



BOS 6023



JP Feed Technology SND. BHD.

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INTRODUCTION

Introduction



- Nowadays, antibiotic and medicated feed additives had been widely used to promote animal health and growth performance.
- Although it is effective, but there are treatment failures, relapses, and undesirable side effects.
- After a ban on the use of antibiotics and some medicated feed additives as growth promoters in farm animals, there is an urgent need to develop alternative drugs that do not have these unpleasant drawbacks.

Solution



High in protein, energy
and nitrogen source

Organic lean meat
enhancer

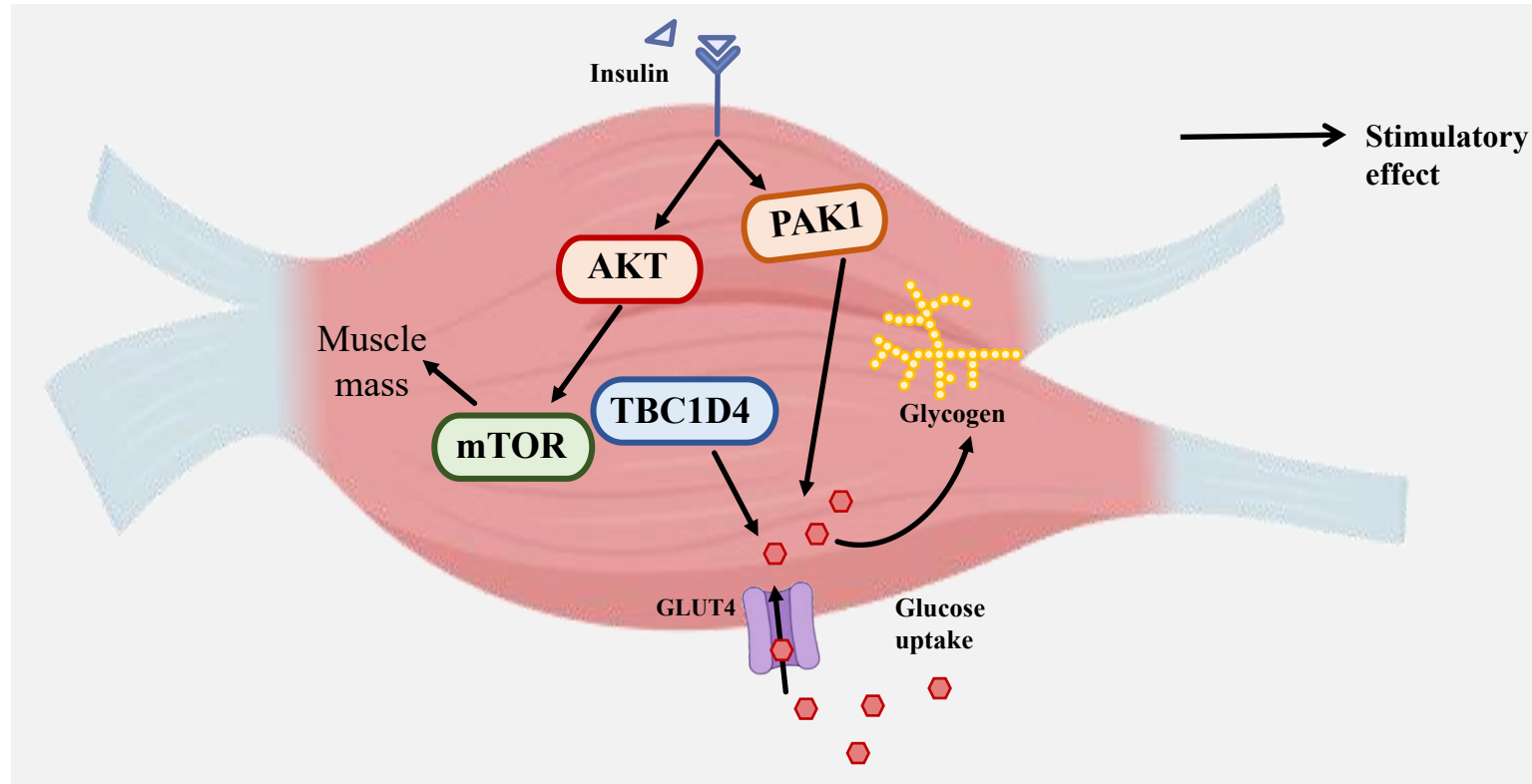
High feed efficiency
and low cost

What is **BOS 6023** ?

- **BOS 6023** is pellet feed with high energy and high protein raw material that provide nutrition needed for cattle to gain weight.
- **BOS 6023** is formulated organic lean meat enhancer, and without the following characteristics,
 - ✗ Toxic ✗ Side effects
 - ✗ Antibiotics ✗ Residual product
- **BOS 6023** promote protein synthesis, accretion and fat decomposition.

