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动物营养专题

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前沿资讯

1．2019年上半年饲料工业生产情况

简介：据农业农村部对全国工业饲料统计监测，2019年上半年饲料工业生产形势总体稳定。受非洲猪瘟疫情和国际贸易形势影响饲料总产量略有下降，商品饲料总产量10867万吨，同比下降0.9%。其中，配合饲料10018万吨、同比增长0.2%，浓缩饲料590万吨、同比下降13.6%，添加剂预混合饲料259万吨、同比下降9.1%。

来源：中国畜牧网

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全文链接:

http://agri.ckcest.cn/file1/M00/00/02/CsgkOV2dPOCAAjrrAA3m3ivTbWY960.pdf

2．总投资120亿元，德国第一大猪肉生产商正式来华！丹麦巴西德国等进口猪肉陆续进入广东

简介：德国第一大肉类生产商将在四川设立肉类生产基地：进入今年以来，我国对肉类消费的需求明显增加，因此，肉类供应国也更加积极地进入中国市场。9月20日，中德欧盟标准生猪屠宰和肉食品加工产业一体化项目正式签约落户眉山，标志着西南地区最大的生猪屠宰和肉食品加工项目建设正式启动。该项目由德国通内斯集团和四川德康集团合作建设，总投资120亿元，将采用全球领先的生产技术，建设欧盟标准的生猪屠宰、分割、加工、包装和冷链物流配送网络，可年屠宰加工生猪600万头。其中一期项目300万头，投资60亿元。据通内斯集团首席执行官安德烈斯·鲁夫透露，即将在眉山投资的这个项目是该集团在欧洲之外投建的第一个工厂。据悉，通内斯集团是全球领先、德国最大的综合肉食品屠宰加工企业，具备世界一流控制体系，拥有领先的肉食品屠宰加工技术，在欧洲拥有四个现代化的高品质肉类产品生产基地，品牌猪肉产品遍布全球重要市场。

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学术文献

1．猪传染性胃肠炎病毒感染对仔猪肠道屏障功能的影响及营养调控

简介：猪传染性胃肠炎病毒(transmissible gastroenteritis virus,TGEV)感染仔猪能够引起仔猪肠道损伤,导致仔猪腹泻脱水甚至死亡,其致病机制主要在于破坏猪小肠黏膜,引起肠道黏膜上皮屏障功能受损,具体主要表现为:TGEV破坏仔猪肠道上皮机械屏障完整和电解质平衡,扰乱生物菌群结构,降低局部免疫功能。TGEV诱导炎症及先天免疫反应的作用机制主要通过激活维甲酸诱导基因Ⅰ样受体(RLR)和Toll样受体(TLR),使核转录因子(NF-κB)活化,进一步诱导细胞因子和干扰素表达。通过饲粮中添加氨基酸、维生素和中草药等营养调控措施可以达到缓解TGEV损伤肠道屏障功能的目的,为预防及

治疗TGEV感染对仔猪肠道屏障功能的影响提供参考。
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2．Impact of zinc and arginine on antioxidant status of weanling piglets raised under commercial conditions(锌和精氨酸对断奶仔猪生长状况的影响)

简介：The effects of dietary zinc and L-arginine supplements on the weight gain, feed efficiency, antioxidant capacity and oxidative status of weanling piglets raised under commercial conditions were examined. A total of 288 piglets aged 21 d were fed for 15 d a diet supplemented or not with 2,500 mg/kg of zinc (provided as zinc oxide) and 1% L-arginine·HCl. The 4 treatments were distributed in a randomized complete block design with 6 initial body weight categories (12 animals per pen). Access to feed and water was ad libitum . Data were analyzed as a 2 × 2 factorial experiment using the SAS MIXED procedure, with zinc and arginine as the main independent variables. Blood collection day (d 8 and 15, samples were collected from the same 2 piglets in each pen before the morning feeding) was included as a third factor. The zinc supplement increased the average daily gain (ADG) from d 0 to 7, d 8 to 15 and d 0 to 15 (0.289 vs. 0.217 kg/d), average daily feed intake (ADFI) from d 8 to 15 and d 0 to 15 (0.338 vs. 0.279 kg/d) and the gain to feed (G:F) ratio from d 0 to 7 and d 0 to 15 (0.86 vs. 0.77) (P < 0.001). Both supplements significantly decreased the malondialdehyde concentration (zinc: 4.37 vs. 3.91 µmol/L, P = 0.005; arginine: 4.38 vs. 3.89 µmol/L, P = 0.002). Total antioxidant capacity and reduced glutathione (GSH) increased from d 8 to 15 (0.953 vs. 1.391 µmol/L, 2.22 vs. 3.37 µmol/L, P < 0.05) regardless of dietary treatment. Total and oxidized GSH concentrations on d 8 were higher in response to the combined supplements (zinc × arginine interaction, P < 0.05). Piglets fed either Zn-supplemented diet had a lower haptoglobin serum concentration (509 vs. 1,417 mg/L; P < 0.001). In conclusion, the zinc supplement improved piglet growth performance (ADG and ADFI) and oxidative status (based on malondialdehyde concentration). The arginine supplement had a limited effect on growth performance and oxidative status under these conditions.
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3．Dietary apple polyphenols supplementation enhances antioxidant capacity and improves lipid metabolism in weaned piglets(日粮中添加苹果多酚增强断奶仔猪抗氧化能力和改善脂质代谢)

简介：Apple polyphenols (APPs) are biologically active flavonoids that have antioxidant, anti-inflammatory, improving insulin sensitivity, hypocholesterolaemic effect and antiviral

properties. This study was conducted to explore effects of dietary APPs supplementation on antioxidant activities and lipid metabolism in weaned piglets. Fifty-four weaned piglets (half male and female) were randomly divided into three groups with six replicates in each group and three piglets in each repetition. Piglets were fed control diet (basal diet) or a control diet supplemented with 400 mg/kg or 800 mg/kg APPs for 6 weeks. Blood and liver samples were collected to determine biochemical, antioxidant and lipid metabolism parameters. Here we showed that dietary APPs supplementation increased HDL-C and decreased T-CHO, TG and LDL-C concentrations. Dietary APPs supplementation increased antioxidative capacity in serum and CAT activity in liver, and significantly increased the mRNA expressions of CAT , GST and SOD1 in liver. ACC mRNA level and LPL activity were tended to decrease by APPs. HMG-CoAR , CTP7A1 , CD36 and FATP1 mRNA levels were decreased by APPs, while LDL-R , PGC-1α , Sirt1 and CPT1b mRNA levels were increased by 400 mg/kg APPs. No alterations in growth performance were found in all treatments. This study firstly provided the evidence that dietary APPs supplementation could enhance systemic antioxidant capacity and improve lipid metabolism in weaned piglets. The mechanism by which APPs improve lipid metabolism might be through regulating hepatic cholesterol metabolism and increasing fatty acid oxidation, and decreasing fatty acid uptake and de novo synthesis.
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