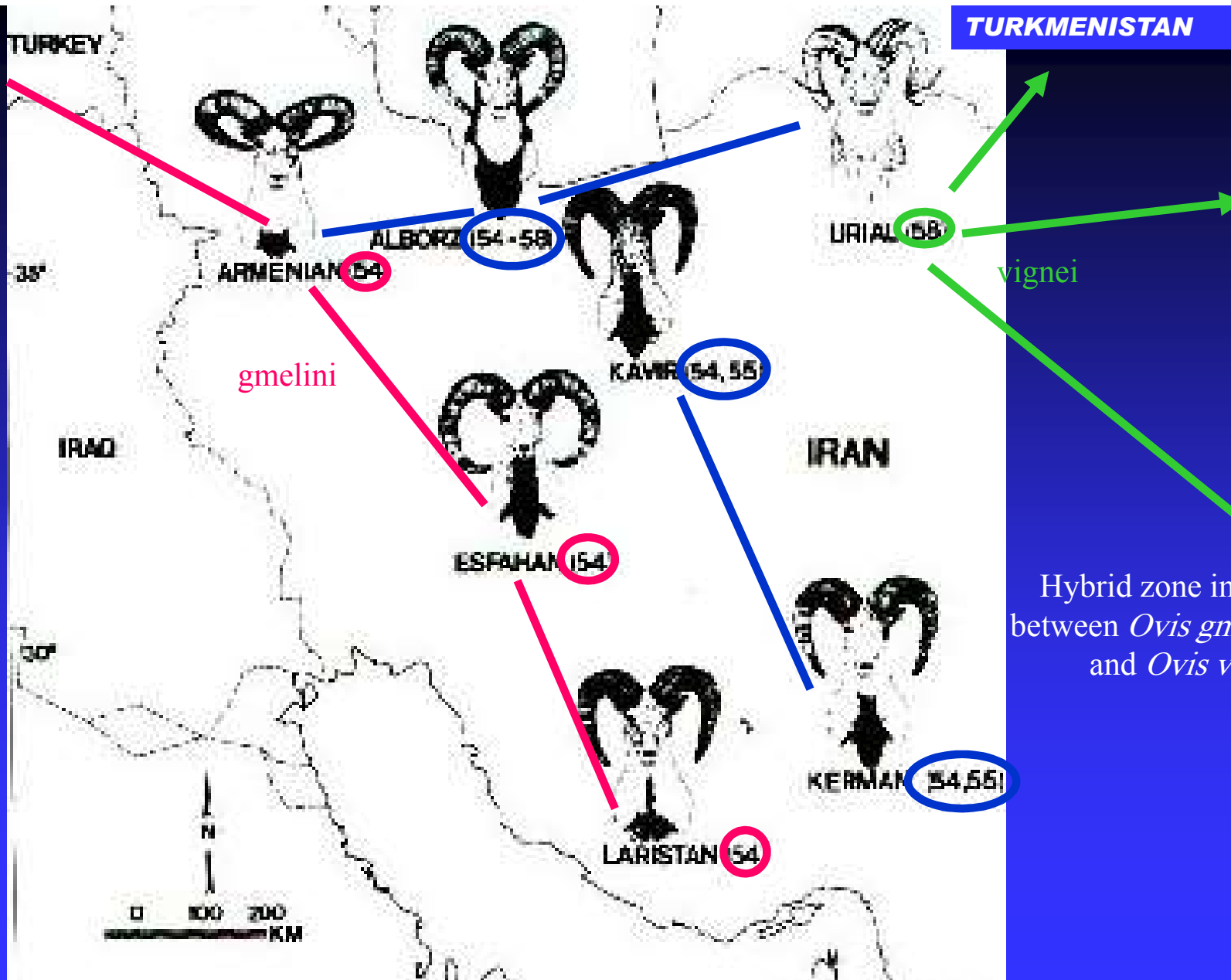


Mongolian argali
Ovis ammon



N.America: *O.dalli* and
O.canadensis

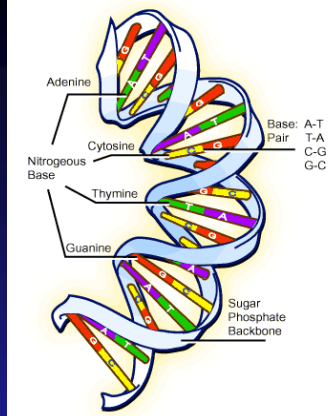




Hybrid zone in Iran
between *Ovis gmelini*
and *Ovis vignei*

Table 6.1. Numbers of chromosome pairs in farm animals and humans.