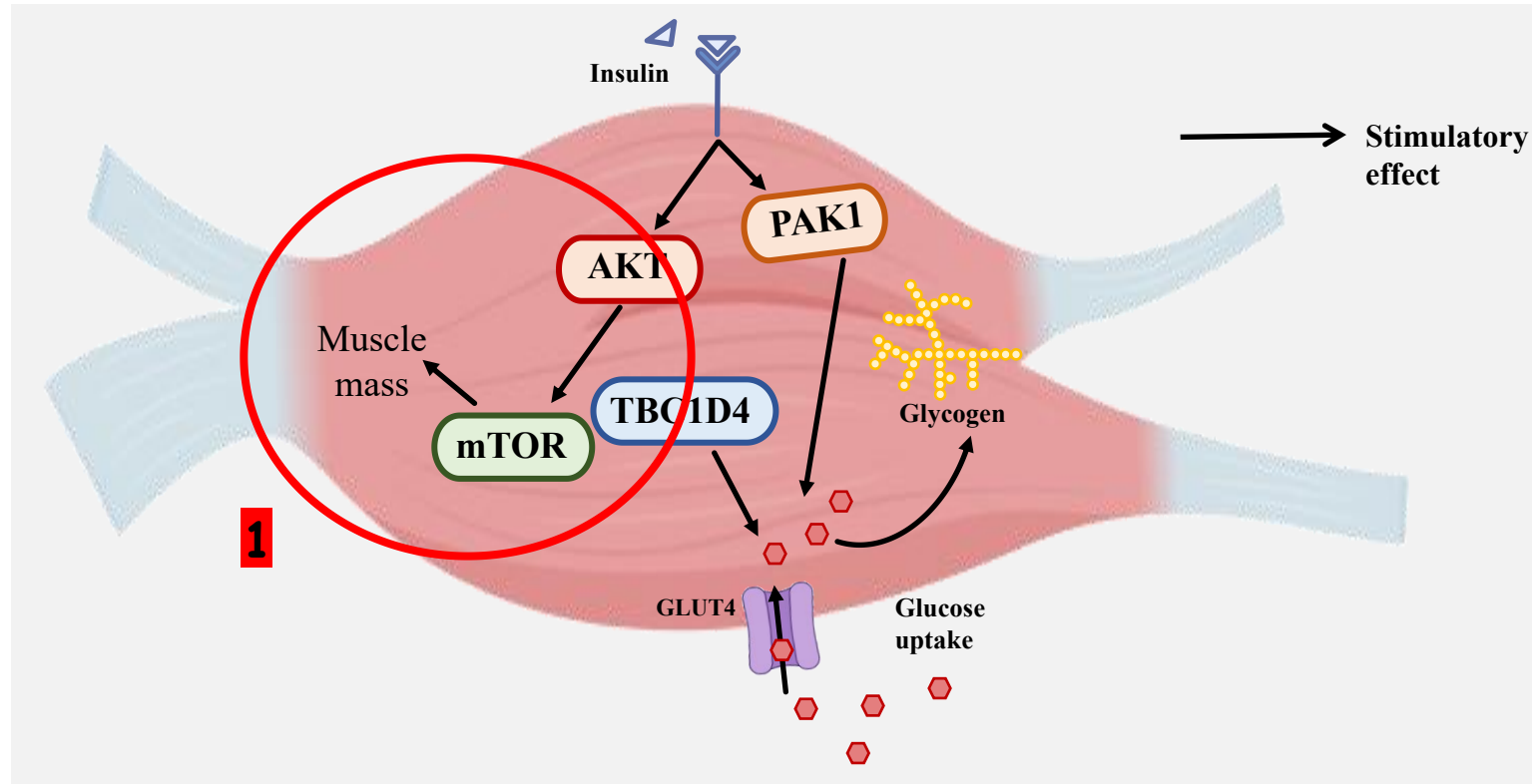
Function

The roles of insulin in cattle muscle



- Active insulin binds to its receptor and activates downstream signaling pathways.
- This downstream signaling pathway is involved in various cellular processes such as glucose metabolism, cell proliferation and differentiation.

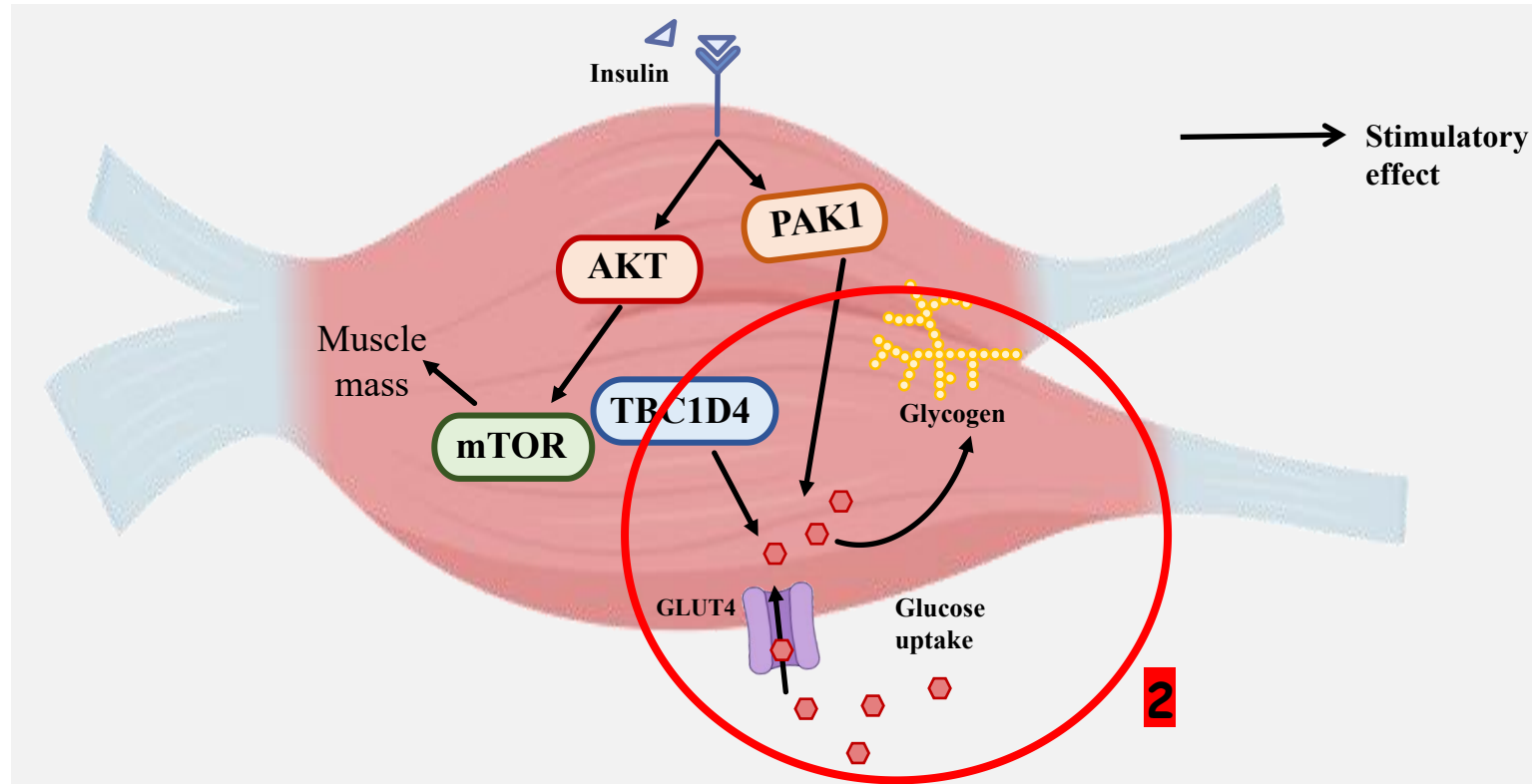
The roles of insulin in cattle muscle



Insulin increases muscle mass in two main ways:

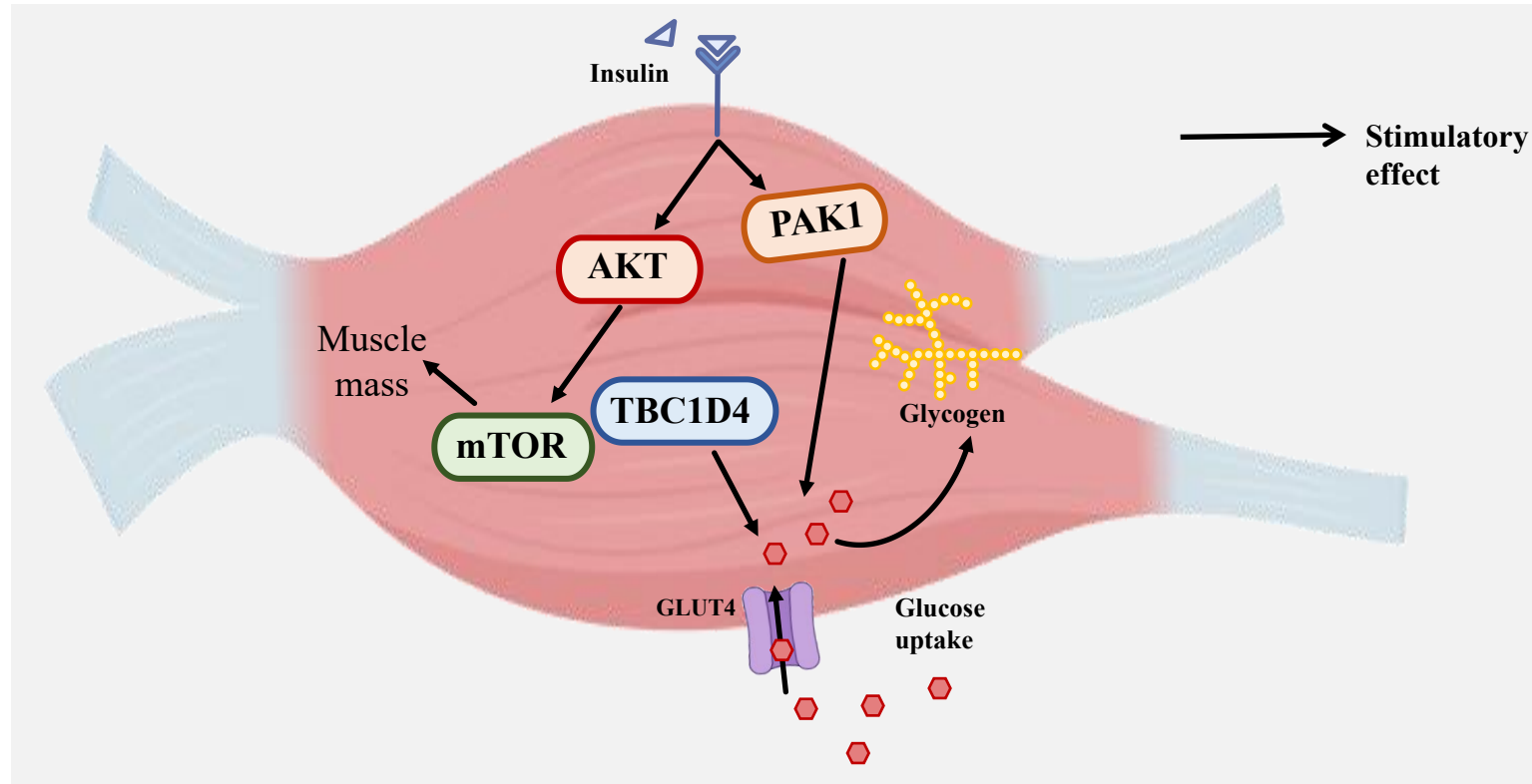
- 1.** mTOR is an enzyme that play vital role in protein synthesis and promote muscle growth.

The roles of insulin in cattle muscle



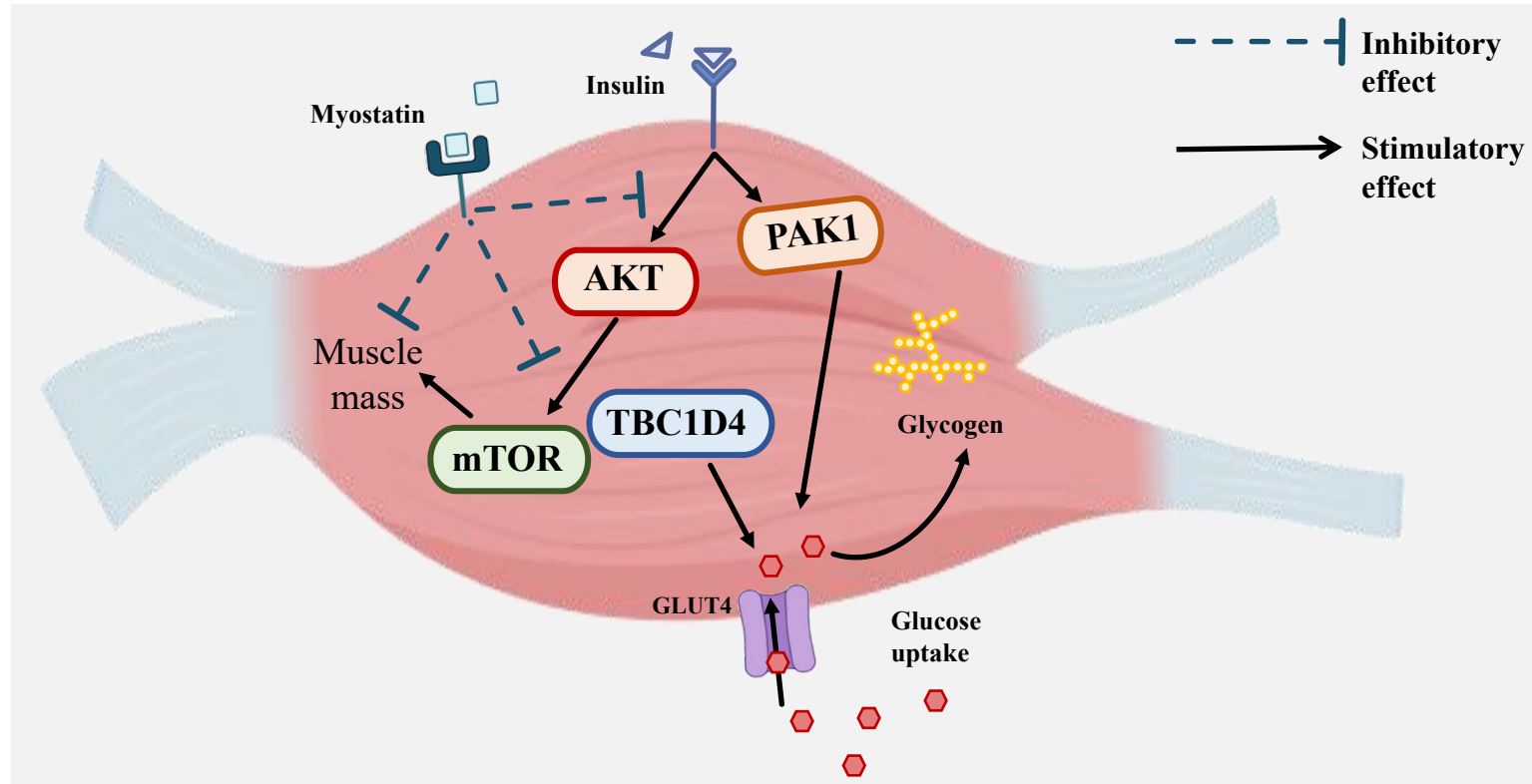
2. Glucose enter muscle cell and convert into glycogen, which is high water retention. In other way, glucose also use as cellular energy to increase protein synthesis.

