



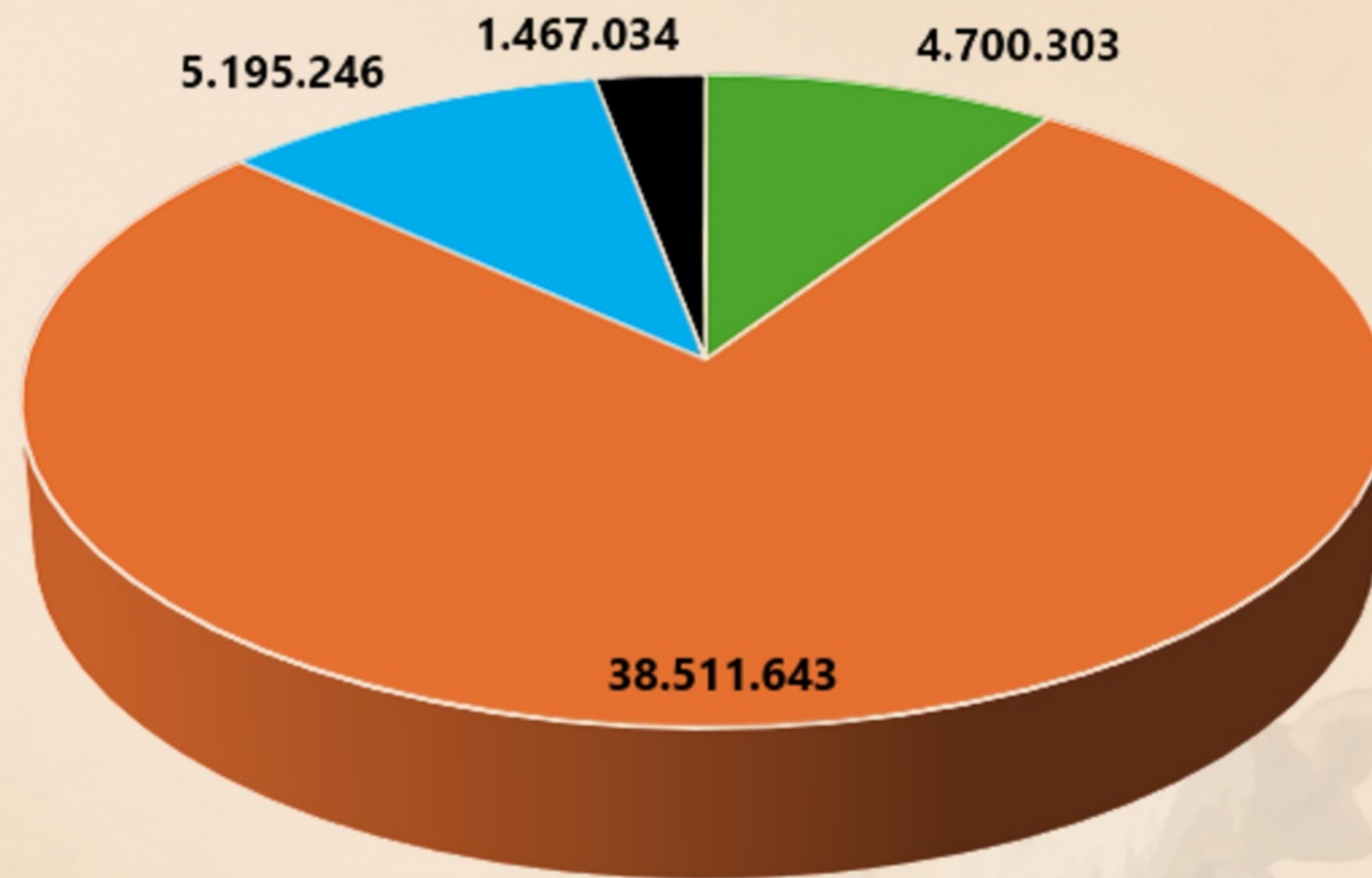
Colombia: A pivotal partner for Simmental genetics in the region



Land Utilization



Land utilization of
exploited hectares:

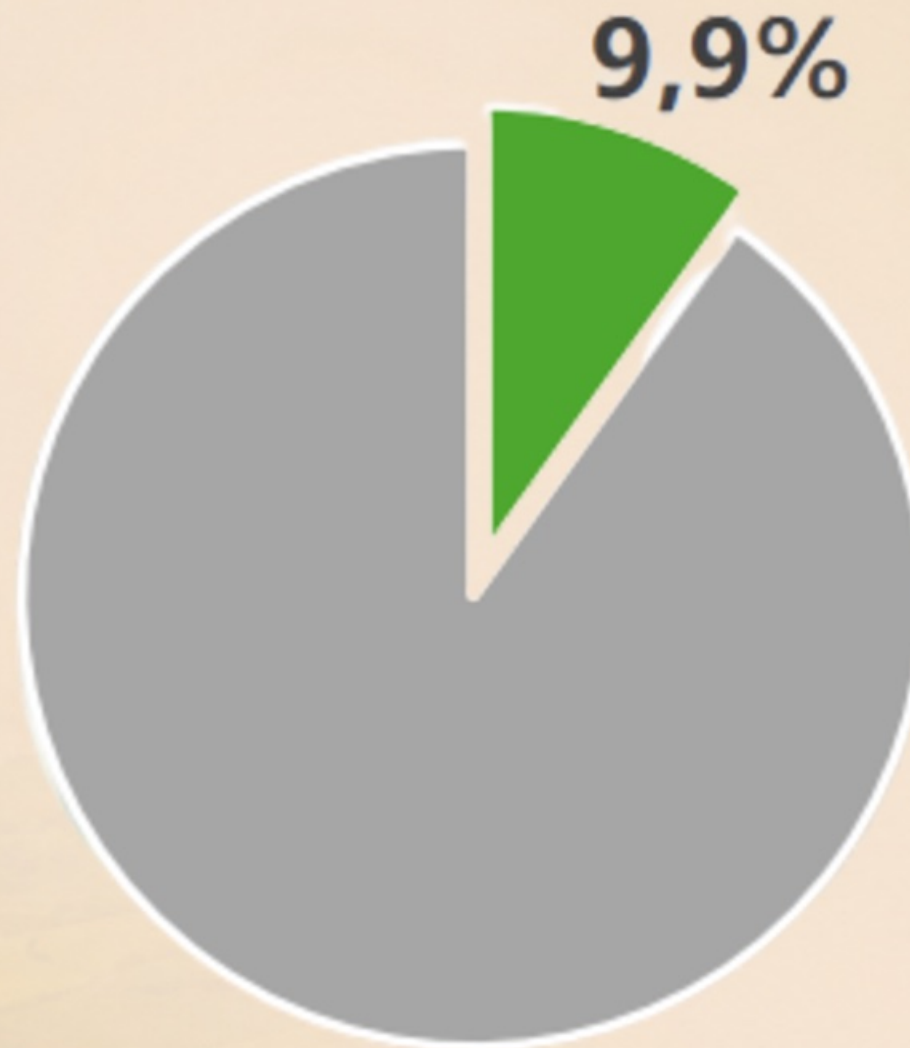


■ Agricultural ■ Livestock ■ Forests ■ Alternative applications

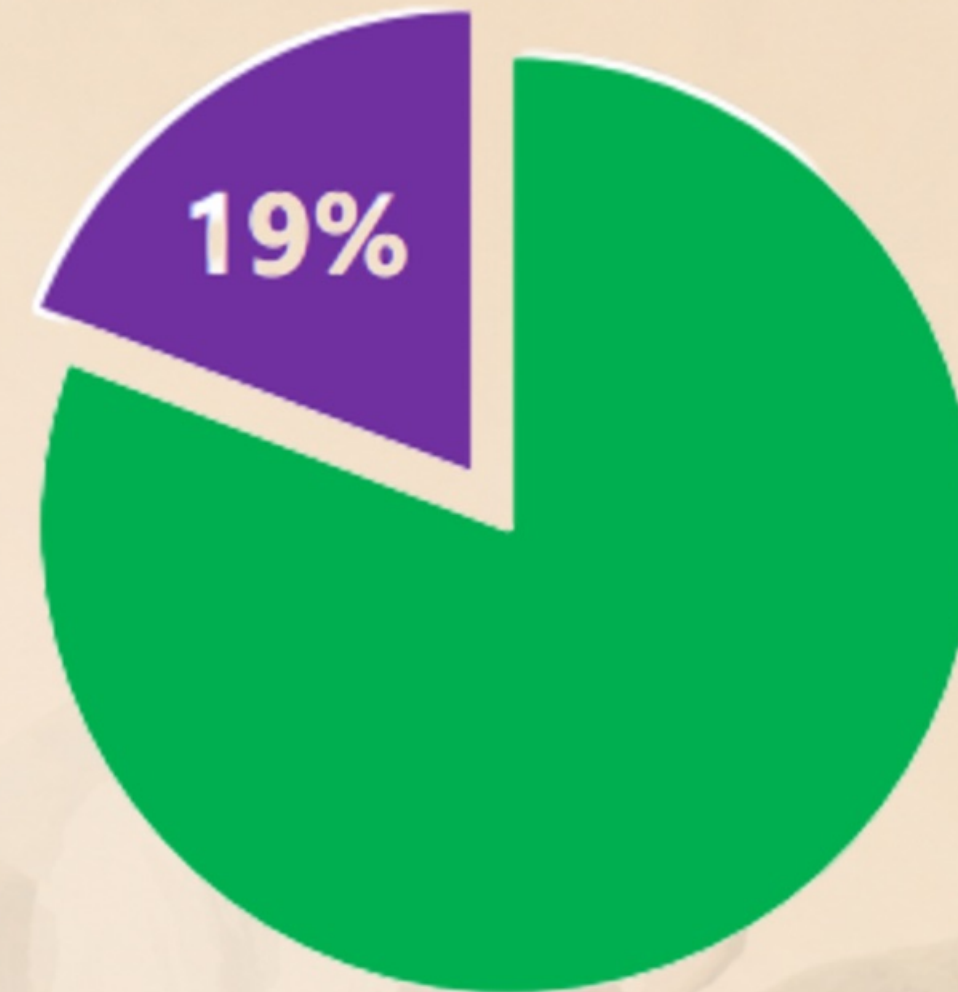
The country encompasses 114,174,800 hectares, of which 51,367,893 hectares are presently utilized or exploited in some capacity.



Land Utilization



The agricultural sector accounts for 9.9% of the national GDP.



The livestock sector constitutes 19% of the agricultural GDP.



Colombia's livestock sector is comparable in scale to:



1.5 times the avian industry



1.8 times the coffee industry



2.5 times the palm oil industry



3.6 times the horticultural sector



3.8 times the swine sector

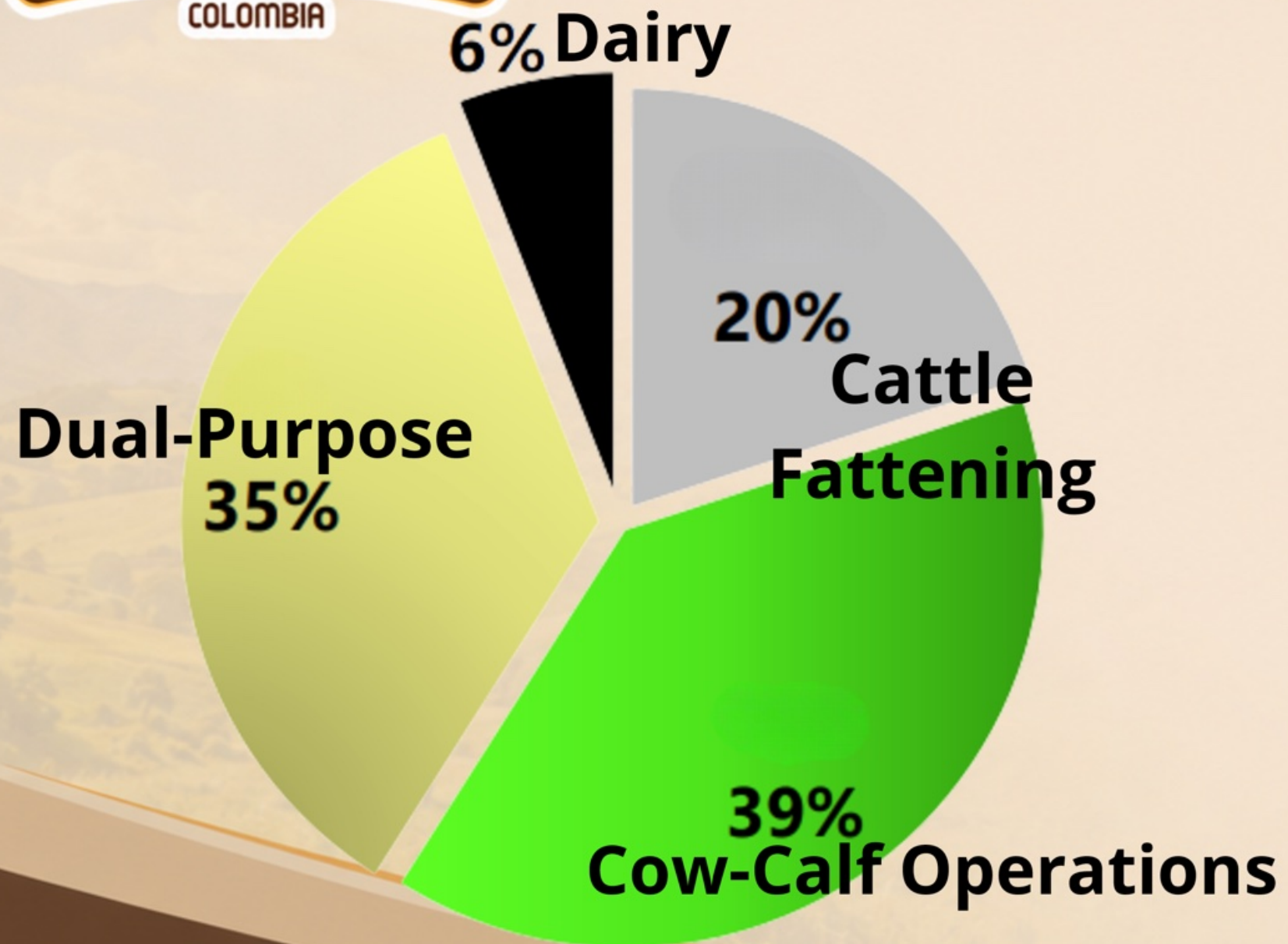


• 4.9 times the banana industry



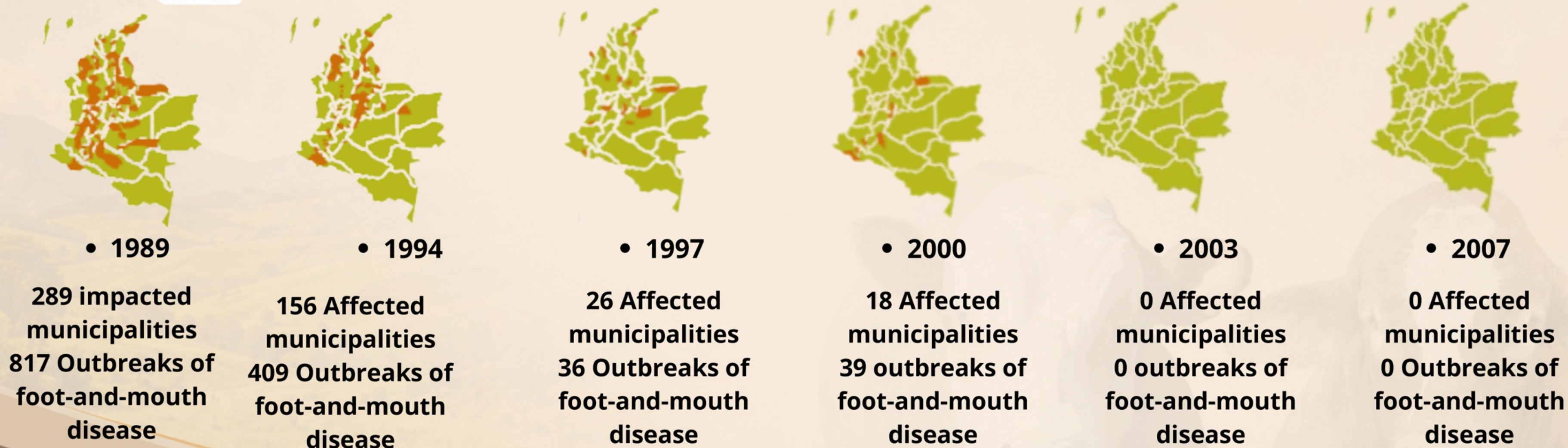


Orientation of the Livestock Industry in Colombia





Animal Health: The Gradual Eradication of Foot-and-Mouth Disease



2009–2010: The OIE awarded Colombia Foot-and-Mouth Disease (FMD) Free Status with Vaccination.