Species	Number of chromosome pairs
Cow	30
Sheep	27
Goat	30
Swine	19
Horse	32
Chicken	39
Human	23



Goats

- Terminology
- Buck – Male
- Doe – Female
- Kid – Young Goat
- Types
- Angora – Origin Turkey, Produce Mohair
- Dairy – Bred for Milk Production
- Boer – S. Africa, Meat Type
- Other – Pygmy and Fainting

Of the 570 **breeds of goats** worldwide, only 69 are uniquely specialized to the production of milk.

In those 69 breeds, 36 (approximately 52%) are from Europe, 25 breeds (37%) in Asia and 8 breeds (11%) in Africa

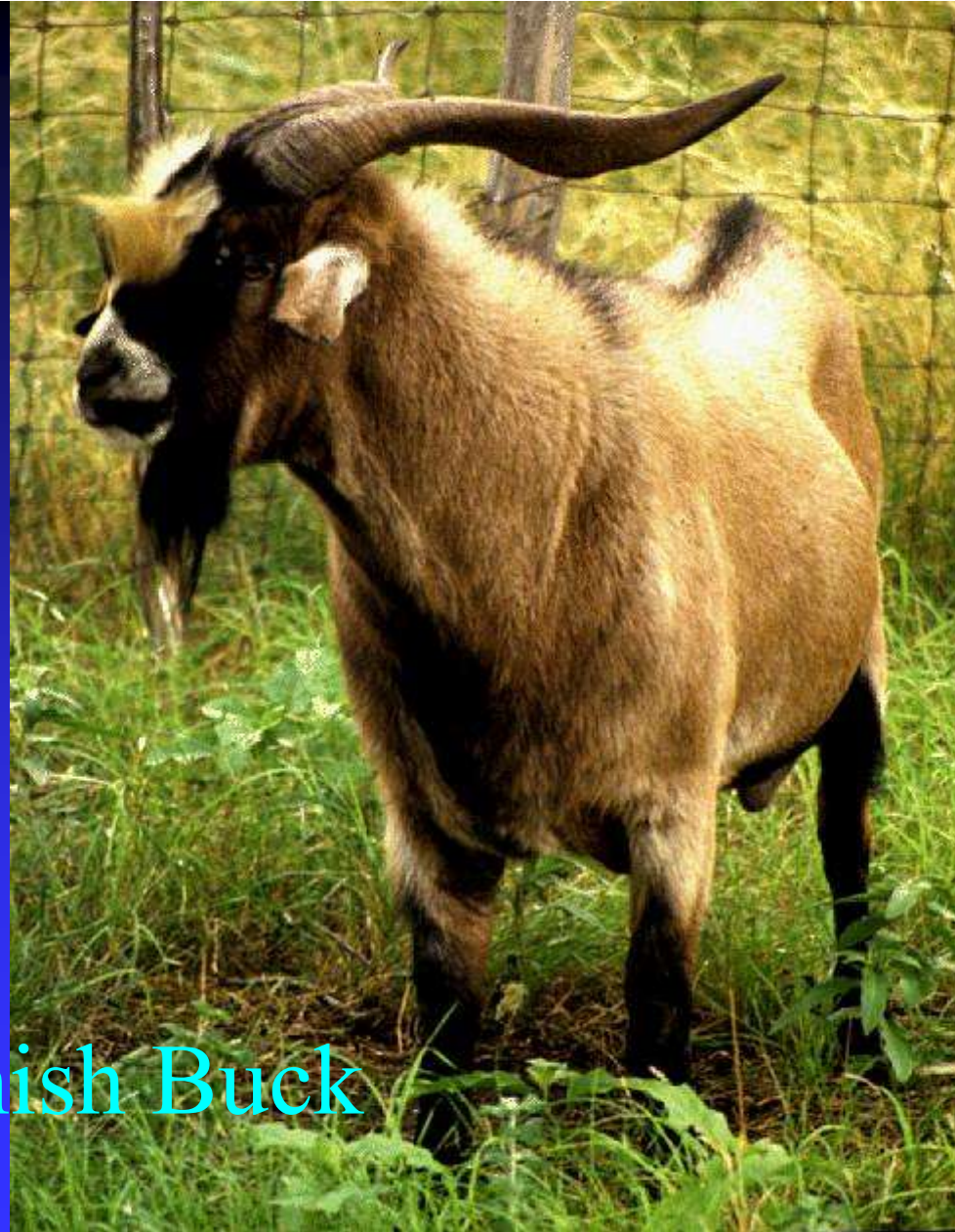
Angora Buck and Doe



Cashmere Buck



Spanish Buck



Dairy Goats

- French Alpine
- Nubian – Africa, Polled
- Toggenburg ,SANNEN – Switzerland,

French Alpine Doe





Nubian Doe

Toggenburg Doe



Boer Buck



Boer Doe



Pygmy



Fainting Goat