The roles of insulin in cattle muscle



Based on the above, we can know that insulin increase muscle mass and juiciness of cattle by enhancing its **muscle cell growth** and **muscle water retention**.

Myostatin (Muscle growth inhibitor)

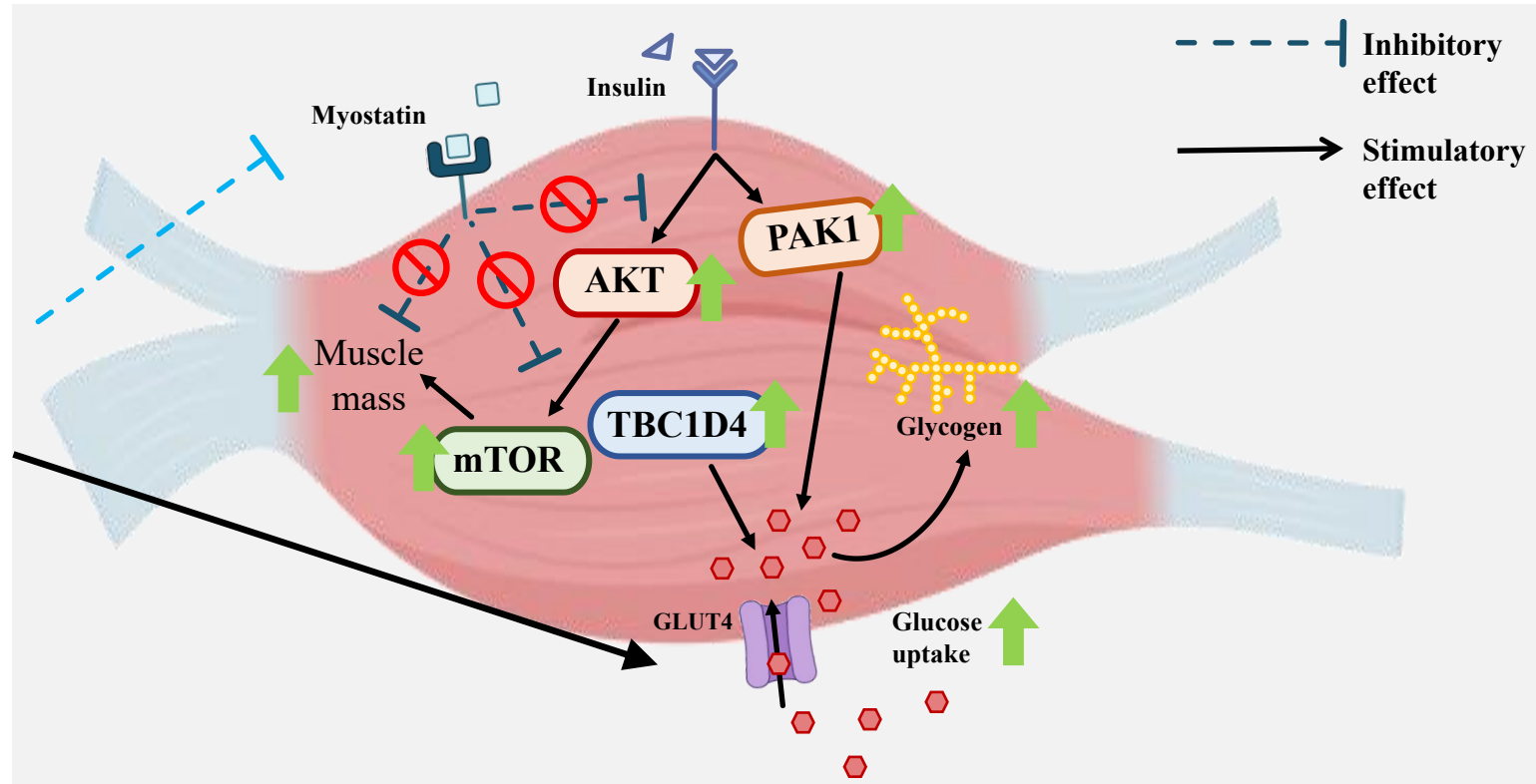


Myostatin is a negative regulator that acts on muscle cells to inhibit muscle cell growth.

- inhibit signal transduction
- inhibit mTOR activation
- accelerate protein degradation

How **BOS 6023** work?

