



2023年第5期总380期

动物营养专题

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▶ 前沿资讯

1. 美国农业部发布的玉米大豆产量预估低于预期

简介: 1月12日周四, 美国农业部发布一月份《世界农业供需估算》。报告称, 继续保持对农产品产量下降的关注。在美国政府对该国谷物和大豆产量的预估低于市场预期之后, 谷物和大豆价格上涨。该报告认为, 这一涨势可能会给今年年初看跌的农产品市场带来冲击。具体来看, 美国农业部将全美2022/2023年度玉米产量预估值下调2亿蒲式耳, 至137.3亿蒲式耳, 理由是每英亩单产的提高被收获面积减少160万英亩所抵消。报告发布后, 玉米和大豆期货价格上涨。在报告发布之后, 由于阿根廷的玉米和大豆减产幅度超市场预期, 这两种农作物的期货价格进一步走高。此外, 美国农业部预估, 美国的玉米出口将减少1.5亿蒲式耳至19.25亿蒲式耳。饲料和残渣用量也下降, 将在2022/2023年度减少2500万蒲式耳至52.75亿蒲式耳。总体来看, 2022/2023年度美国玉米库存总量减少1500万蒲式耳, 至12.42亿蒲式耳, 低于市场预期的13.14亿蒲式耳。当季平均农场出售价不变, 为6.7美元/蒲式耳。全球来看, 美国农业部对南美玉米产量的估计显示阿根廷的产量潜力减弱, 而巴西的产量则更为稳定。阿根廷的玉米产量预估下滑至20.47亿蒲式耳, 而巴西预估维持在49.61亿蒲式耳。世界期末库存略有下降, 从12月份的117.48亿蒲式耳下降至116.70亿蒲式耳; 低于市场预期的平均值117.27亿蒲式耳。美国农业部预计在2022/2023年度, 全美大豆将减产6900万蒲式耳, 至42.76亿蒲式耳, 理由是密苏里州、印第安纳州、伊利诺伊州和堪萨斯州的产量有所下降。收获面积减少30万英亩, 降至8630万英亩。单产预估也下滑0.6蒲式耳/英亩至49.5蒲式耳。美国农业部还将美国大豆出口预测下调5500万蒲式耳, 理由是需求减少以及巴西出口增加。期末大豆库存下滑1000万蒲式耳至2.1亿蒲式耳的更紧缩水平。美国农业部的报告发布后, 大豆价格上涨20美分至每蒲式耳14.20美元。豆粕价格也呈上涨趋势, 短期上涨15美元至425美元。豆油价格保持不变, 为每磅68美分。小麦方面, 由于2023年全美冬小麦播种面积增至3700万英亩——这是自2015年以来美国冬小麦播种面积最大的一年, 但由于干旱, 其中一些种植冬小麦的田地最终将被撂荒, 因此小麦价格仍可能上涨。世界期末小麦库存走高, 从12月的98.22亿蒲式耳上升至98.61亿蒲式耳。全球主要小麦生产地区中, 加拿大和俄罗斯的产量不变, 欧盟的产量增加1500万蒲式耳至49.49亿蒲式耳。除了谷物之外, 美国农业部提到, 有史以来最严重的禽流感正在肆虐北美鸡蛋行业, 美国农业部再次小幅下调了预估。创纪录的鸡蛋价格意味着食品通胀仍在肆虐, 即使培根等某些食品的价格正在下降。

来源: 国际畜牧网

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<http://agri.ckcest.cn/file1/M00/10/1B/Csgk0GPEsVOASIznAAAnoYfMXPis529.pdf>

2. 欧盟评估一种内切-1,3(4)- β -葡聚糖酶作为育肥鸡和断奶仔猪饲料添加剂的安全性和有效性

简介: 2023年1月11日, 据欧盟食品安全局(EFSA)消息, 应欧盟委员会要求, 欧盟动物饲料添加剂和产品(FEEDAP)研究小组就一种内切-1,3(4)- β -葡聚糖酶(endo-1,3(4)-beta-glucanase)作为育肥鸡和断奶仔猪饲料添加剂的安全性和有效性发表科学意见。据了解, 该添加剂中是由斐济曲霉CBS 589.94生产的。经过评估, 专家