Comparison of average milk composition

Nutrient	Human	Cow	Goat
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Data from the [American Dairy Goat Association](#)

Abbreviations: kcal/100 ml is a measure of energy content. 1 kcal = 1000 calories; IU = international unit, a measure of vitamin potency; µg = microgram, 1/1000 milligram

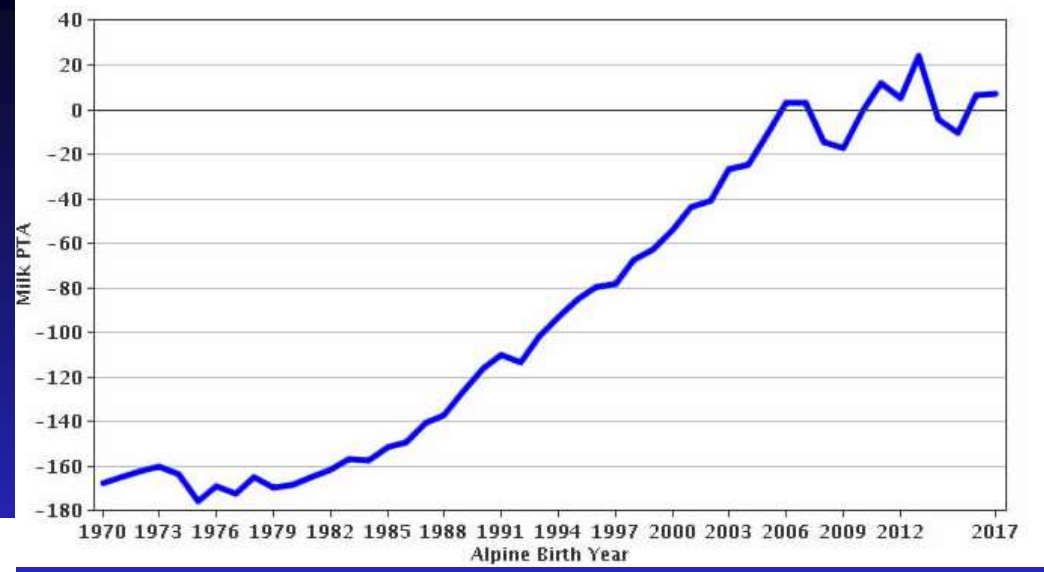
Energy (kcal/100 ml)	68,00	69,00	70,00
Lactose (%)	7,30	4,70	4,10
Protein (%)	1,10	3,50	3,20
Fat (%)	4,00	3,60	3,80
Cholesterol (mg/100 ml)	20,00	15,00	12,00
Ash (%)	0,20	0,70	0,80
Calcium (%)	0,04	0,18	0,19
Phosphorous (%)	0,06	0,23	0,27
Iron (%)	0,20	0,06	0,07
Vitamin A (IU/g fat)	32,00	21,00	39,00
Vitamin D (IU/g fat)	0,30	0,70	0,70
Vitamin C (mg/100 ml)	3,00	2,00	2,00
Thiamin (µg/100 ml)	17,00	45,00	68,00
Riboflavin (µg/100 ml)	26,00	159,00	210,00