BOS 6023

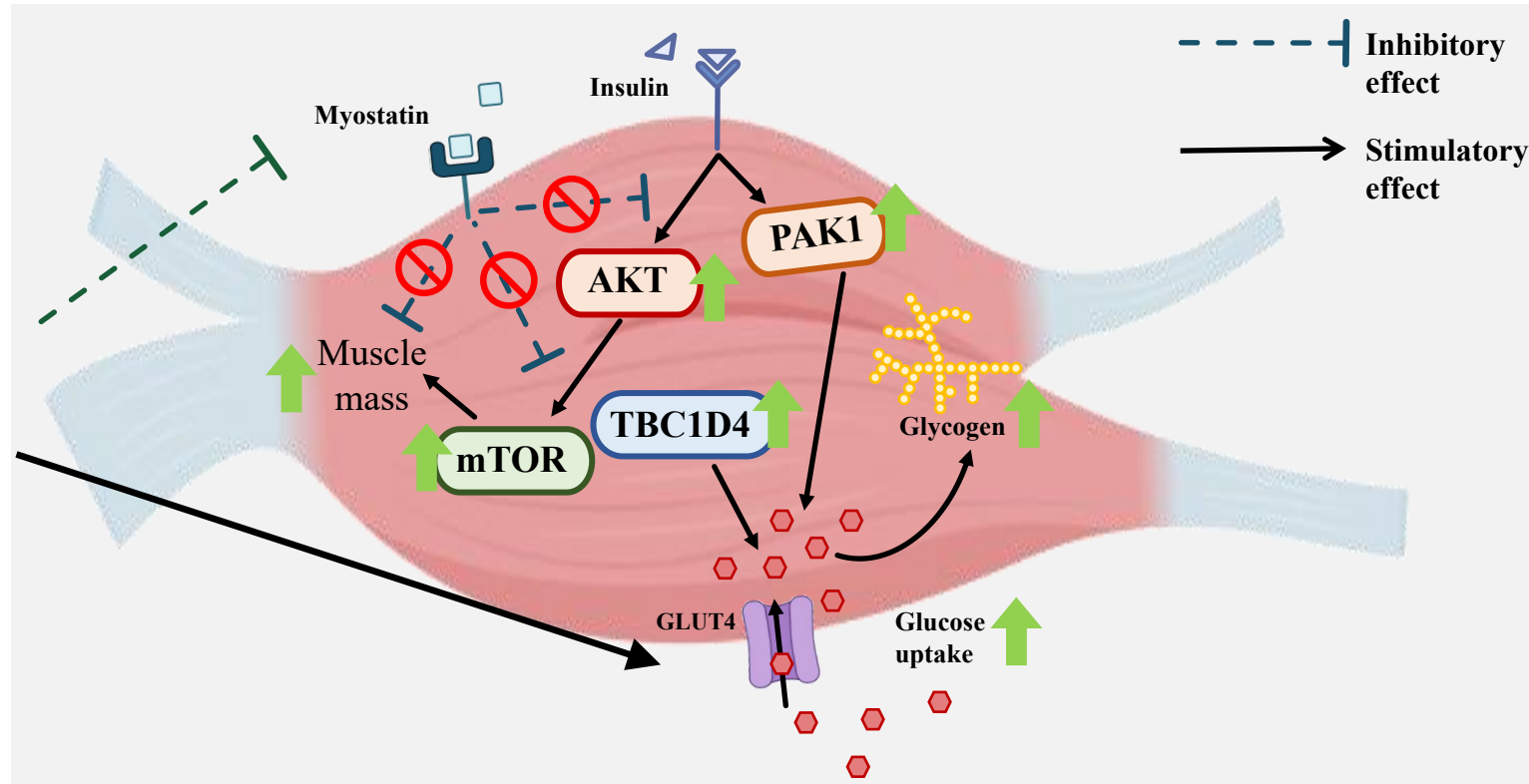


BOS 6023 mainly work in two ways:

1. Counteract the effect of myostatin
2. Increase glucose uptake of muscle cell

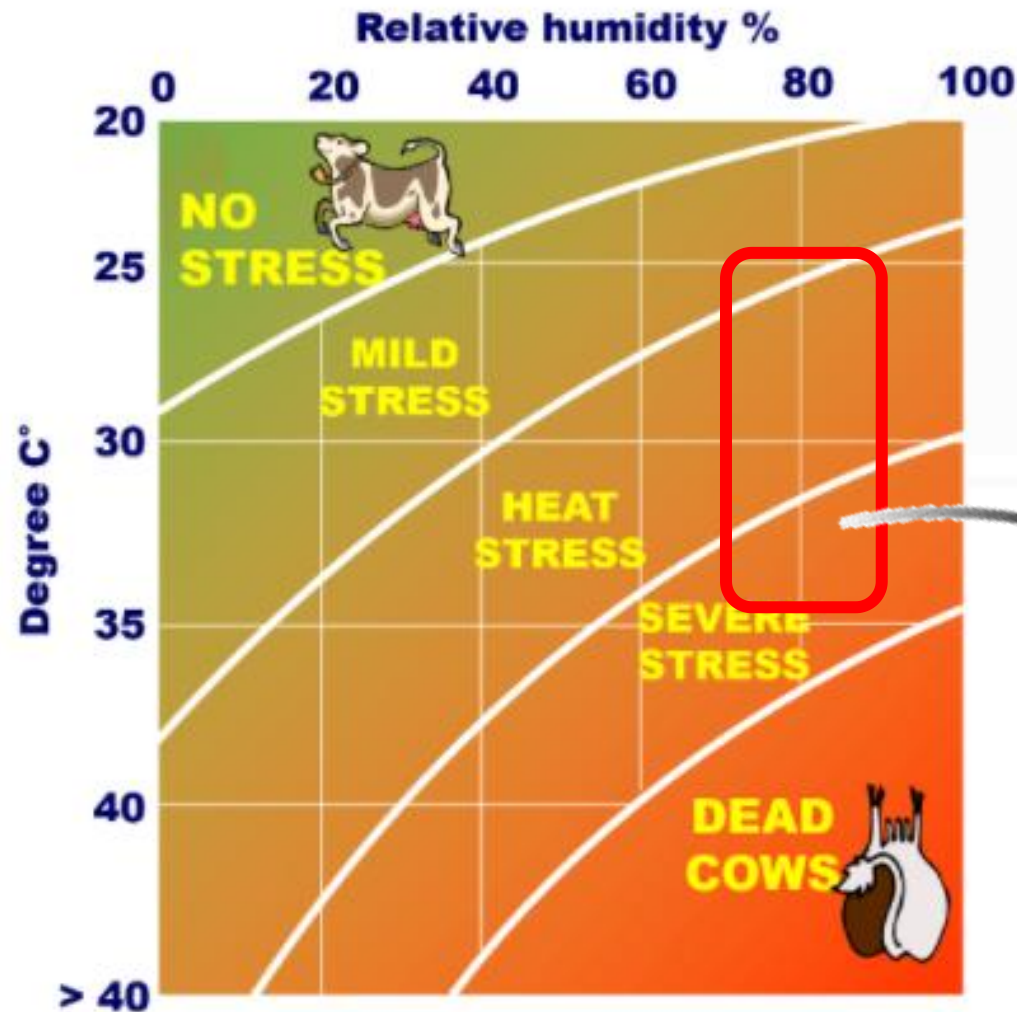
How **BOS 6023** work?

