
MG PEPTIDE
Growth enhancement

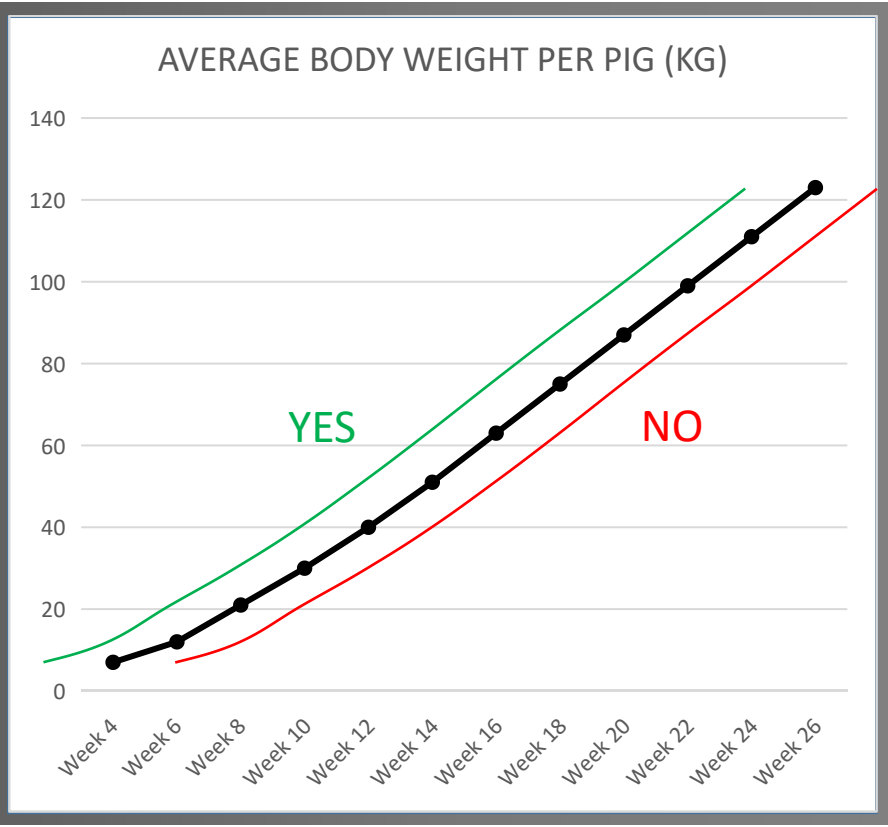
Growth rate (生长率)

- The growth rate of the livestock and poultry is one of the financial implications farmers take into consideration. (畜牧业的经济效益主要是通过生长速度和饲料利用率来体现的。)

- When the growth rate is lower than the usual growth rate, farmers have to fork out extra expenses to maintain the animals until they reach marketable size, the extra days to maintain the livestock are huge economy losses to farmers, and vice versa. (当生长率低于标准的生长率时，农民必须付出额外的费用来养护牲畜，直到它们达到可销售的规模为止，多余的日子来维持牲畜对农民来说是巨大的经济损失，反之亦然。)

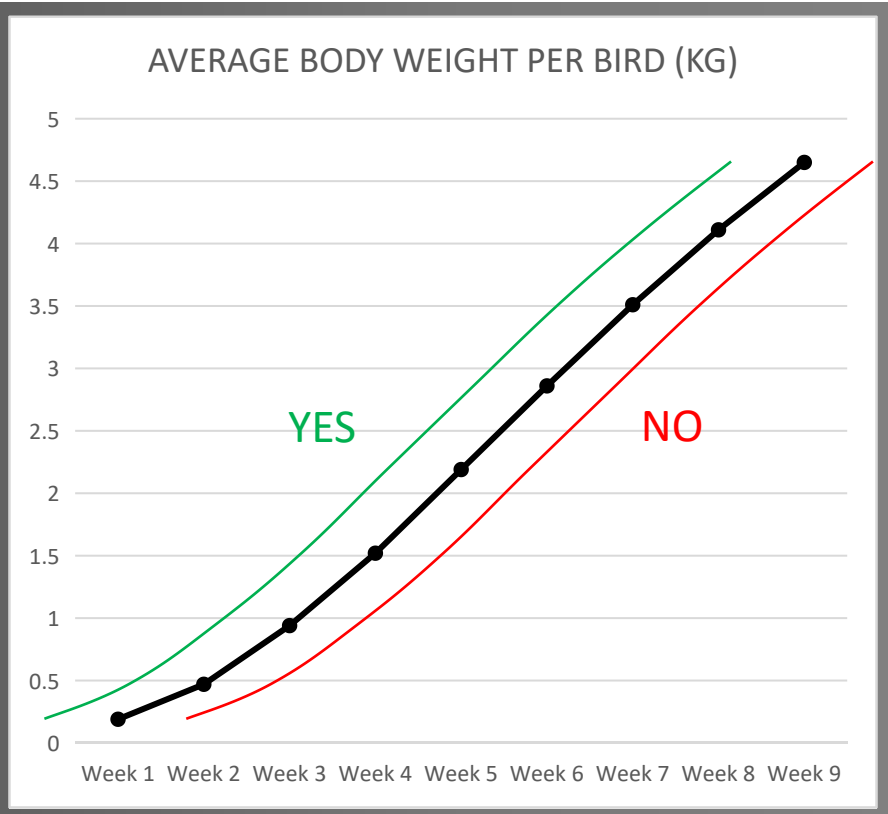
Standard growth rate for pig (猪的标准生长率)