Breeding Value Trend for Milk

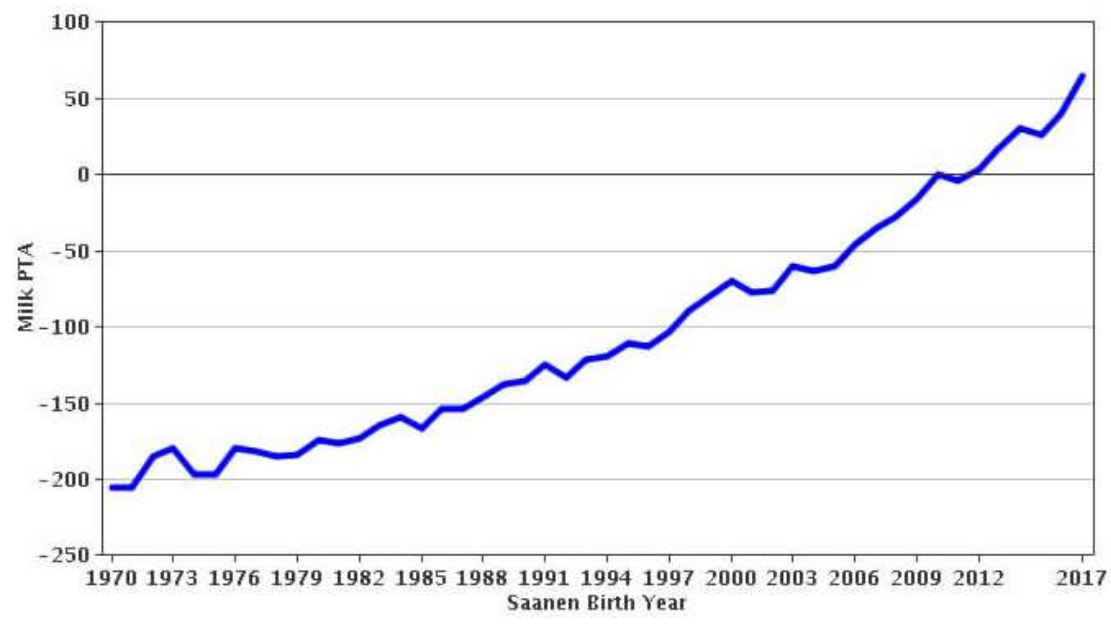




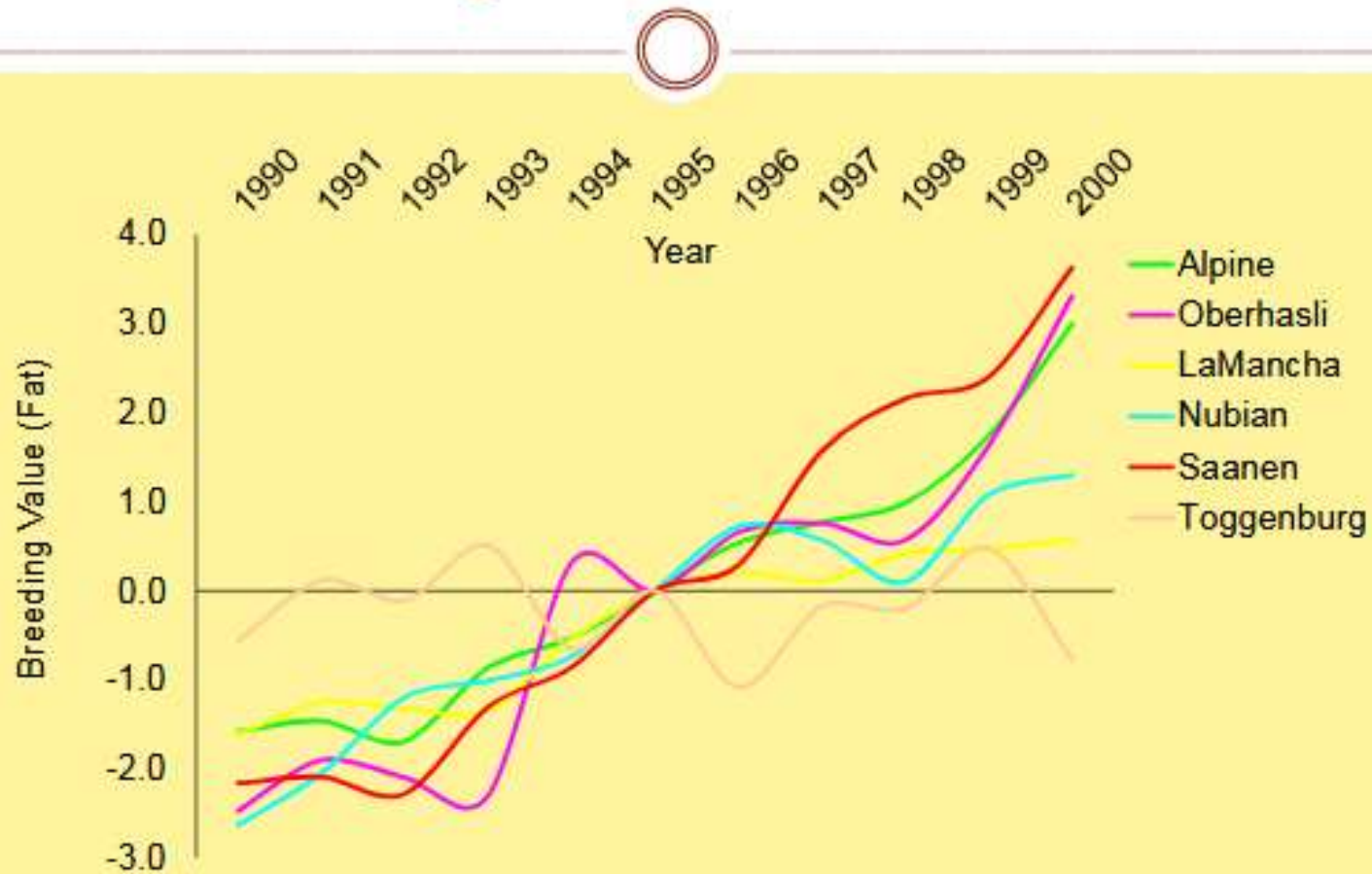