Colombia: Positioned Among the Top 13 Nations by Cattle Inventory

Countries by
Cattle Inventory
(Number of
Cattle)





Colombia: Positioned Among the Top 14 Nations by Buffalo Inventory

Countries by
Buffalo
Population
(Number of
Buffalo)





Employment Created in the Livestock Sector



1.09 million direct jobs created.

Activity	Employment
Specialized Dairy Farming	5.9 employees per 100 head of cattle.
	155,000 direct jobs created.
Dual-Purpose	3.9 employees per 100 head of cattle.
	530,000 direct jobs created.
Cow-Calf Production	3.5 employees per 100 head of cattle.
	268,000 direct jobs created.
Stocker (Backgrounding)	3.2 employees per 100 head of cattle.
	42,000 direct jobs created.
Beef Fattening	3.0 employees per 100 head of cattle.
	100,000 direct jobs created.

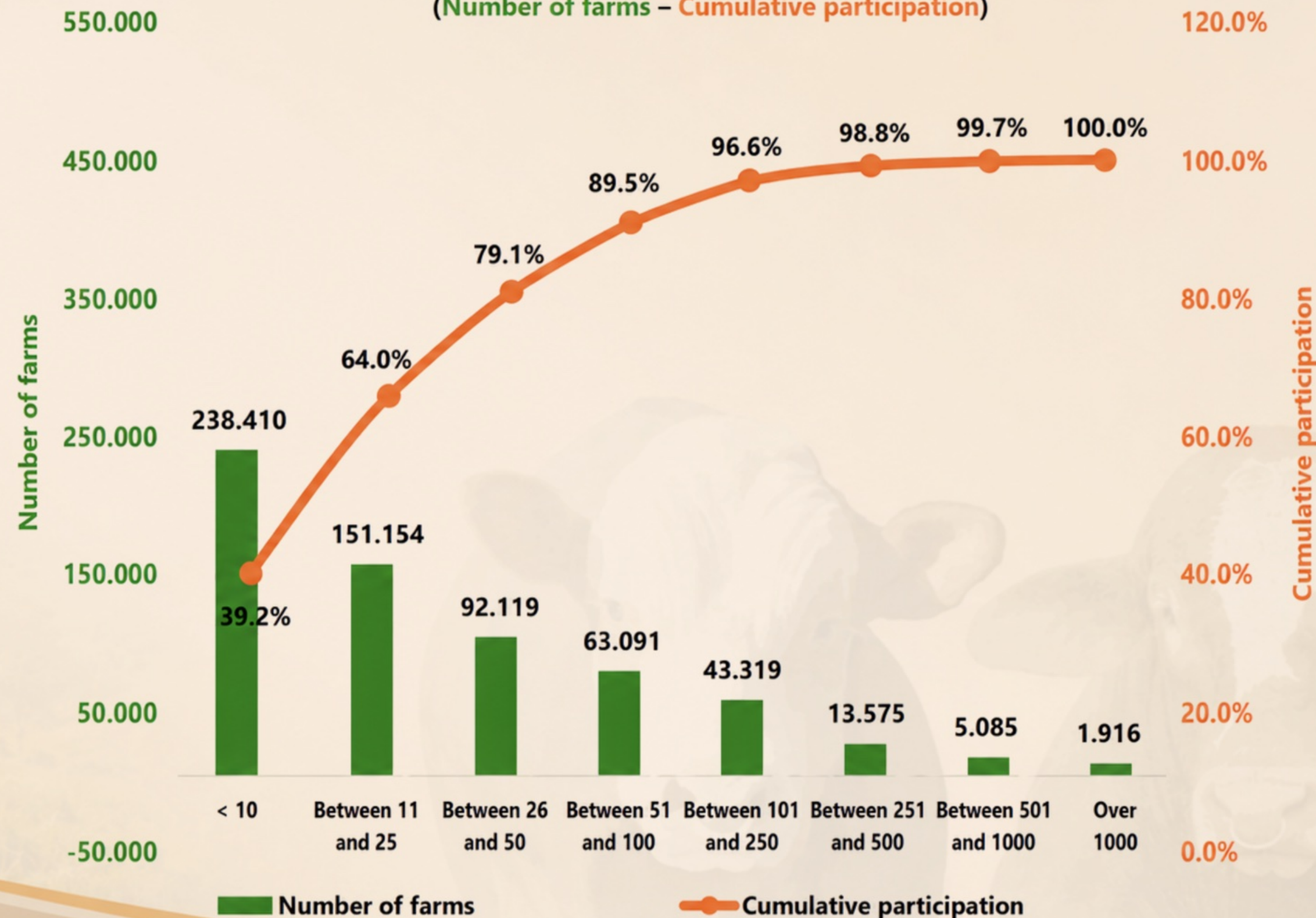


Producer Attributes



Number of farms	
< 10	238.410
Between 11 and 25	151.154
Between 26 and 50	92.119
Between 51 and 100	63.091
Between 101 and 250	43.319
Between 251 and 500	13.575
Between 501 and 1000	5.085
Over 1000	1.916
National	608.669

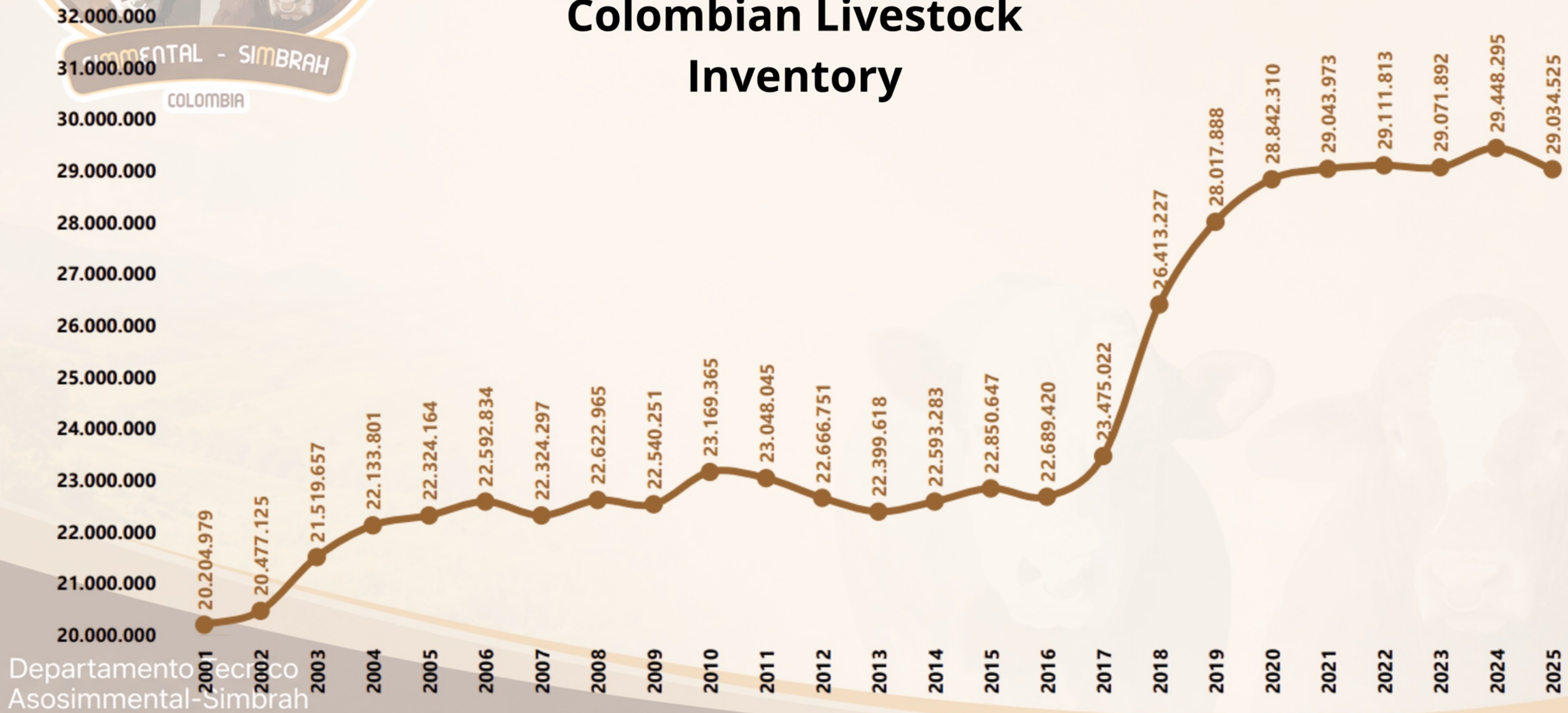
Livestock farm structure
(Number of farms – Cumulative participation)





Livestock Inventory

Colombian Livestock Inventory





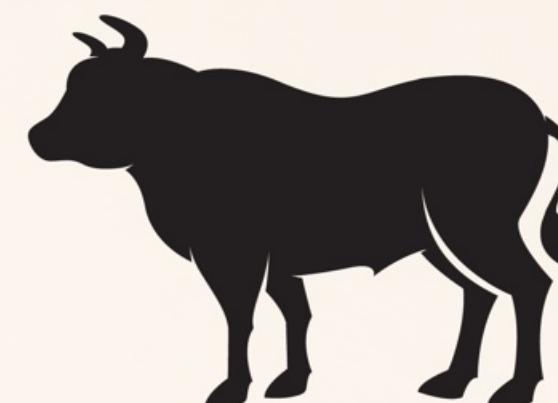
The Meat Value Chain



Females: 19.2 million individuals



Males: 9.7 million individuals



Meat and By-product Manufacturing:

Formal slaughter: 3.4 million animals

Offtake rate (formal): 12.5%

Carcass meat production: 1.080 million tons (carcass equivalent)

Per capita consumption: 18.4 kg/year

The animal slaughter market in Colombia is valued at COP 13.5 billion, which is equivalent to USD 4.3 million.