Age (Week)	ABW per pig (kg)
4	7
6	12
8	21
10	30
12	40
14	51
16	63
18	75
20	87
22	99
24	111
26	123



Standard growth rate for broiler (肉鸡的标准生长率)

Age (Week)	ABW per bird (kg)
1	0.19
2	0.47
3	0.94
4	1.52
5	2.19
6	2.86
7	3.51
8	4.11
9	4.65



Antibiotic growth promoter (抗生素生长促进剂)

- Many kinds of approach has been developed to improve growth rate. The most popular approach is the use of antibiotics as growth promoters. (已经开发了多种方法来促进动物快速生长，而当中最受欢迎的方法是使用抗生素作为生长促进剂。)

- The hypothesis behind this is to prevent pathogenic bacteria infection disease so that the nutrient can be fully utilized for growth because when the animals fell sick, the nutrient will be directed to heal the sick animals, therby slow down growth. (其背后的假设是当动物患病时，营养物质主要被用来治愈疾病，从而减缓动物的生长速度。抗生素用于预防细菌感染，以便营养物质可以充分利用于促进动物生长。)

- However, the misuse of antibiotics will lead to the emergence of antibiotics resistant pathogens in animals and in human through the presence of antibiotics residues in meat, milk or eggs production. This poses a serious health threat to animals and human. (滥用抗生素会导致抗生素残留在肉类，牛奶或鸡蛋中，从而导致在动物和人体内的细菌对抗生素产生耐药性。 这严重地威胁动物和人的类健康。)

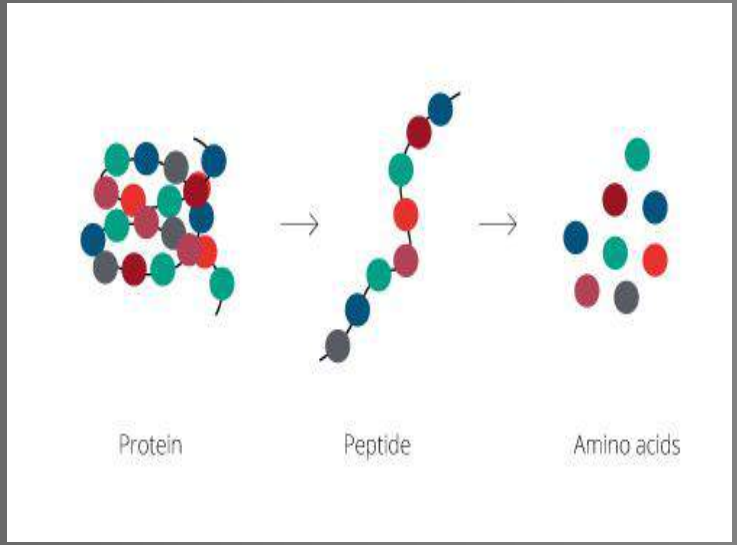
Antibiotic growth promoter ban (禁抗)

- On 1st January, 2006 European Union has banned the use of antibiotics as growth promoter. Prior to that, Sweden (’86); Denmark (’98); and Switzerland (’99). (2006年1月1日，欧盟禁抗作为生长促进剂。在此之前，瑞典（86年）； 丹麦（98年）； 瑞士（99年）。)
- On 1st July, 2011 South Korea has banned the use of antibiotics as growth promoter. (2011年7月1日， 南韩禁抗作为生长促进剂。)
- On 1st July, 2020 China has banned the use of antibiotics as growth promoter. (2020年7月1日， 中国禁抗作为生长促进剂。)