Milk PTA for Alpine



Milk PTA for Saanen

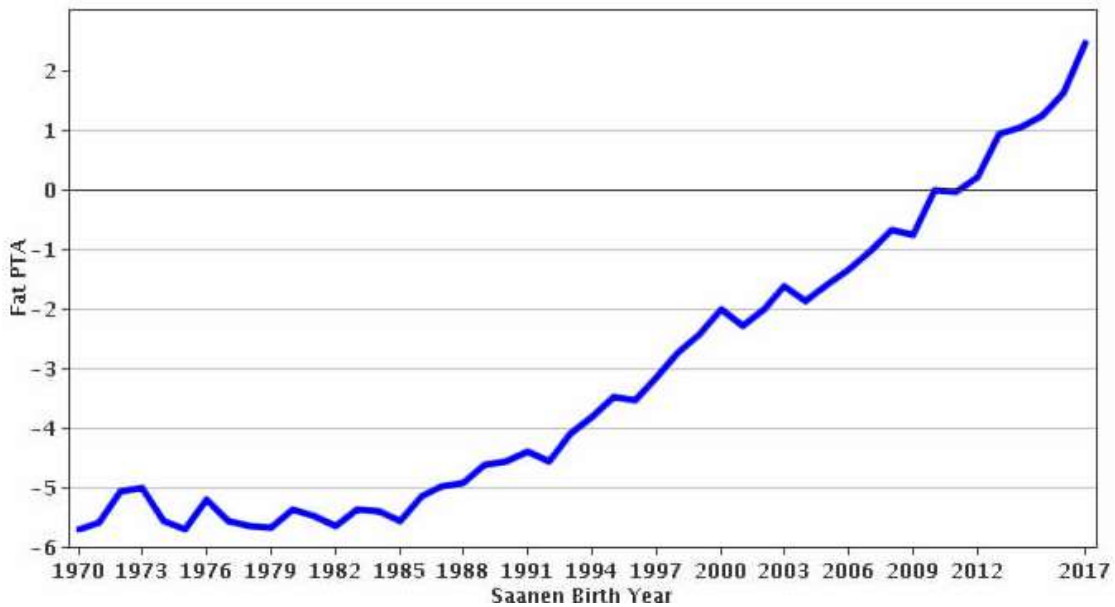


Breeding Value Trend for Fat