The ultimate retail value of beef to consumers totals COP 23.2 billion, which is equivalent to USD 7.2 million.



The Dairy Value Chain



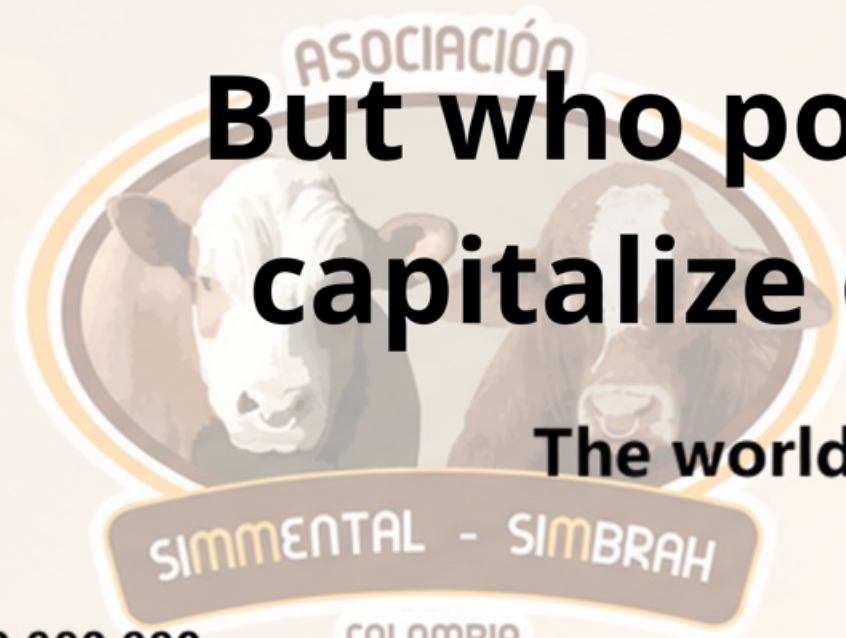
Total Herd: 29 million head



Colombia produces 8,405 billion liters of milk.

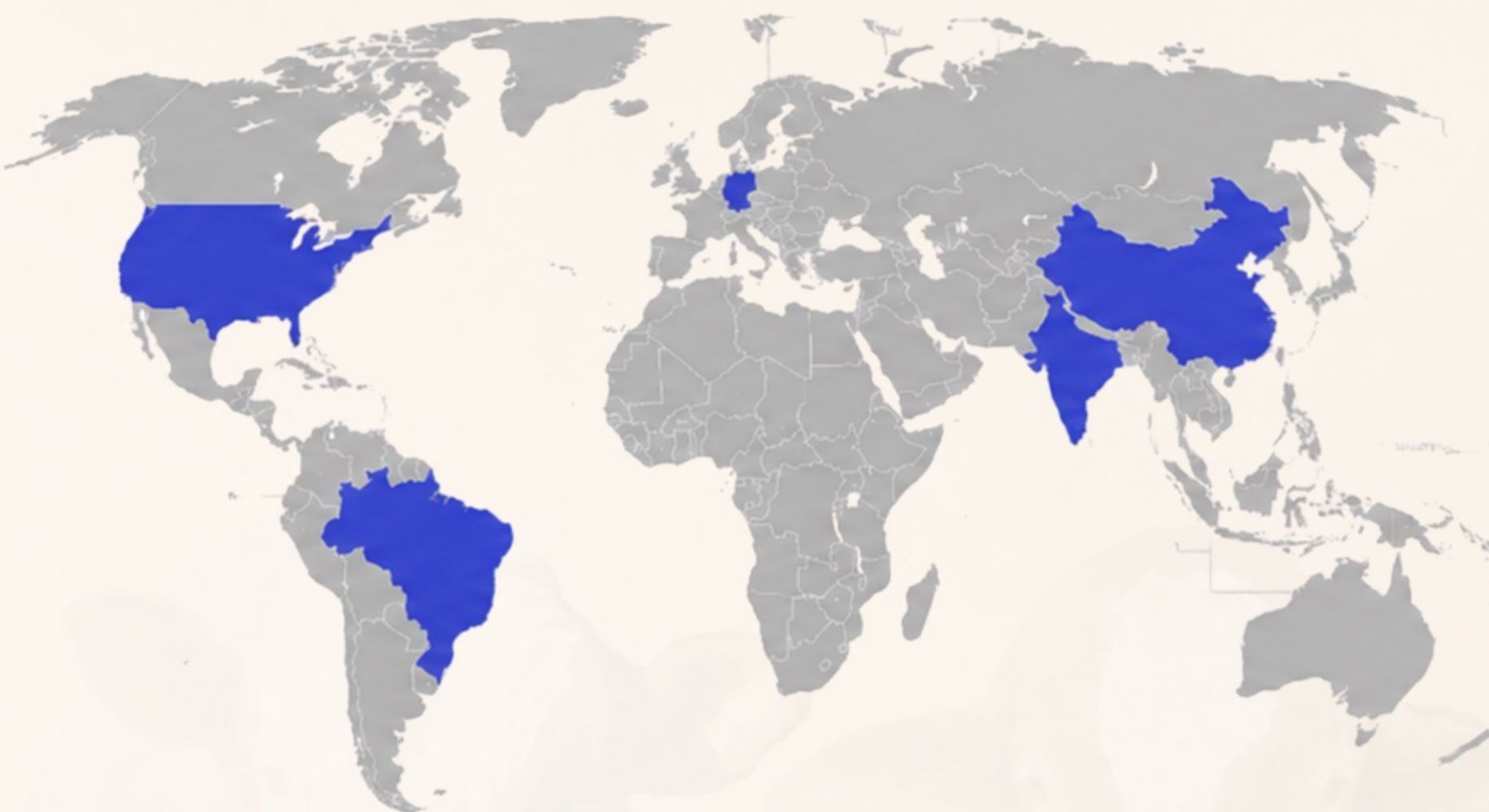
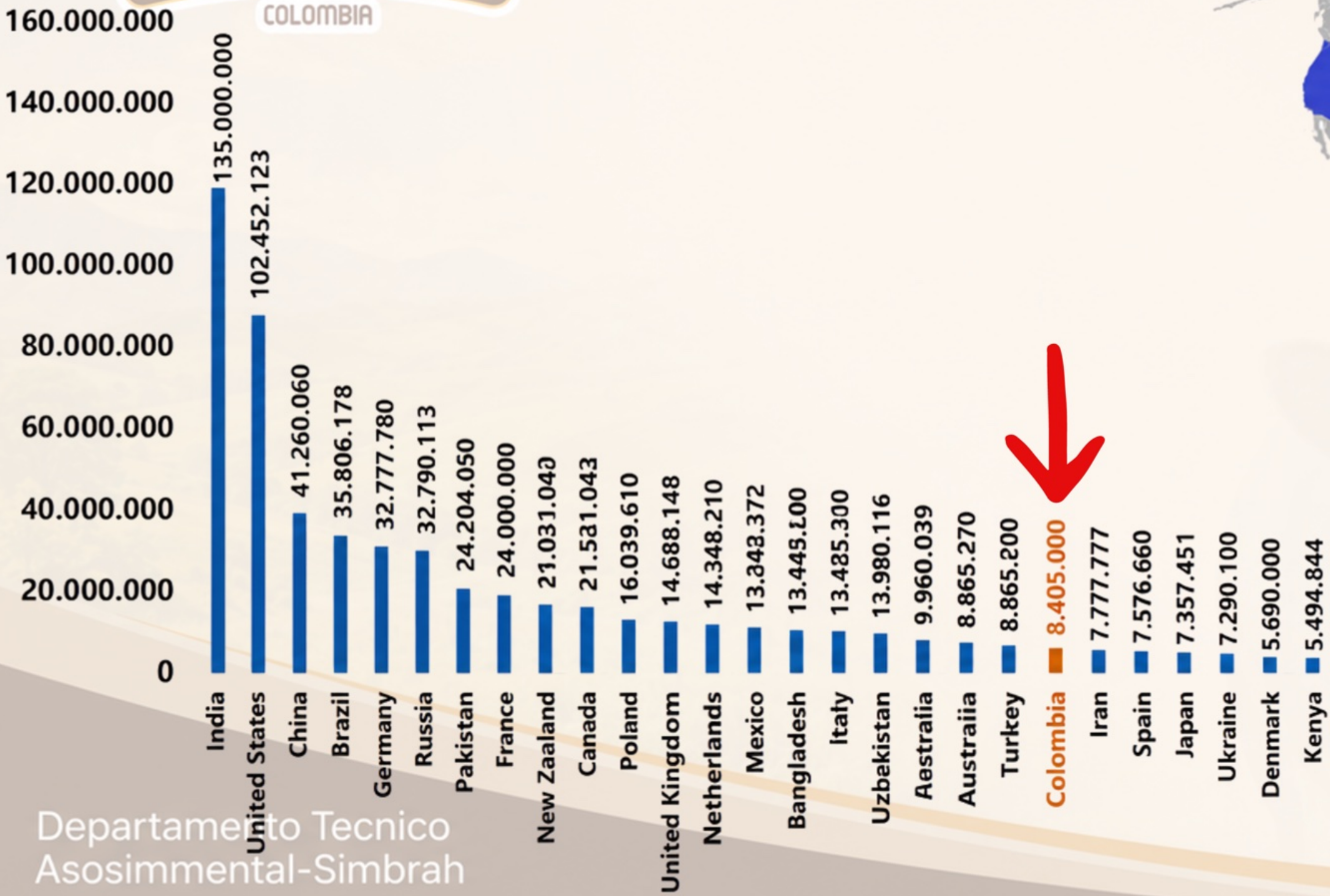
The raw milk market in Colombia is valued at COP 17.1 billion, which is equivalent to USD 5.35 billion.