BOS 6023



BOS 6023 → muscle growth
muscle water retention ↑ → Muscle mass ↑

Stress factor in cattle



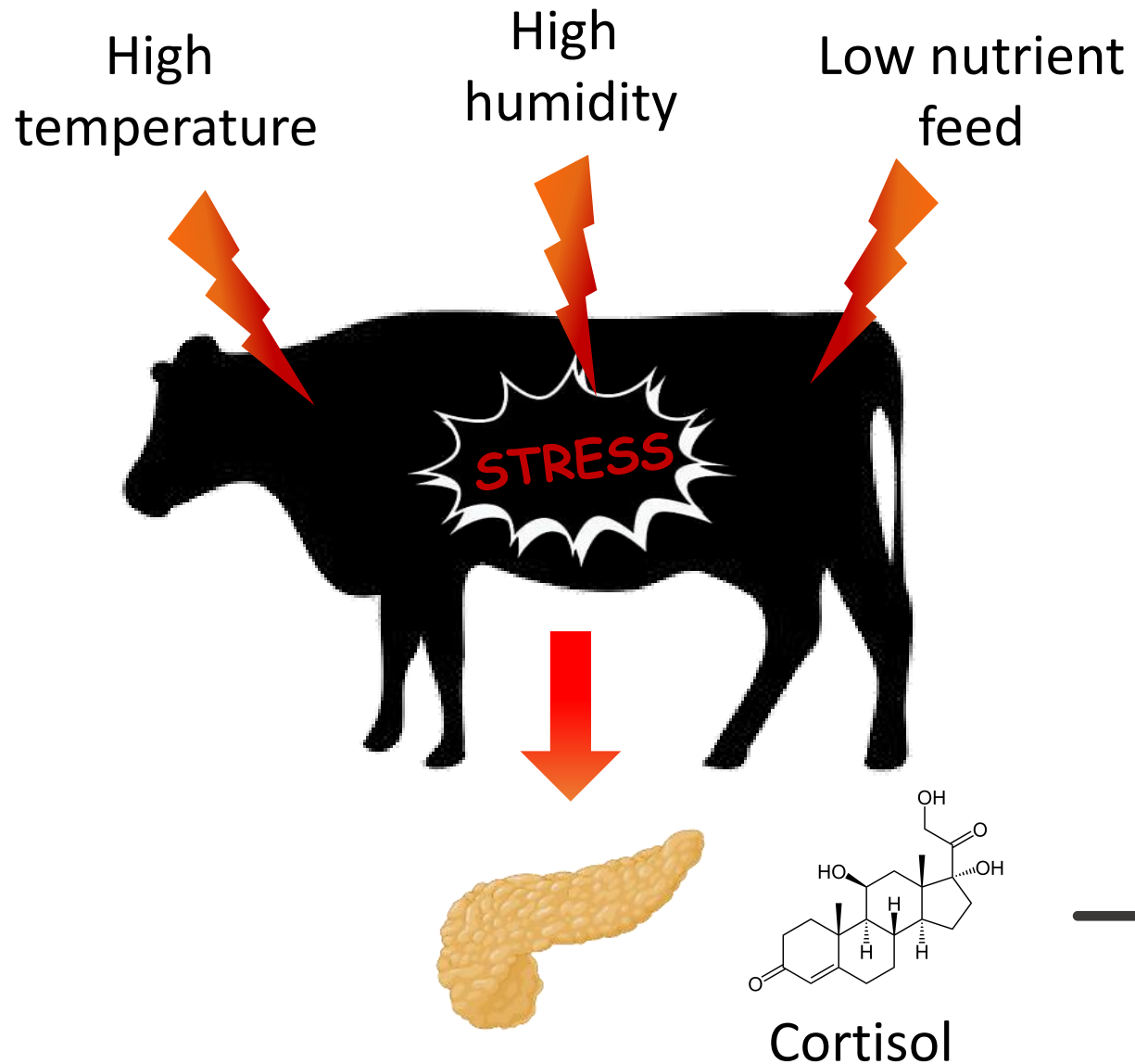
Malaysia Condition

Temperature: 25 ~33 °C

Humidity: 74 ~86%

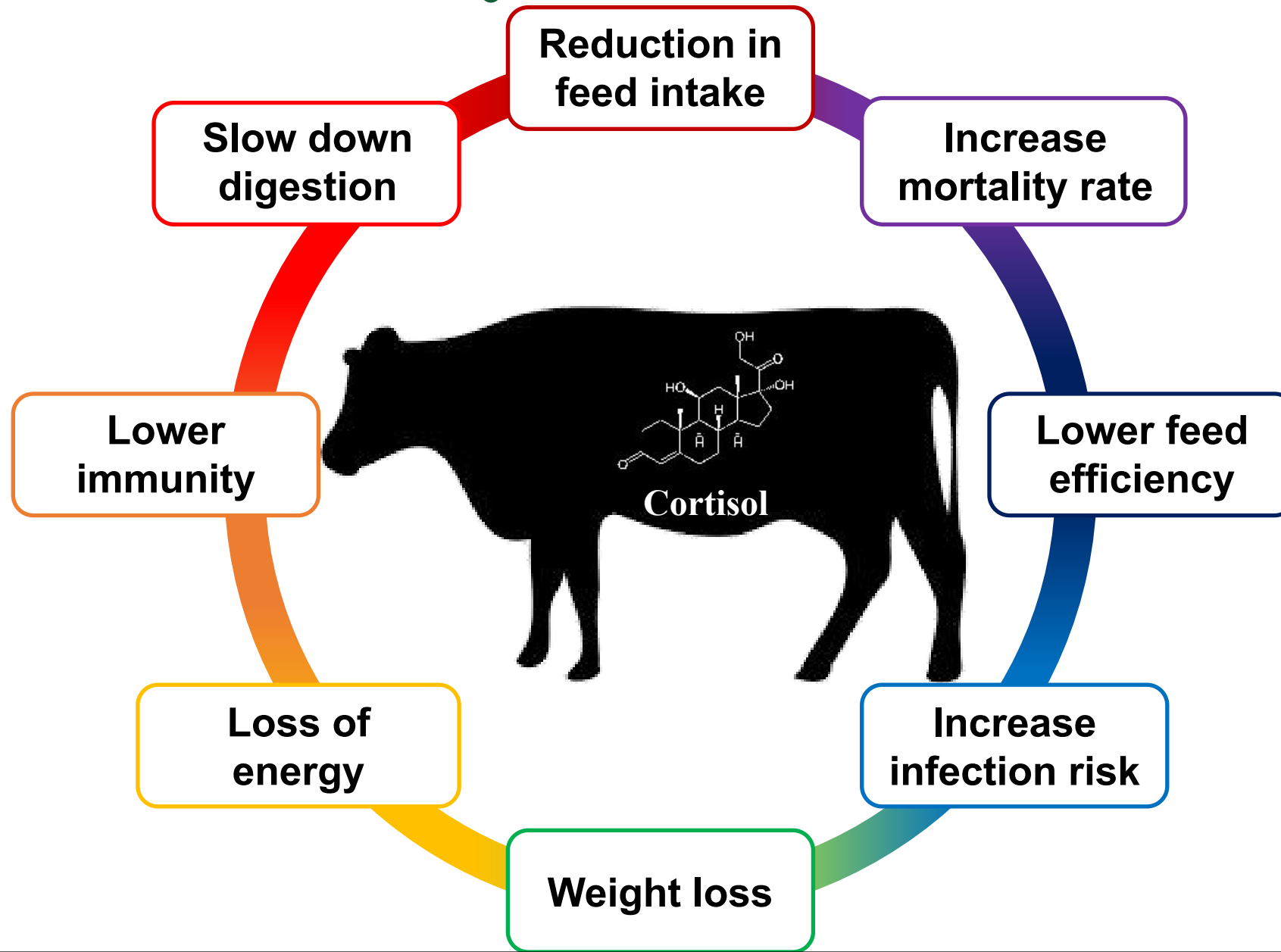
Malaysia cattle undergo heat stress !!

