

BEEF CATTLE BREEDS

Why beef???

Beef nutritional facts

Nutrients	Lean beef	Lean lamb	Skinless chicken	Lean pork	Fresh fish
Energy (kJ)	527	596	564	504	742
Protein (g)	22.7	22.0	19.3	21.3	27.4
Total Fat (g)	3.8	6.0	6.4	3.9	6.8
Total Omega 3 (g)	0.11	0.16	0.06	0.04	0.2
Iron (mg)	2.0	2.2	0.9	1.0	1.0
Zinc (mg)	4.2	3.7	1.6	2.1	0.5
Riboflavin (mg)	0.15	0.23	0.13	0.20	0.1
Vitamin B12 (mcg)	1.1	1.1	0.4	0.7	1.0

Breeds of beef cattle

A. *Bos Indicus*

- Hump
 - Loose skin
 - Resist in heat weather
 - Good disease resistance
 - Lower growth rate
 - Lower reproduction traits (fertility)
- } Good productivity in poor condition

Breeds of beef cattle

B. *Bos Taurus*

- Humpless
- Not resist in heat weather
- Less disease resistance
- Better growth rate
- Better reproduction traits

Indonesian indigenous beef cattle breeds



Sapi Bali

- Domestikasi dari banteng (*bibos banteng*)
- Pedet dan betina berwarna merah, jantan berwarna coklat tua/hitam
- Lutut ke bawah putih, pantat putih
- Mempunyai garis belut pd punggung
- Bentuk badan kecil, memanjang dg leher ramping
- Tidak berpunuk (humpless)

Sapi Madura

- Diduga persilangan antara *Bos Taurus* dengan *Bos Indicus* (kromosom Y mirip *Bos Indicus*)
- Jantan dan betina bewarna merah bata bercampur putih pada bagian pantat dan kaki, namun tidak ada batas jelas
- Jantan berpunuk, betina tidak
- Tanduk kecil dan pendek
- Tubuh kecil, kaki pendek



Sapi Galekan

- Hampir punah, diduga sapi Jawa
- Warna badan didominasi warna merah bata
- Pantat dan kaki smear putih
- Punggung lurus dengan garis punggung hitam
- Bertanduk, telinga dan mata bergaris hitam



Sapi Rambon

- Diduga persilangan antara sapi Bali, Sapi Madura dan sapi PO (peranakan Ongole)
- Terdapat di daerah Banyuwangi dan Bondowoso



Other *Bos Indicus* breed

Sapi Ongole

- Asal: Madras, India → dibawa ke Indonesia oleh Belanda
- Bewarna keputih-putihan/abu-abu
- Bergelambir dan berpunuk
- Tanduk pendek dan kuat
- Kepala, leher, gumba, lutut berwarna gelap terutama jari



provided by Dr.A.Madhusudhna Rao

Sapi Peranakan Ongole

- Persilangan sapi Jawa dan Ongole
- Warna putih/kelabu/kehitaman
- Kaki panjang
- Betina lebih pendek dibandingkan jantan
- Kepala relatif pendek, profil melengkung
- Punuk besar, bergelambir



Sapi Brahman

- Dari India
- Warna kelabu/merah cenderung hitam
- Berpunuk, bergelambir dan telinga menggantung
- Tahan panas dan parasit



Bos taurus

Limousin cattle

- Origin : France
- Red/ black with lighter eyes and belly
- Medium to large frame size
- Noted for their carcass leanness and large loin area



Simmental cattle

- Origin : Switzerland
- Dual purpose cattle (high milk and carcass yield)
- White face, brisket, belly, legs and tail
- Shades of red/yellow on the body
- Rapid growth
- Horned



Angus Cattle

- Origin : Scotland
- Black in colour, polled (born with no horns)
- Smooth hair coat
- Medium frame size
- Heavy muscled with (well marbled beef)



Hereford cattle

- Origin : Herefordshire, England
- Medium frame size
- Light yellow to red cherry with white belly and face
- Thick and curly hair coat
- Medium muscled



Shorthorn Cattle

- Origin : Northern England
- Dual purpose cattle
- Red, white or roan (red and white)
- Medium muscled



provided by the American Shorthorn Association



Santa Gertrudis cattle

- Cross between Brahman (3/8) and Shorthorn (5/8)
- Loose skin, floppy ears and small humped (for the bull)
- Polled or horned
- Can adapt well with poor condition



Beefmaster Cattle

- Cross between Hereford, Shorthorn and Brahman
- Red
- Rapid growth, good carcass quality
- Good fertility and conformation