The total retail value of milk and dairy products, encompassing both formal and informal markets, is COP 24.9 billion, which is equivalent to USD 7.8 billion.



But who possesses the capability to capitalize on these opportunities?

The world's largest milk producers
(Tons)



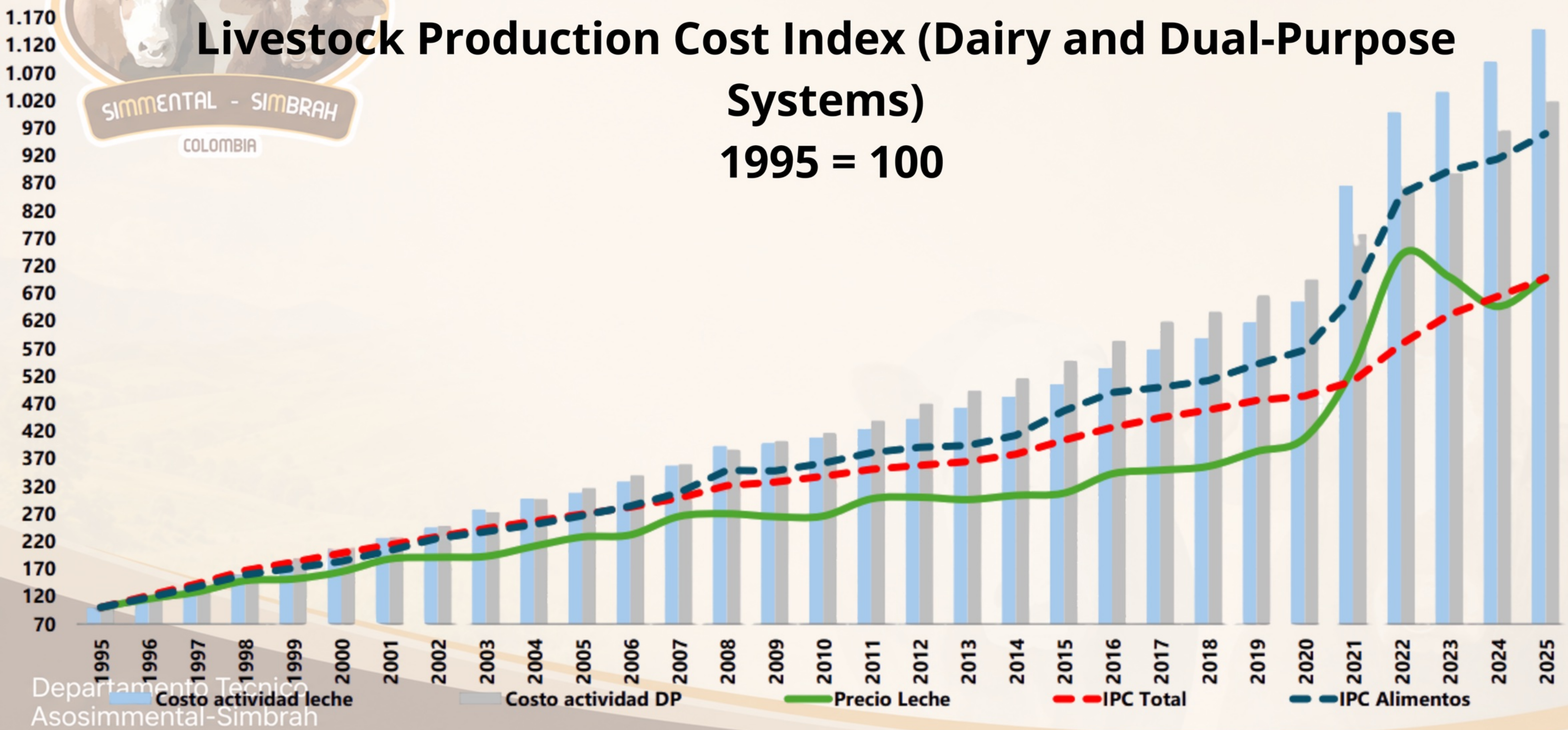
Together, India, the United States, China, Brazil, and Germany produce 44% of the world's total milk. (Top 5)

Global milk production is just over 783 million tons



Livestock Production Cost Index (Dairy and Dual-Purpose Systems)