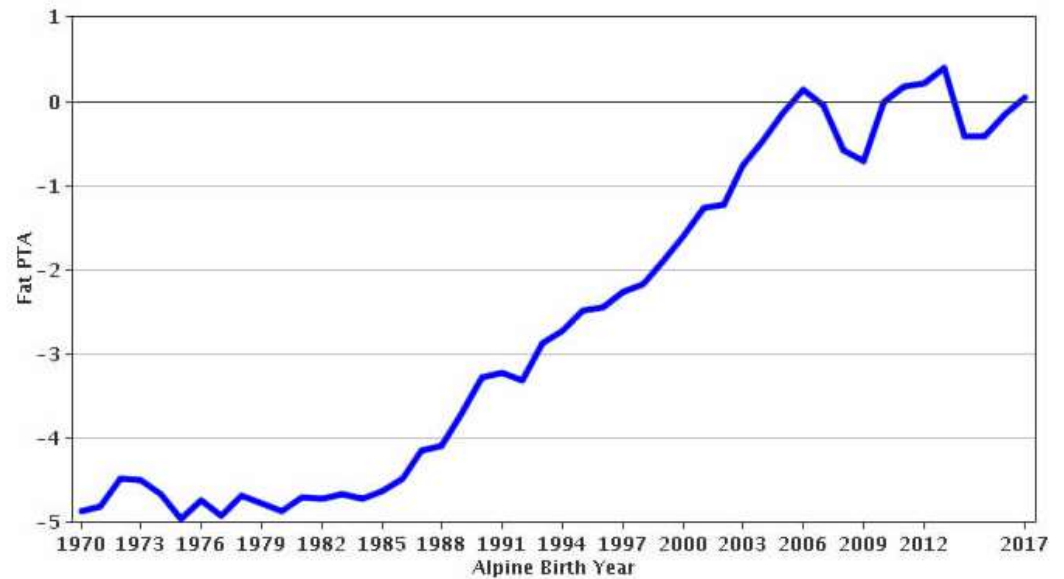




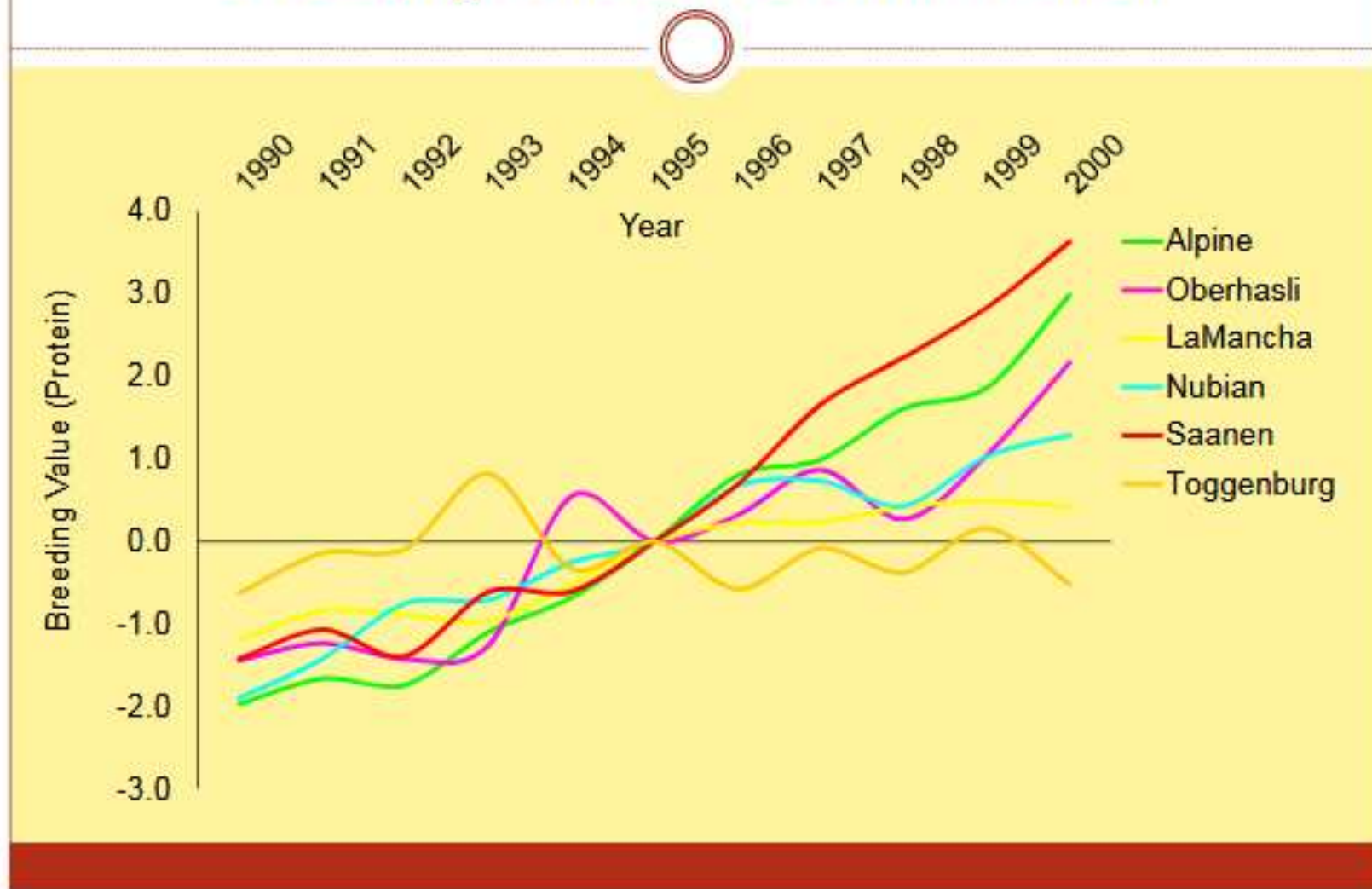
Fat PTA for Saanen



Fat PTA for Alpine