Wagyu cattle

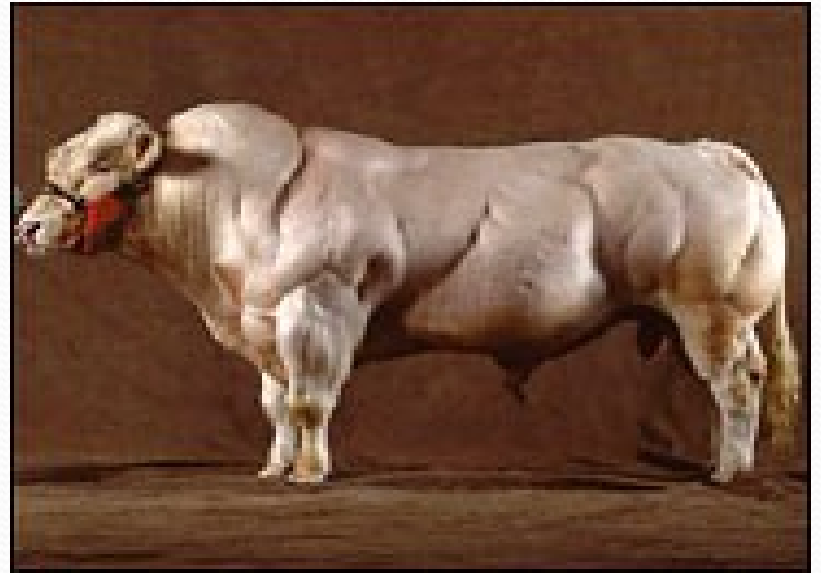
- Origin : Japan
- Wagyu cattle are descended from native Asian breeds which were crossbred with various European breeds in the late 1800s.
- There are black and red wagyu breed
- Highly marbled

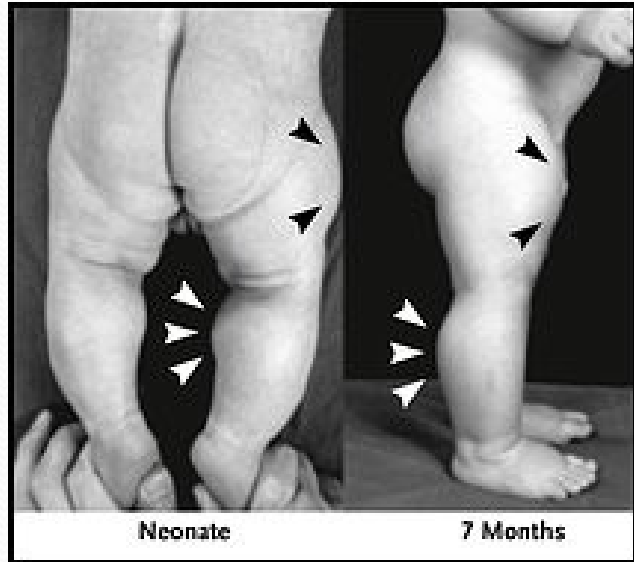
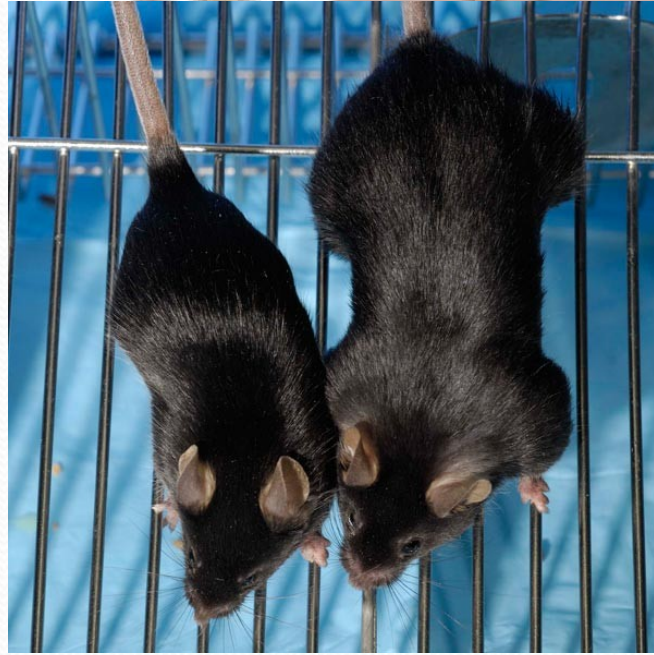


Belgian Blue cattle

- Origin : Belgium
- Extreme muscling specially in the shoulder, back, loin and rump area → double muscled cattle
- Less fat, tender meat (because the muscle fibre is thinner and shorter)
- In 1997, mutation of gene, called *myostatin*, caused the double muscling in cattle (and others species including human)

Belgian Blue cattle





Bit about *myostatin*

- Function : control muscle growth (inhibit muscle growth)
- Mutation in *myostatin* caused the disruption of muscle inhibition → muscle grow more and more (the extreme one can be seen in Belgian Blue Cattle)
- Others cattle, such as Limousin and Angus also carried *myostatin* mutation and caused increase muscle mass but not as extreme as Belgian Blue cattle

- Mutasi :
- ACCCTTGGTG → ACCGTTG = Single Nucleotide Polymorphisms (SNPs)
- ACCCTTGGTG → ATTGGTG = Deletion
- ACCCTTGGTG → ACCCGGGGTTGGTG = Insertion