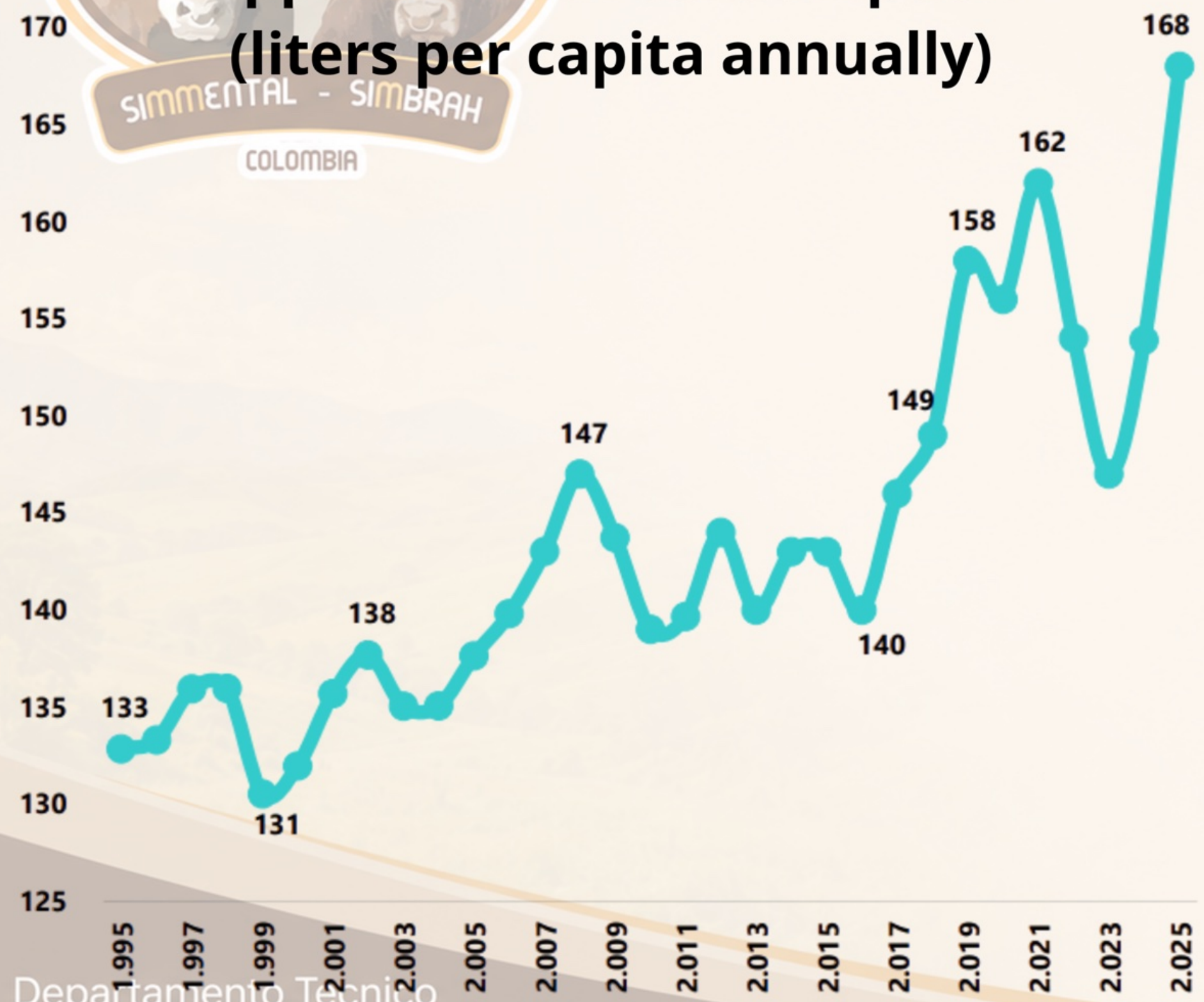
1995 = 100



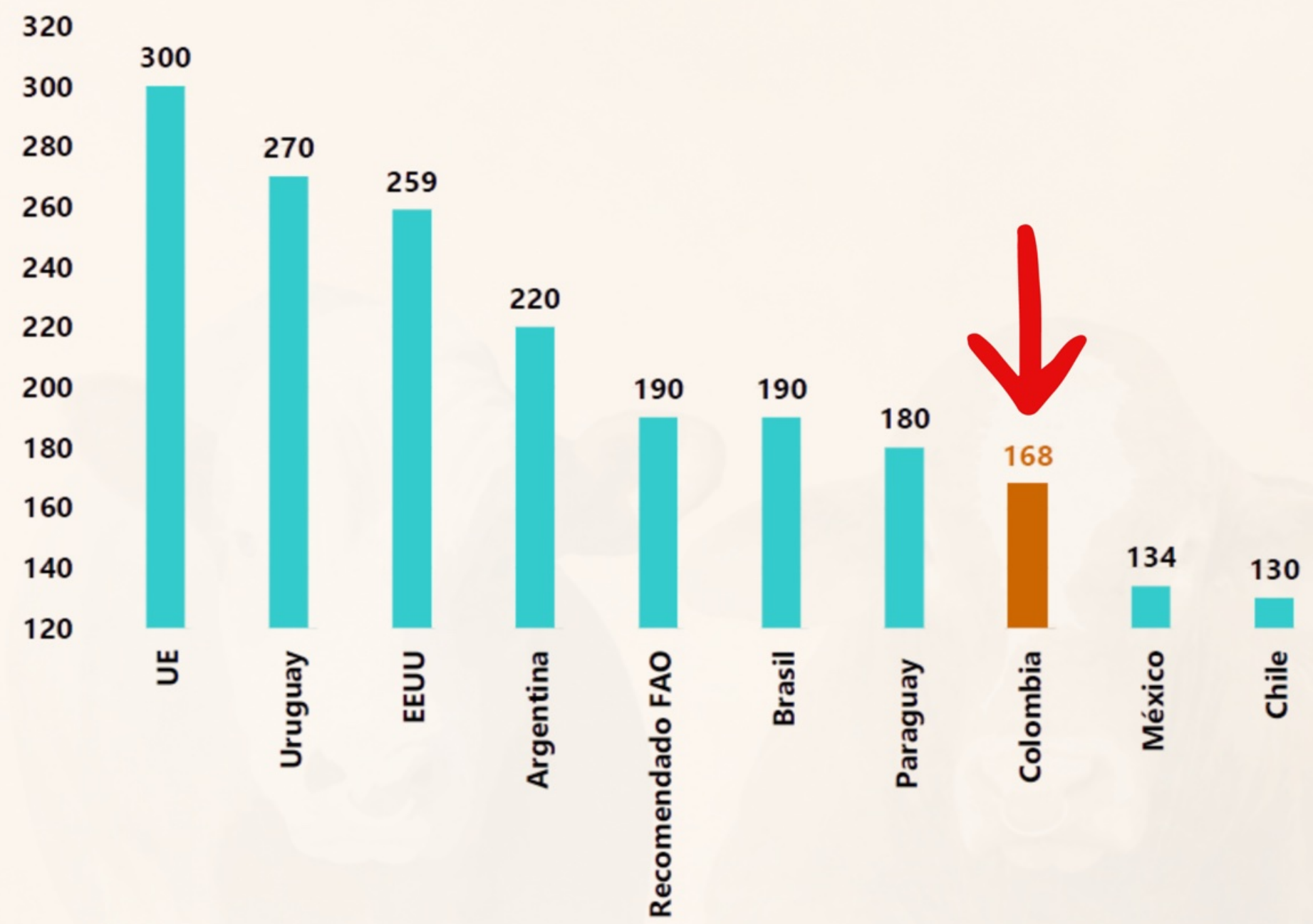


Dairy Intake

Apparent Milk Consumption (liters per capita annually)



