2022年第19期总342期

动物营养专题

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前沿资讯

1．提升饲料能量和蛋白利用率应对饲料原料供应危机

简介：近年来，国际市场玉米、大豆价格上涨迅速且不稳定，给国内养殖业的发展带来了阻碍，多元配方、替代日粮、降低风险成为行业共识。2021年3月农业农村部畜牧兽医局更是发布《饲料中玉米豆粕减量替代工作方案》，提出大力推进玉米、豆粕减量替代，积极开辟新饲料资源，引导畜禽养殖少用“精料”，通过“提效、开源、调结构”等方式，减少对进口饲料粮的依赖。据中国饲料工业协会统计，2021年全国饲料企业豆粕用量比上年增长5.7%，但远小于工业饲料产量16.1%的增幅。2021年全国养殖业饲料消耗量约为4.5亿吨，豆粕用量在饲料中的占比为15.3%，比2020年下降2.4个百分点，节约豆粕饲用量1080万吨，折合大豆1400万吨。与此相佐证，2021年我国肉类和牛奶产量创历史新高，但大豆进口量未增反降，比2020年减少381万吨。截至2022年第一季度，大豆累计进口量为2029.3万吨，较2021年同期统计的2116.2万吨减少86.6万吨，减幅达4.27%。

来源：国际畜牧网

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全文链接:

http://agri.ckcest.cn/file1/M00/10/01/CsgkOGJqN6GAIKZRABK3luPqhwU801.pdf

2．Canada invests in black soldier fly facility for animal feed（加拿大投资黑水虻养殖设施用于动物饲料）

简介：Canada's minister of agriculture Marie-Claude Bibeau announced yesterday up to $6 million to help Entosystem Inc. build a new fully-operational facility in Drummondville, Quebec that will increase production of sustainable, insect-based products to feed animals. Entosystem has developed an innovative process that minimizes each stage of the production lifecycle enabling faster conversion to a final product while maintaining the high nutrition and protein levels in the black soldier fly. The black soldier flies feed on organic waste, resulting in a high-quality, protein-rich product to feed animals. The project will play an important role in contributing to a more sustainable food system and build the company's reputation as a leader in the field of using insects as a reliable food source. By taking action with investments in production facilities such as Entosystem, the Government of Canada is helping players along the food supply chain to commercialize and adopt new ways to eliminate, reduce, or repurpose food waste. "The use of insects to speed up the process of composting food waste is a promising solution for the environment," said Bibeau. "By recovering products intended for landfill, Entosystem creates value-added products, generates a zero-waste circular economy and contributes to the achievement of our climate targets. The government of Canada's investment in the company's new facilities will allow it to increase its production of alternative proteins for animal feed and fertilisers, which are essential inputs for the agricultural industry." At its new facility, Entosystem expects to transform 250 tonnes of organic waste daily by 2024 (compared to its current rate of 6 tonnes/day) and create close to 70 new full-time positions. Ultimately, this investment will enable the company to reduce food waste, use of landfills and GHG emissions through the

diversion of organic waste. Every year, over half of Canada's food supply is wasted, and nearly $50 billion of that wasted food is avoidable. By encouraging more solutions to food waste in Canada, we can strengthen our food systems and support Canada's transition to a greener economy.

来源： The pig site 官网

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http://agri.ckcest.cn/file1/M00/03/2F/CsgkOYbA94qAcH3XAAcPttwa64Q532.pdf

学术文献

1．微生物发酵非常规饲料原料在畜禽生产中的应用进展

简介：我国非常规饲料原料资源丰富，但因其抗营养因子含量高、部分原料营养价值低等，限制了其在畜禽生产中的广泛应用。为解决我国豆粕和玉米对外依存度高的现状，农业农村部出台了畜禽饲料玉米豆粕替代方案，但如何提高非常规饲料原料的使用比例是亟待解决的行业问题。微生物发酵技术在降解非常规饲料原料中抗营养因子、提升其营养价值方面发挥重要作用。因此，微生物发酵非常规饲料原料在畜禽生产应用中前景广阔。文章在简要介绍微生物发酵特点的基础上，重点综述了微生物发酵处理对非常规饲料原料营养价值的影响及其在畜禽上的应用进展，以期为非常规植物饲料资源的开发和合理应用提供参考。

来源： 中国知网

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全文链接:

http://agri.ckcest.cn/file1/M00/10/01/CsgkOGJqRAmAVQKyABqPJijK3y8327.pdf

2．中国非洲猪瘟疫情防控政策及优化策略分析

简介：[目的]非洲猪瘟疫情致使生猪生产严重下滑和市场剧烈波动，国家应对疫情出台系列防控政策，猪瘟疫情得到有效控制，但是目前鲜有文章介绍非洲猪瘟控制的政策措施，文章研究非洲猪瘟疫情防控政策及分析优化策略，对于确保生猪产业平稳有序发展、更好防控动物疫情具有重要现实意义。[方法]系统梳理非洲猪瘟疫情防控政策及演变历程，发掘政策实施面临的突出问题，研提政策调整优化思路。[结果]非洲猪瘟疫情历经初发期、蔓延期、高发期和稳定期，不同时期政策目标分别为加强生猪移动监管、加大疫情防控力度、完善疫情防控政策和加快生猪产能恢复。非洲猪瘟疫情防控面临申报检疫环节养殖主体配合度不高阻碍防疫政策有效开展，调运环节多部门参与、跨区域调运使检疫监督存在漏洞，防疫环节基层防疫队伍不健全，复产增养环节基层落实困难等突出问题。[结论]建议进一步合理优化政策内容，有效落实国家防控计划；强化全产业链疫情监测，健全生猪市场预警机制；完善基层防疫队伍，加强基层防疫体系建设；完善财政激励政策，夯实生猪供给安全保障基础。

来源： 中国知网

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http://agri.ckcest.cn/file1/M00/03/2F/CsgkOYbA6c6AJXqhAAz3RQ4Ndfo987.pdf

3．Modeling suggests gene editing combined with vaccination could eliminate a persistent disease in livestock（模型显示，基因编辑与疫苗接种相结合可以消除家畜中的持久性疾病）

简介：Recent breakthroughs in gene-editing technologies that can render individual animals fully resistant to infections may offer unprecedented opportunities for controlling future epidemics in farm animals. Yet, their potential for reducing disease spread is poorly understood as the necessary theoretical framework for estimating epidemiological effects arising from gene-editing applications is currently lacking. Here, we develop semistochastic modeling approaches to investigate how the adoption of gene editing may affect infectious disease prevalence in farmed animal populations and the prospects and time scale for disease elimination. We apply our models to the porcine reproductive and respiratory syndrome (PRRS), one of the most persistent global livestock diseases to date. Whereas extensive control efforts have shown limited success, recent production of gene-edited pigs that are fully resistant to the PRRS virus have raised expectations for eliminating this deadly disease. Our models predict that disease elimination on a national scale would be difficult to achieve if gene editing was used as the only disease control. However, from a purely epidemiological perspective, disease elimination may be achievable within 3 to 6 y, if gene editing were complemented with widespread and sufficiently effective vaccination. Besides strategic distribution of genetically resistant animals, several other key determinants underpinning the epidemiological impact of gene editing were identified.

来源：中国知网

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全文链接:

http://agri.ckcest.cn/file1/M00/10/01/CsgkOGJqS12AHQVEABW-FXrdl1g147.pdf