Stress factor in cattle

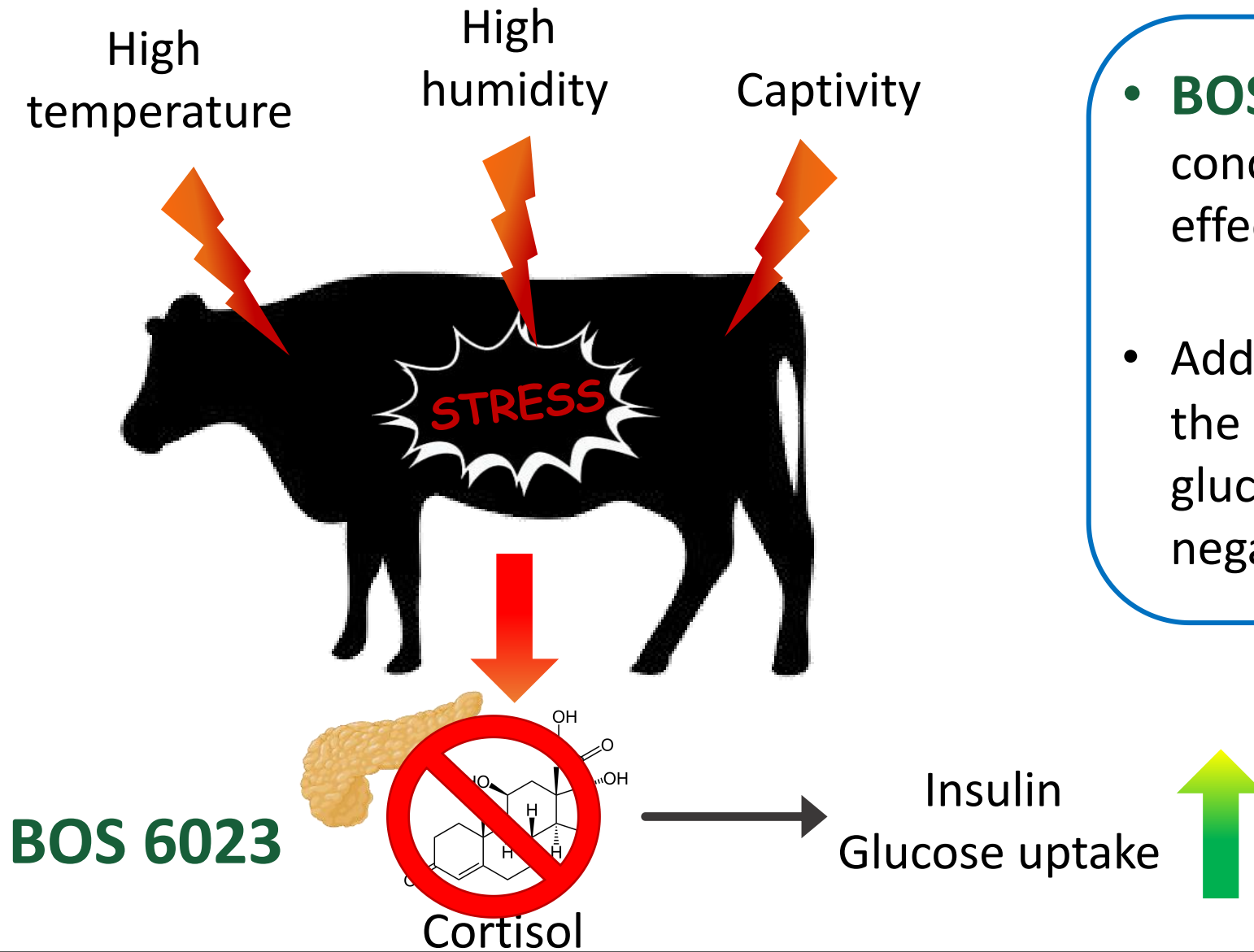


- When cattle are exposed to stress (temperature, humidity, feed quality and captivity), their serum cortisol concentrations will increase significantly.
- Cortisol will **reduce insulin sensitivity** and **reduce glucose uptake** of muscle cell.