Milk Consumption by Nation

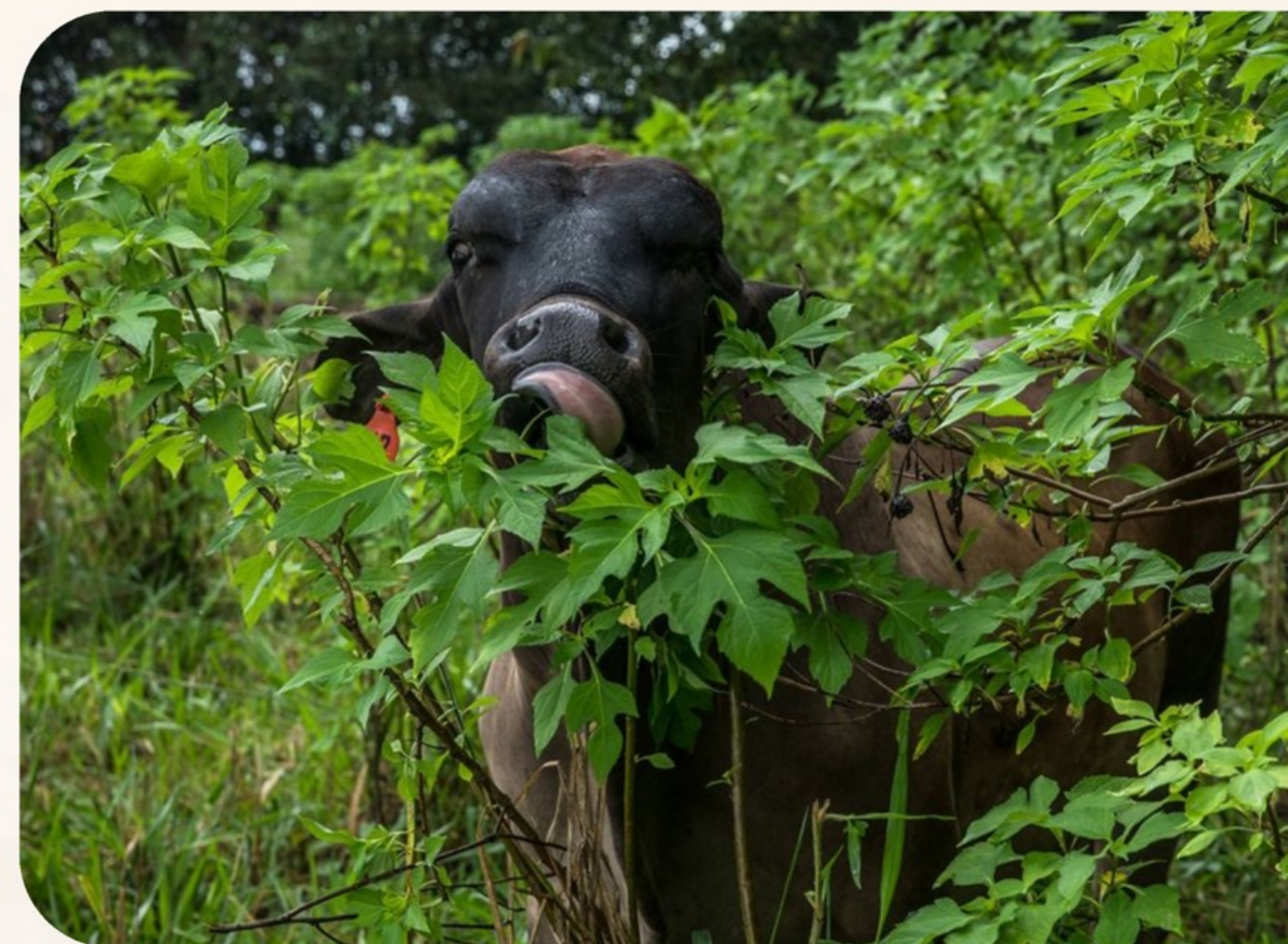




Environmental initiatives in Colombian livestock farming



- **Sustainable Colombian Livestock:** Spearheaded by Fedegán in collaboration with environmental organizations, it advocates for silvopastoral systems (integrating trees with pasture and livestock) and offers payments for environmental services to producers.
- **Sustainable Colombia:** Advocates for the transformation of vast areas into peace zones to safeguard water resources, mitigate deforestation, and enhance the production of clean milk and meat.
- **NAMA Sustainable Cattle Farming:** A public policy framework that directs the sector towards low-carbon production, emphasizing the measurement of carbon capture and the efficient management of natural resources.
- **Colombian Environmental Seal (SAC - NTC 6550):** An official certification issued by the Ministry of Environment and Sustainable Development.





Who Are We?

ASOSIMMENTAL-SIMBRAH COLOMBIA



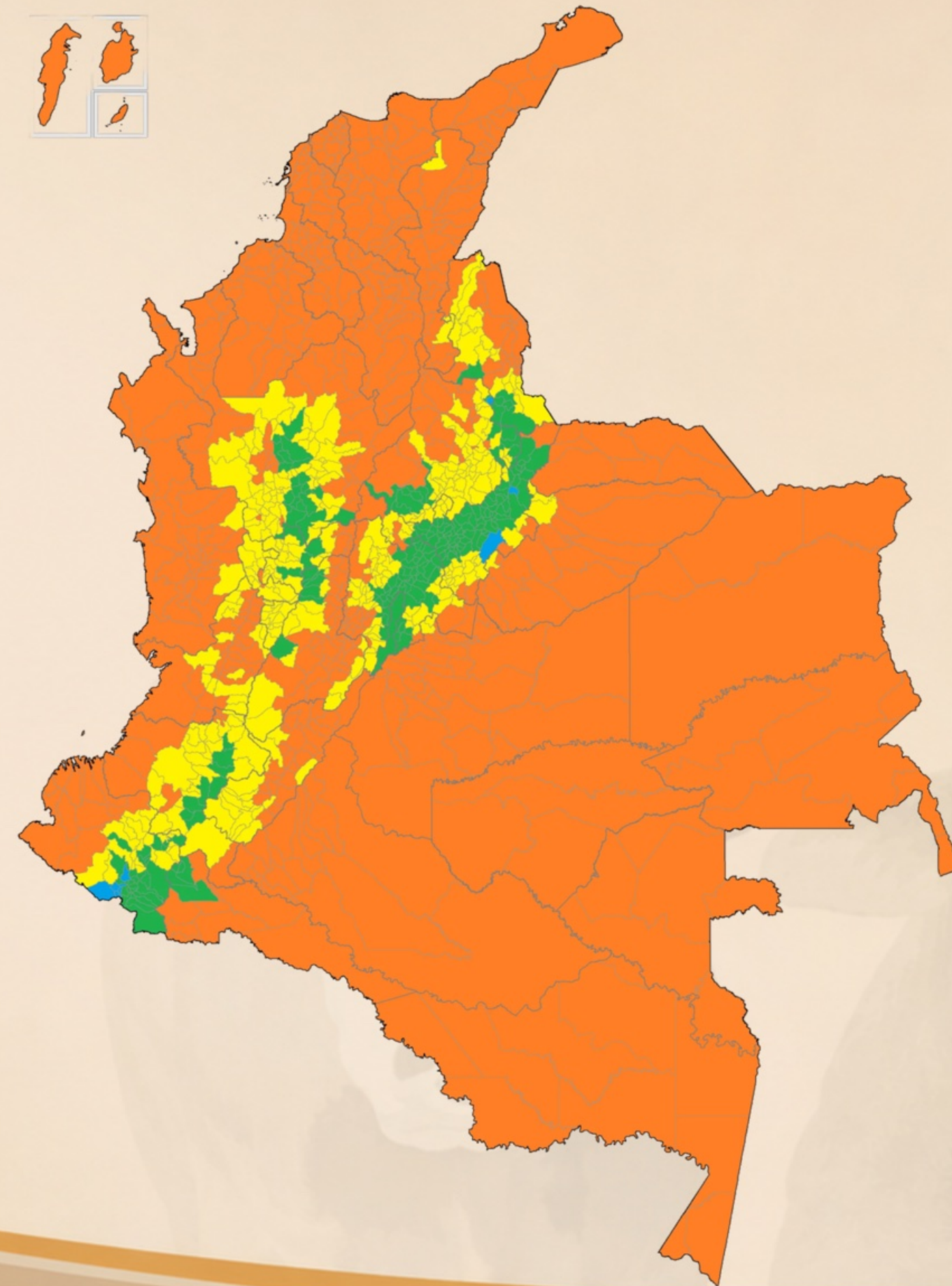
Colombia: a pivotal ally for Simmental genetics in the region

- **A nation characterized by vast environmental diversity.**
- **European genetics have adapted to tropical environments.**
- **Accelerated expansion of Simbrah.**
- **Implementation of contemporary genetic evaluation tools.**
- **Potential to establish a standard for tropical livestock farming.**





Colombia, a nation of remarkable biodiversity





What are our activities?

ASOSIMMENTAL-SIMBRAH COLOMBIA

- Technical assistance for livestock producers
- Promotion and dissemination of the breeds.
- Genealogical Record
- Genomics
- Milk and weight management
- Linear Classification (Fleck Score)
- Technical Visits





Expansion of our breeds

Simmental +5.2% - Simbrah +12.9% - Crosses -5.8%





Genomics: Advancing Genetic Progress

400 genotyped specimens

38 Farms

**Average GZW
livestock 103.6**

Maximum GZW 133





Improved indicators in Colombia

Posición	Registro	Ganadería	GZW	Betacaseína	Destacado
1	CO 34.631	EL PROGRESO	133	A1A2	GZW más alto registrado, Mejor Hija de Manolo en el mundo
2	CO 36.690	EL PROGRESO	131	A1A2	Equilibrio total, productividad y fenotipo de calidad
3	CO 36.838	SAN JOSE LA ESPERANZA	131	A2A2	Excelente equilibrio Leche-Carne
4	CO 35.625	CHICAMOCHA	128	A1A2	Mejor Índice de Carne, con índice de leche balanceado
5	CO 36.859	CHICAMOCHA	127	A2A2	Excelente FITNESS

Posición	Ganadería/Hacienda	GZW Promedio
1	SAN JOSE LA ESPERANZA	115.6
2	CHICAMOCHA	112.6
3	EL PROGRESO	111.6
4	LA TRINIDAD	111.0
5	EL REMANSO	110.0

Posición	Ganadería/Hacienda	Índice Leche Promedio
1	2G	113.0
2	EL REMANSO	111.2
3	SAN JOSE LA ESPERANZA	109.3
4	EL PROGRESO	108.7
5	CHICAMOCHA	108.3

Posición	Ganadería/Hacienda	Índice Carne Promedio
1	ESPAÑA	109.0
2	SAN AGUSTIN	107.5
3	LA SULTANA	107
4	CHICAMOCHA	106.3
5	BALCONCITOS	106.2



Improved indicators in Colombia

Posición	Ganadería/Hacienda	Índice FITNESS Promedio
1	SAN JOSE LA ESPERANZA	109.7
2	LAS PALMAS	107.0
3	VENECIA	107.0
4	EL PROGRESO	107.0
5	SAN JOSE DE LA CUMBRE	106.2

Posición	Ganadería/Hacienda	Índice Cantidad Leche Promedio (KG)
1	LA SULTANA	577.1
2	EL REFUGIO	569.6
3	CHICAMOCHA	493.6
4	2G	442.8
5	LA H	437.5