1986

Peptide (肽)

- Peptides are protein fragments that typically 2-50 amino acids long linked by peptide bonds. (肽是由2-50个氨基酸以肽键连接在一起而形成的短链。)
- Functional peptides can trigger pharmacological effect of proteins or organic compounds. They are responsible for regulating a variety of cell functions, including metabolism, digestion, respiration, and immune response. (功能性肽具有蛋白质和单体氨基酸不具备的独特生理活性和药理作用。它们具有多种代谢和生理调节功能，能促进消化吸收，免疫反应和激素调节的作用。)
- Unlike antibiotics, peptides can be broken down into amino acids in the body, thus will not leave residues in meat, milk or eggs production. (与抗生素不同，肽可以在体内被分解为氨基酸，因此不会残留在肉类，奶或蛋中。)



MG PEPTIDE

- Through extensive research and development on peptide technology, Win Men's Peptide Series presenting **MG PEPTIDE**, a growth enhancement product that can shorten the period to reach the market size and reduce FCR, thereby reduce the farming cost. (为了缩短动物出栏上市的时间，云门的研发部运用最新颖的生物科技与肽技术，推出了肽系列的**MG PEPTIDE**。**MG PEPTIDE**是一种促进生长的产品，可以缩短出栏上市的时间并改善FCR，从而降低养殖成本。)

- **MG PEPTIDE**'s main function is to enhance growth. (**MG PEPTIDE**的主要功能是促进生长。)

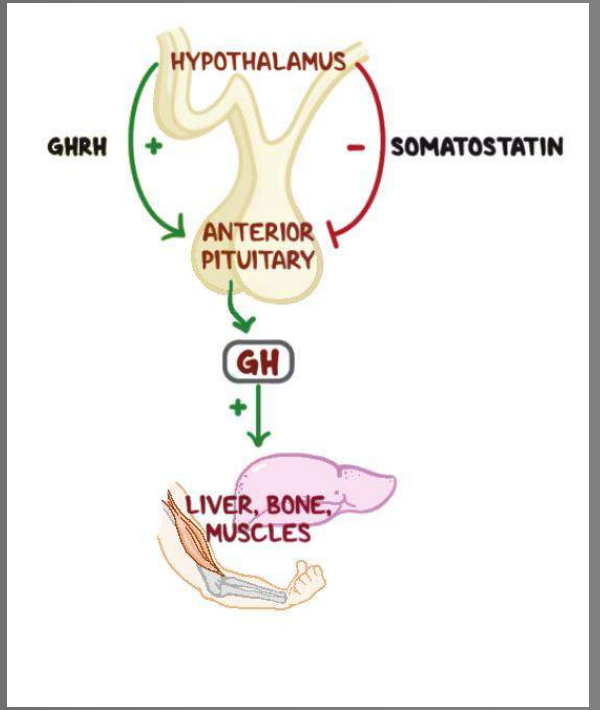
Homeostasis (体内平衡)

- Homeostasis, in a general sense, refers to stable equilibrium. Physiologically, it is the body's attempt to maintain a constant and balanced internal environment, which requires persistent monitoring and adjustments as conditions change. （体内平衡也称为内稳态或恒定状态，是指生物体能够调控自身内部环境的能力，以维持体内环境相对不变的状态。）

- The goal of homeostasis is the maintenance of equilibrium around a specific value of some aspect of the body or its cells called a set point. While there are normal fluctuations from the set point, the body's systems will usually attempt to go back to the set point. (体内平衡的目标是维持身体或其细胞某些方面的特定值（称为设定点）周围的平衡。 尽管从设定点开始有正常的波动，但人体的系统通常会尝试回到设定点。)

Growth hormone (生长激素)