Negative effect of stress



Reduce negative effect of stress



- **BOS 6023** reduce serum cortisol concentration, and attenuate its effect.
- Additionally, **BOS 6023** also increase the insulin and cellular uptake of glucose to completely reverse the negative effects of stress.

Experiment

Effect of **BOS 6023** in weight gain

Parameter	Control	BOS 6023	Effect of BOS 6023	
			Gain	%
Steers, n	9	11	--	--
Initial weight, kg	254.3	254.5	--	--
Final weight, kg	273.8	281.1	--	--
Total weight gain, kg	19.5	26.6	7.1	36.41
ADG, kg	0.65	0.89	0.24	36.92
G:F	0.093	0.127	0.034	36.56

Remarks:

- i. Male Kedah-Kelantan (KK) cattle
- ii. Control (Oil palm leaf meal)
- iii. BOS 6023 (Oil palm leaf meal + 3 kg BOS 6023)

BOS 6023



Daily weight gain increase
Feed efficiency increase



Effect of **BOS 6023** in carcass trait

Parameter	Control	RumiBoost	Effect of RumiBoost	
			Gain	%
Amount (head), n	9	11	--	--
Live weight, kg	273.8	281.1	--	--
Carcass weight , kg	156	164	8	5.13
Dressing percentage	57.0 %	58.3 %	1.3 %	--

BOS 6023



Carcass weight increase
Dressing percentage increase

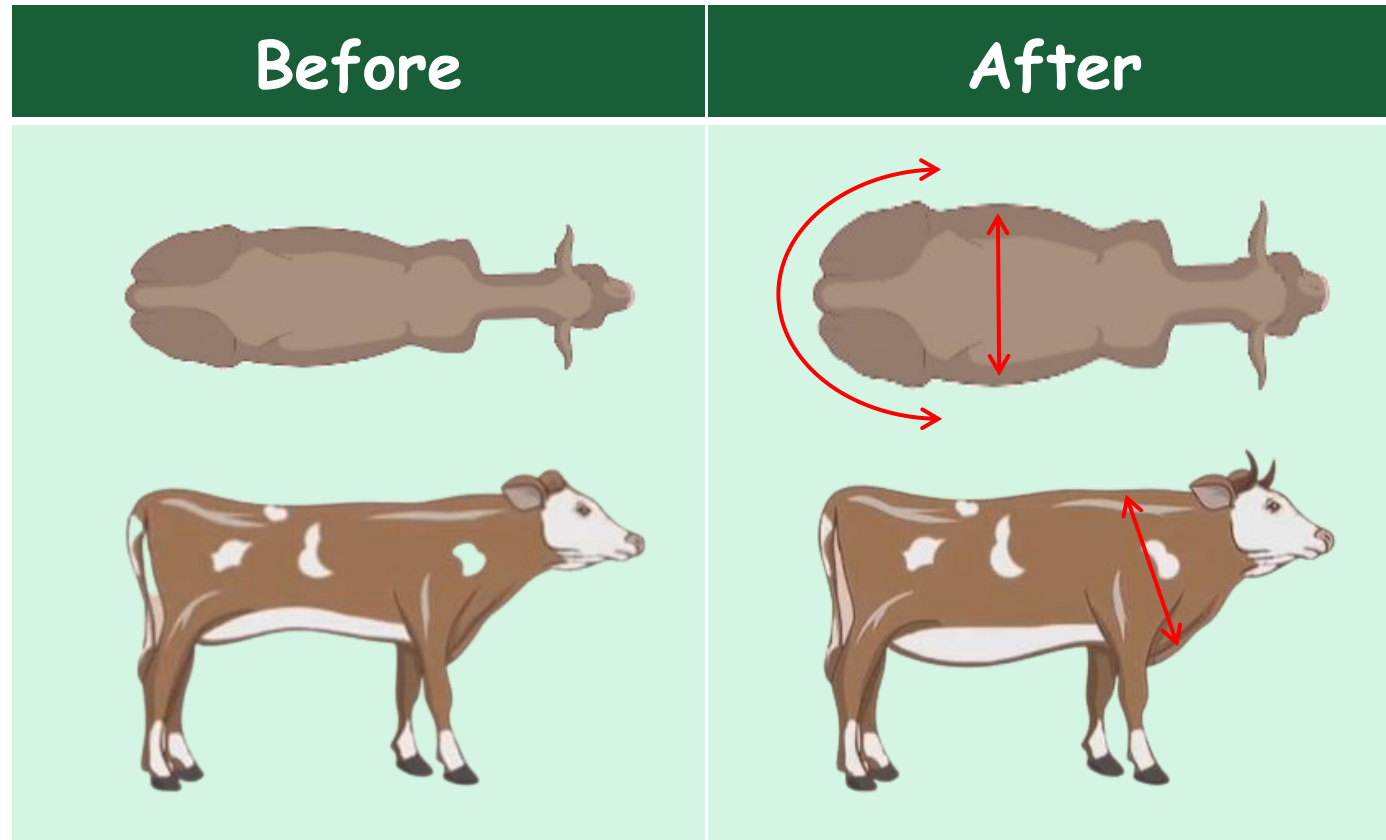


Conclusion

Conclusion

1. **BOS 6023** can promote lean muscle mass by inhibiting function of myostatin and enhancing insulin activation and glucose uptake of muscle cell.
2. In addition, **BOS 6023** can reduce negative effect of stress (temperature, humidity, feed and captivity), and thus focusing energy on protein synthesis and muscle growing.
3. **BOS 6023** is an alternative choice to antibiotic to promote growth performance and slaughter rate of cattle.

Recommended Usage



3 kg of **BOS 6023**/ head/ day.
Mixed well with other feed.

Net weight

25 kg

Shelf life

1 year

Store in shady place.
Reseal after use.

Thanks for listening