Posición	Ganadería/Hacienda	Estructura Promedio
1	SANTA MARTA	109.0
2	2G	108.2
3	ESPAÑA	108.0
4	SAN AGUSTIN	107.6
5	LA TRINIDAD	106.8



Improved indicators in Colombia

Posición	Ganadería/Hacienda	Musculatura Promedio
1	SANTA MARTA	116.5
2	G. SAN MARCOS	110.0
3	BRASILIA	108.5
4	TORRE ALTA	107.6
5	C. SAN MARCOS	105.0

Posición	Ganadería/Hacienda	Aplomos Promedio
1	SANTAFE	108.0
2	SAN JOSE LA ESPERANZA	106.0
3	LA TRINIDAD	106.0
4	C.G. BUENAVISTA	106.0
5	LA H	105.6

Posición	Ganadería/Hacienda	Ubre Promedio
1	SAN JOSE LA ESPERANZA	112.7
2	EL PROGRESO	108.8
3	SAN AGUSTIN	106.6
4	LA TRINIDAD	107.8
5	CHICAMOCHA	105.5



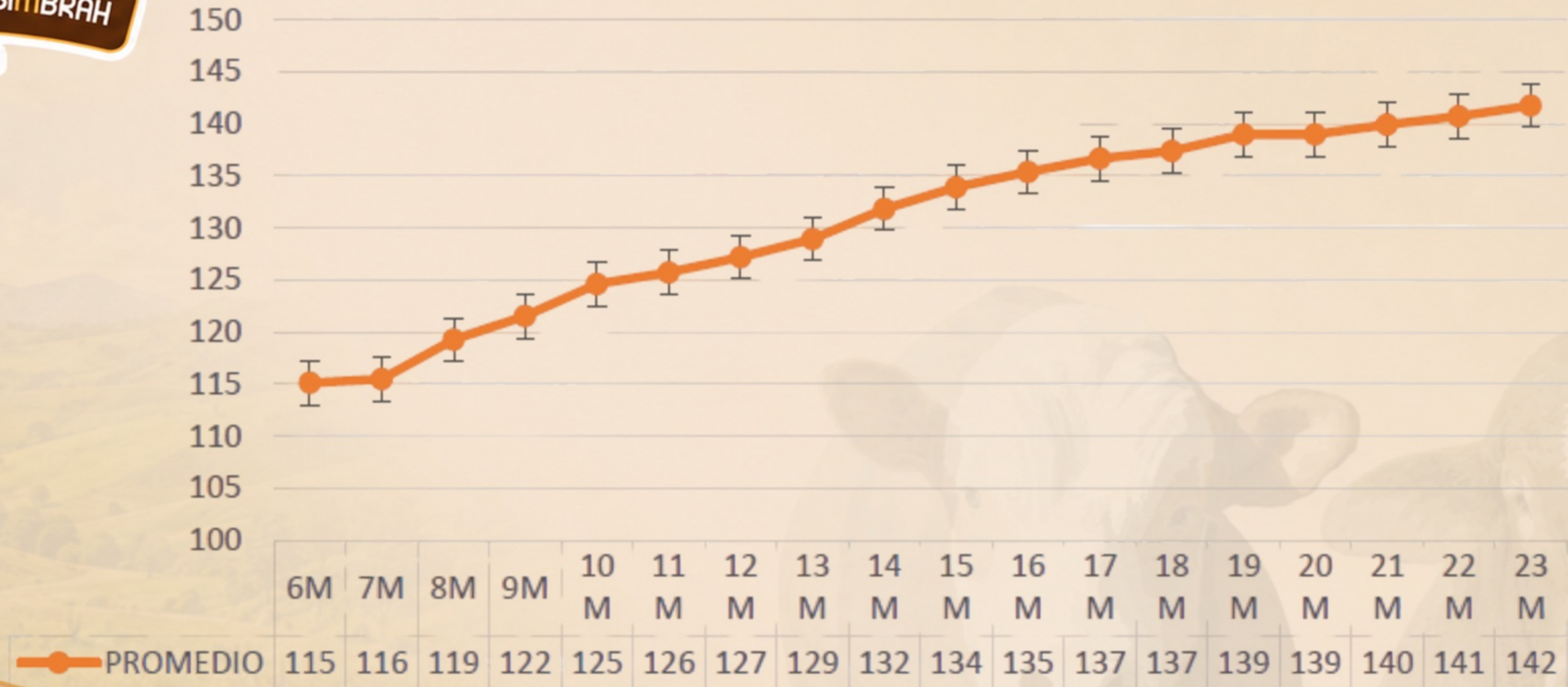
Establishing our national standard

7,853 zoometric measurements
National Frame Score:
7 **Average weight**
618 kg **Height**
142,5 cm

Frame Score	Alzada a la grupa	Clasificación	Idoneidad para sistemas de pastoreo colombianos
5	< 135	Pequeño	Puede ser limitante para el peso de la cría y la capacidad de consumo.
6	135-140	Moderado	Aceptable, pero con menor capacidad de crecimiento y posiblemente menor eficiencia en la conversión de forraje.
7	141-146	Moderado-Grande	ÓPTIMO para sistemas de pastoreo colombianos. Equilibrio entre capacidad de consumo y costos de mantenimiento.
8	147-152	Grande	Puede requerir mayor mantenimiento y tener mayores costos de alimentación para mantener su condición corporal.
9	> 152	Muy Grande	Riesgo de ineficiencia en pastoreo, especialmente en épocas de escasez forrajera. Mayores requerimientos nutricionales.



National growth trajectories





Beyond dimensions: utility

- **Body depth**
- **Rumen volume**
- **Pelvis**
- **Facilitation of delivery**
- **Productive efficiency**

Edad (m)	Peso (kg)	Talla (cm)	Profundidad (cm)	Tercio Medio (cm)	Ancho de anca (cm)	Largo de anca (cm)
H 6-7	242	116	57	55	40	39
H 7-8	268	117	60	59	39	41
H 8-9	302	119	61	61	41	43
H 9-10	326	123	62	63	42	44
H 10-11	350	126	65	66	43	45
H 11-12	370	127	66	65	44	46
H 12-13	395	129	68	64	45	47
H 13-14	421	130	68	67	46	48
H 14-15	451	132	69	70	46	48
H 15-16	466	133	70	70	47	50
H 16-17	502	136	71	70	49	51
H 17-18	528	137	72	71	49	52
H 18-19	531	138	72	72	50	52
H 19-20	565	139	73	73	50	52
H 20-21	564	138	74	76	50	52
H 21-22	581	140	75	75	51	53
H 22-23	601	141	76	79	51	53
H 23-24	606	141	75	75	52	55

Average Measurement Chart



Beyond dimensions: utility

- **Body depth**
- **Rumen volume**
- **Pelvis**
- **Productive efficiency**

Edad	Peso	Alzada	Circ.	Profundidad	Tercio	Ancho	Largo
5	203	112	19	54	54	36	37
6	260	116	23	60	57	41	43
7	304	119	27	62	63	43	44
8	340	116	29	64	61	44	43
9	370	124	31	67	61	45	43
10	372	126	31	65	65	45	48
11	413	127	32	67	65	48	49
12	439	131	34	69	68	47	51
13	484	131	37	72	67	53	50
14	507	134	38	72	71	50	52
15	507	130	38	71	72	51	57
16	565	138	39	76	72	51	55
17	516	137	40	73	73	50	52
18	618	139	39	73	76	54	57
19	626	141	39	78	71	55	54
20	700	142	41	80	79	55	60
21	714	149	42	77	86	55	55
22	744	144	42	79	74	55	58
23	859	145	43	83	76	61	62

Average male size chart



A2A2 milk: a prospect for the future

- The 53.9% A2A2 represents an extraordinarily high percentage in comparison to that observed in unselected populations.
- The presence of 40.4% A1A2 heterozygotes indicates that, through targeted matings (A2A2 x A1A2), we can swiftly elevate the frequency of A2A2 within the population.
- The Colombian market has yet to offer a premium for A2A2 milk; however, global and urban consumer trends indicate that it is merely a matter of time before this changes.

Tipo	Número	%
A2A2	152	53.9%
A1A2	114	40.4%
A1A1	16	5.7%



Our challenges

**Increased adoption of technical programs
Enhanced information productivity Greater
utilization of elite bulls Expansion into new
territories Strengthening the involvement of
young breeders**

Thank you very much.



ASOSIMMENTAL – SIMBRAH

"Premier genetics for sustainable tropical livestock agriculture."