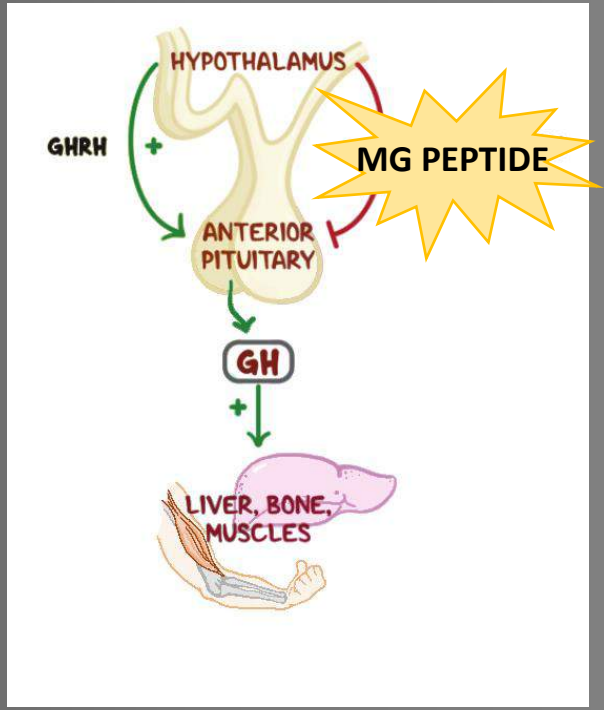
- Briefly, growth hormone (GH) secretion by the pituitary gland is regulated by two hypothalamic hormones: (简而言之，垂体腺分泌的生长激素（GH）是由两种下丘脑激素来进行调节：)
  - Growth Hormone Releasing Hormone (GHRH), which has a stimulatory action at the level of gene transcription. (生长激素释放激素（GHRH），在基因转录水平上具有刺激作用，促进GH的分泌。)
  - Somatostatin, which has an inhibitory effect on GH secretion. (生长抑素，对GH分泌具有抑制作用。)
- GH acts directly on growth and indirectly through stimulation of insulin-like growth factor-I (IGF-I) production in the liver. When the GH and IGF-I reached the set point, hypothalamus will be stimulated to release somatostatin to inhibit the secretion of GH in order to stop growth. (GH具有促生长的作用，并间接促进肝脏中胰岛素样生长因子-I（IGF-I）的产生。 当GH和IGF-I的水平高于正常水平时，下丘脑会释放生长抑素，来抑制GH的分泌，从而减少GH对于动物的促生长作用。)



Mode of action (作用机制)

- **MG PEPTIDE** inhibits the release of somatostatin so that the hypothalamus can continuously release GHRH to stimulate GH secretion, hence the animal can continue to grow. (**MG PEPTIDE**可抑制生长抑素的释放，导致下丘脑可以持续释放GHRH以增加GH的分泌，来促进动物的生长。)

- The **MG PEPTIDE**'s effect will stop as feeding stop and as peptide is naturally digested in digestive system, there is no residue problem. (**MG PEPTIDE**的效果将随着停止进食而停止，并且由于肽会被肠胃道里的消化酶分解与吸收，因此无任何残留问题。)



In vivo test (临床实验)

- The addition of **MG PEPTIDE** into grower pig's diet able to increase average daily gain, improve FCR and shorten the period to reach marketable size. (在肥育猪的日粮中添加**MG PEPTIDE**可以增加平均日增重，改善FCR并缩短出栏上市的时间。)

	Control	MG PEPTIDE
Total days of trial	112	112
Average initial weight (kg)	28.4	26.6
Average final weight (kg)	**110.7**	**120.8**
Total feed consumption (kg)	**215**	**231**
Average daily gain (kg)	0.735	0.841
Total weight gain (kg)	**82.3**	**94.2**
FCR	**2.61**	**2.45**

Conclusion (结论)

- The use of antibiotic growth promoters have causing the emergence of drug resistance bacteria. It is the biggest threat to global health, food security, and development today. Hence, safe and healthy alternatives are very much needed to overcome this threat. (长期使用抗生素生长促进剂已导致越来越多细菌对抗生素产生耐药性。 抗生素耐药细菌是目前全球卫生，食品安全和发展的最大威胁之一。 因此，急需要安全，健康的产品来替代抗生素作为生长促进剂。)

- **MG PEPTIDE** is a growth enhancement product with no residues, no toxic side effects and is not developing drug resistance. It is a good antibiotic growth promoters substitute. (**MG PEPTIDE**是一种安全无残留，无毒副作用且不产生耐药性的促生长产品，可用来替代抗生素生长促进剂。)

Direction for Use (使用方法)

Animal	Dosage
Poultry	Mix 0.5 kg MG Peptide in 1 ton feed
Swine	Mix 1.0 kg MG Peptide in 1 ton feed
Ruminant	Mix 1.0 - 3.0 kg MG Peptide in 1 ton feed