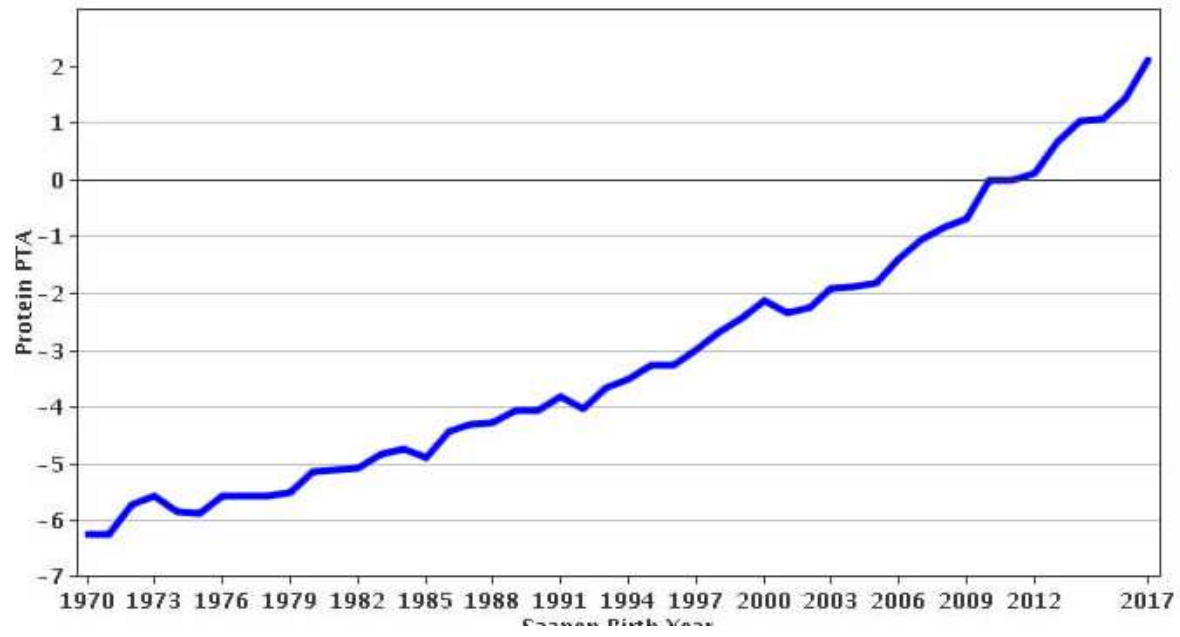


Breeding Value Trend for Protein





Protein PTA for Saanen



Protein PTA for Alpine