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小组认为在建议的使用条件下该添加剂对育肥鸡和断奶仔猪是安全的。该添加剂作为一种动物技术添加剂，在10 FBG/千克饲料的最低推荐水平下，对育肥鸡和断奶仔猪是有效的。部分原文报道如下：Following a request from the European Commission, the EFSA Panel on Additives and Products or Substances used in Animal Feed (FEEDAP) was asked to deliver a scientific opinion on the safety and efficacy of endo-1,3(4)-beta-glucanase produced by *Aspergillus fijiensis* CBS 589.94 (RONOZYME® VP (CT/L)) as a zootechnical feed additive for chickens for fattening and weaned piglets. based on the no observed adverse effect level identified in a subchronic oral toxicity study in rats and the tolerance trials provided, the additive was considered safe for chickens for fattening and weaned piglets at the proposed conditions of use. The Panel also concluded that the use of the product as a feed additive does not rise concerns for consumers and the environment. Owing to the lack of data obtained with the final formulations, the Panel could not conclude on the potential of the additive to be irritant to skin and eyes or on its potential as a dermal sensitiser. Due to the proteinaceous nature of the active substance, the additive is considered a respiratory sensitiser. The Panel concluded that the additive is efficacious as a zootechnical additive in chickens for fattening and weaned piglets at the minimum recommended level of 10 FBG/kg feed.

来源：食品伙伴网

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➤ 学术文献

1 . Probiotic, Paraprobiotic, and Hydrolyzed Yeast Mixture Supplementation Has Comparable Effects to Zinc Oxide in Improving Growth Performance and Ameliorating Post-weaning Diarrhea in Weaned Piglets (添加益生菌、副益生菌和水解酵母混合物在提高断奶仔猪生长性能和改善断奶后腹泻方面具有与氧化锌相当的效果)

简介：A total of 150 21-day-old weaned piglets [(Yorkshire × Landrace) × Duroc] were randomly assigned to 3 groups (CON, TRT1, TRT2) to evaluate the effects of dietary supplementation of probiotic, paraprobiotic, and hydrolyzed yeast mixture (PPY) on growth performance, nutrient digestibility, fecal bacterial counts, fecal calprotectin contents, and diarrhea rate in a 42-day experiment (phase 1: days 1-14; phase 2: days 15-42). There were 10 replicate pens per treatment with 5 pigs per pen (three gilts and two barrows). Pigs in CON were only provided with a basal diet. Pigs in TRT1 were provided with a basal diet + 3000 mg/kg zinc oxide during phase 1 and a basal diet during phase 2. Pigs in TRT2 were provided with a basal diet + 200 mg/kg probiotic (*Saccharomyces cerevisiae* boulardii) + 800 mg/kg paraprobiotic (inactivated yeast strains of *Saccharomyces cerevisiae* and *Cyberlindnera jadinii*) + 10 g/kg hydrolyzed yeast mixture during phase 1, and a basal

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diet + 100 mg/kg probiotic + 400 mg/kg paraprotibiotic mixture during phase 2. Pigs in TRT1 and TRT2 were significantly heavier at day 14 and 42 than CON pigs. Growth rate during days 1-14, 15-42, and 1-42 and feed efficiency during days 1-14 were similarly affected by treatment while feed efficiency was significantly higher for TRT2 pigs between 15-42 and 1-42 days. Moreover, nitrogen and energy digestibility in both TRT1 and TRT2 were higher than that in CON. During experimental periods, diarrhea rate in TRT1 and TRT2 was lower than that in CON. Therefore, we demonstrated that PPY supplementation had comparable effects as ZnO in improving growth performance and nutrient digestibility as well as ameliorating post-weaning diarrhea in weaned piglets.

