



2019年第1期总168期

动物营养专题

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▶ 前沿资讯

1 9 for '19: Digital technology for the pig industry (可能影响19年的9种养猪业的数字技术)

简介: How will hog production be affected by the rise in digital technologies for agriculture, and what products are already available to be tried and tested? **Words:** Aidan Connolly, President, Agritech Capital
From a technology standpoint, agriculture actually hasn't changed that much since the industrial revolution. Some might say raising pigs hasn't changed much since the first were domesticated 6,000 years ago. And yet it is clear that other industries are being disrupted at a faster and faster rate, supported by billions of dollars from venture capital investors while a new ecosystem of incubators, accelerators and shared workspaces to support startups is kickstarting a faster and faster cycle of innovation.

来源: the pig site

发布日期: 2018-12-27

全文链接:

<http://www.thepigsite.com/articles/5483/9-for-19-digital-technology-for-the-pig-industry/>

2. 黑龙江: 创新“猪菜同生”养殖业 养殖场重点区将安装监控

简介: 黑龙江创新“猪菜同生”养殖业冬日里, 冰封河流, 白雪漫山。黑龙江亚雪公路7.3公里处的亚布力重点国有林管理局“猪菜同生”产业示范园内, 7栋光照充足的高大棚舍一字排开。每间棚舍, 都由一条甬道划分出左右两个功能区: 一侧种菜, 一侧养猪。走进一座饲养着200头待出栏猪的棚舍, 淡淡的、类似酒糟的香气伴着如春的温暖, 迎面扑来。棚内, 闻不到臭味儿也看不见粪便, 一派生机盎然: 左手边, 黝黑的菜地里苦菊、麦苗、小油菜鲜嫩欲滴长势喜人; 右手边, 一头头干净漂亮、正待出栏的肥猪横冲直撞地撒欢儿。正在喂猪的饲养员说, 温暖和香气, 来自猪圈里那巨大的益生菌发酵床。

来源: 中研网

发布日期: 2018-12-10

全文链接:

<http://www.chinairn.com/hyzz/20181210/173941551.shtml>

▶ 学术文献

1. 仔猪肠道微生物代谢产物及益生菌的调控作用

简介: **摘要:** 近年来, 肠道微生物组成及其代谢产物与宿主生理之间的互作关系成为当前动物营养研究的热点。研究表明, 肠道微生物的代谢产物是影响宿主生理的关键执行者, 肠道微生物具有调节宿主代谢、免疫、生长发育等作用。本文系统地综述了仔猪肠道微生物组成、代谢产物种类和功能, 以及益生菌对仔猪肠道微生物的影响, 以为仔猪营养调控和肠道微生物的研究提供科学依据。

来源: 动物营养学报

发布日期: 2019-01-03

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全文链接:

<http://agri.ckcest.cn/file1/M00/06/5B/Csgk0Fwuv2mAbAm7AAhFZOZbVpQ550.pdf>

2 . Supplemental effect of xylanase and mannanase on nutrient digestibility and gut health of nursery pigs studied using both in vivo and in vitro models?

**(木聚糖酶和甘露聚糖酶对营养成分的补充作用?
用两种方法研究育苗猪的消化率和肠道健康状况?
体内和体外模型?)**

简介: Non-starch polysaccharides (NSP; arabinoxylan, mannans) are present in high concentration in distiller's dried grain with solubles (DDGS). These NSP are not degraded by endogenous digestive enzymes of pigs. The purpose of this study was to determine if supplemental enzymes could increase the apparent ileal digestibility (AID) of nutrients in nursery pigs fed corn DDGS, alter short chain fatty acid (SCFA) production, and affect gut health. Two independent studies were carried out using an in vitro porcine model and in vivo model. For the in vitro study, enzymatically digested residue of DDGS was used in a 2×2 factorial arrangement of treatments: supplemental xylanase (0 or 1500 endo-pentosanase unit of xylanase/kg of the diet) and supplemental mannanase (0 or 400 unit of mannanase/kg of diet). For the in vivo study, corn-soybean meal based diets with 15% corn DDGS were formulated using thirty-two newly weaned pigs in a randomized complete block design for 4 treatments in the similar fashion as in vitro study. Plasma and mucosa were collected for tumor necrosis factor- α (TNF- α) and malondialdehyde (MDA) measurements. Digesta samples from jejunum and ileum were collected to measure viscosity, pH, and AID of nutrients including NSP components. Supplemental xylanase increased ($P < 0.05$) concentration of SCFA, acetate, and propionate, and AID of total NSP, arabinoxylan, and GE. Supplemental xylanase also increased ($P < 0.05$) villus height in the duodenum, proliferation rate in the crypt of jejunum, and the concentrations of claudin, occludin, and ZO-1 in jejunum, whereas reduced ($P < 0.05$) the viscosity of jejunal digesta. Supplemental Mannanase increased ($P < 0.05$) production of butyrate and AID of mannan and occludin concentration, whereas tended to decrease ($P=0.057$) MDA level in the jejunum. An interaction effect ($P < 0.05$) was found between xylanase and mannanase for digestibility coefficient of arabinoxylan and ZO-1 concentration. In conclusion, the use of supplemental xylanase and mannanase were able to improve digestibility of targeted NSP and improve gut health. Hence, these enzymes can be used separately or together depending upon the type of ingredients used in the feed and amount of substrate (xylan or mannan) available for enzymes to degrade in diets for nursery pigs to enhance utilization of different fibrous coproducts and improve gut health.

来源: Animal Feed Science and Technology

发布日期: 2018-11-01

全文链接:

<http://agri.ckcest.cn/file1/M00/06/5B/Csgk0Fwuv1uAEWs5ABFbyM1PaHo991.pdf>

➤ 相关专利

1. 一种低功耗畜禽舍无线监测网络数据融合方法

简介：本发明公开了一种低功耗畜禽舍无线监测网络数据融合方法，属于物联网领域。对畜禽舍环境监测是现代化养殖业中必不可少的一部分，无线传感器网络是普遍使用于环境监测的一种网络，该网络一般由电池供电，能量消耗是设计时需要考虑的首要因素。目前，大部分监测网络一般采用ZigBee或者WIFI进行组网，并将监测的数据上传到服务器，会产生大量的数据传输，从而消耗大量的能量，同时产生一定的费用。本发明通过采用低功耗的LoRa技术进行组网，可以有效降低能量消耗，同时各个传感器节点对采集的原始数据进行数据融合处理，并通过短消息的方法通知管理节点无数据更新的情况，有效的降低了传感器网络在数据传输过程中的能量消耗，延长了网络的生存周期。

来源：中国知网

发布日期：2018-11-02

全文链接：

[http://dbpub.cnki.net/grid2008/dbpub/detail.aspx?dbcode=SCPD&dbname=SCPD2018&filename=CN108737982A&uid=WEEvREdxOWJmbC9oM1NjYkZCbDdrdXdUV1NmQ2xGSnBhQ1JHRWxQcitXZGE=\\$R1yZ0H6jyaa0en3RxVUd8df-oHi7XMMDo7mtKT6mSmEvTuk1112gFA!!](http://dbpub.cnki.net/grid2008/dbpub/detail.aspx?dbcode=SCPD&dbname=SCPD2018&filename=CN108737982A&uid=WEEvREdxOWJmbC9oM1NjYkZCbDdrdXdUV1NmQ2xGSnBhQ1JHRWxQcitXZGE=$R1yZ0H6jyaa0en3RxVUd8df-oHi7XMMDo7mtKT6mSmEvTuk1112gFA!!)