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<http://agri.ckcest.cn/file1/M00/03/49/Csgk0YgbZOWAIK71AA5HEQsEKXk786.pdf>

2 . Multiple amino acid supplementations to reduce dietary protein for pigs during early and late finisher periods under commercial conditions (多种氨基酸补充, 以减少在商业条件下早期和后期的猪的饮食蛋白质)

简介: BACKGROUND: With the easy availability and competitive prices of crystalline amino acids (AA), a further reduction of dietary crude protein (CP) would be possible. Two experiments were conducted to assess the growth efficiency of early and late finishing pigs fed with protein-restricted diets supplemented with Lys, Met, Thr, Trp, Val, Ile and His under practical conditions. In Exp. 1, a total of 840 early finishing pigs were allocated to 4 dietary treatments with CP levels designed at 150, 142, 134, and 126 g kg⁻¹ diet. In Exp. 2, a total of 768 late finishing pigs were allotted to 4 dietary treatments providing CP levels at 140, 130, 120, and 110 g kg⁻¹ diet. RESULTS: In Exp. 1, data showed that CP levels could be decreased from 150 to 126 g kg⁻¹ without adversely affecting performance of early finishing pigs as no significant difference was observed for final bodyweight, average daily gain (ADG), feed to gain ratio (F:G), or average daily feed intake (ADFI). In Exp. 2, late finishing pigs consuming 120 g kg⁻¹ CP tended to have the highest ADG and lowest F:G while those fed the 110 g kg⁻¹ CP diet showed the opposite trend. Based on quadratic analysis, the optimum CP levels to maximize ADG and minimize F:G were 126 and 127 g kg⁻¹, respectively. CONCLUSION: These findings showed that dietary CP levels can be decreased to 126 g kg⁻¹ for early finishing pigs while improved performance was noted in late finishing pigs consuming 120 g kg⁻¹ CP. This article is protected by copyright. All rights reserved.

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3. 发酵豆粕对断奶仔猪生长性能、消化酶及肠道菌群结构的影响

简介: 【目的】本试验旨在探讨发酵豆粕 (FSBM) 对断奶仔猪生长性能、消化酶活性及

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肠道菌群结构的影响。【方法】试验选取48头21日龄断奶仔猪（杜×长×大, 6.88 kg±0.13 kg），随机分为对照组和试验组, 每组4个重复, 每个重复6头猪。对照组饲料为基础饲料, 试验饲料用6%FSBM等量替代基础饲料中的豆粕。试验期为20 d。试验期间记录采食量和体重。试验第21天, 每个重复选取2头猪屠宰, 收集回肠食糜测定消化酶活性和肠道菌群结构, 并对两者进行相关性分析。【结果】（1）饲喂FSBM可显著提高断奶仔猪的终末体重和平均日增重（average daily gain, ADG）, 并显著降低了料重比（feed/gain, F/G）（ $P<0.05$ ）；（2）FSBM组断奶仔猪回肠中的胰蛋白酶和淀粉酶活性显著提高（ $P<0.05$ ）；（3）饲喂FSBM显著提高了断奶仔猪回肠食糜中拟杆菌门、普雷沃氏菌科NK3B31类群、厌氧弧菌属、瘤胃菌科UCG-005、普氏菌属2、巨型球菌属、副杆菌属、Solobacterium及毛螺菌科UCG-004的相对丰度, 显著降低了链球菌属的相对丰度（ $P<0.05$ ）；（4）相关性分析显示, 胰蛋白酶活性与颤螺菌属、瘤胃菌科UCG-005的相对丰度呈显著正相关（ $P<0.05$ ）, 而与Subdoligranulum、萨特氏菌属的相对丰度呈显著负相关（ $P<0.05$ ）；淀粉酶活性与普雷沃氏菌科UCG003、柔嫩梭菌属的相对丰度呈显著正相关（ $P<0.05$ ）, 而与琥珀酸弧菌属、罗姆布茨菌属的相对丰度呈显著负相关（ $P<0.05$ ）；脂肪酶活性与柠檬酸杆菌属的相对丰度呈显著负相关（ $P<0.05$ ）。【结论】饲喂FSBM可改变断奶仔猪回肠菌群结构, 增加断奶仔猪回肠胰蛋白酶和淀粉酶活性, 并提高其生长性能。

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