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前沿资讯

1．Insecticides (India) Limited has introduced KayaKalp into Odisha state, India（Insecticides公司在印度推出催化剂KayaKalp 改良贫瘠土壤）

简介：近日，Insecticides有限公司（印度）为提高土壤有机质含量，改善土壤营养价值，在印度奥里萨邦推出一款有机添加剂KayaKalp。经过印度联邦农业和农民福利部门（Union Ministry of Agriculture and Farmers Welfare）下属的国家有机农业中心（National Centre of Organic Farming）的检验，KayaKalp被推荐用作改善土壤剂，帮助农民增产。

来源：世界农化网

发布日期:2017-12-27

全文链接:

http://news.agropages.com/News/NewsDetail---24923.htm

2．孟山都公司发布2017年可持续发展报告 践行可持续发展进程显著

简介：017年12月21日， 孟山都公司发布《2017年可持续发展报告》。报告名为Growing Better Together，体现了公司致力于可持续发展采取的行动，列举了公司完成包括提升灌溉用水效率在内的多项可持续发展目标的最新进展。在提升灌溉用水效率方面，孟山都计划2020年前将全球种子生产灌溉用水效率提高25%，每年可节约用水多达3亿吨（800亿加仑），该目标现已达成过半。而这仅仅是孟山都公司2017财年（2016年9月1日至2017年8月31日）践行其环境和社会承诺所取得的诸多进展之一。孟山都公司全球可持续发展、利益相关者沟通事务副总裁Pam Strifler表示：“农业领域的挑战日益严峻。到2050年，人类需在现有耕地上实现粮食产量翻番才能养育全球新增的25亿人口。可持续发展理念与孟山都公司的价值观已深度融合，孟山都致力于推进现代农业的发展，应用数字工具等各项创新技术，帮助农民消耗更少的资源转化生产粮食、燃料和纤维，实现农业的可持续生产。”

来源：孟山都

发布日期:2017-12-21

全文链接:

http://agri.ckcest.cn/ass/f0d55732-7d19-467b-8e93-a0b1d2238d70.pdf

政策法规

1．农业转基因生物标识管理办法

简介：《农业转基因生物标识管理办法》于2002年1月5日农业部令第10号公布，2004年7月1日农业部令第38号、2017年11月30日农业部令2017年第8号修订。

来源：农业部农业转基因生物安全管理办公室

发布日期:2017-11-30

全文链接:

http://agri.ckcest.cn/ass/96ce7579-af99-408c-8529-b9a130f521a6.pdf

学术文献

1．Stage-specific gene profiling of germinal cells helps delineate the mitosis/meiosis transition（生殖细胞特定阶段的基因分析有助于描述有丝分裂到减数分裂的转化机制）

简介： In flowering plants, germ lines are induced from somatic meristems within reproductive organs. Within anthers, germinal cell initials first undergo several rounds of mitotic proliferation before synchronously entering meiosis. Our understanding of the progression and the molecular basis of this mitosis to meiosis transition is still limited. Taking advantage of the correlation between anther length and pre-meiotic germinal cell development in maize, we studied the transcriptome dynamics of germinal cells at three sequential stages, i.e. mitotic archesporial cells (AR), enlarging pollen mother cells at the pre-meiosis interphase (ePMC) and pollen mother cells at the early prophase of meiosis (PMC), using laser microdissection-based expression profiling. Our analysis showed that cells undergoing the mitosis-meiosis switch exhibit robust transcriptional changes. The three stages are distinguished by the expression of genes encoding transcription factor subsets, meiotic chromosome recombination proteins and distinct E3 ubiquitin ligases, respectively. The transcription level of genes encoding protein turnover machinery was significantly higher in these three stages of germinal cells than in mature pollen, parenchyma cells or seedlings. Our experimental results further indicate that many meiotic genes are not only transcribed, but also translated prior to meiosis. We suggest that the ePMC stage represents a crucial turning point from mitosis to meiosis for developing germinal cells.

来源： Plant Physiology期刊

全文链接:

http://agri.ckcest.cn/ass/0cdad4da-cb6d-4f86-887e-57a97d6f7d4f.pdf

2．The genetic architecture of amylose biosynthesis in maize kernel（玉米直链淀粉生物合成的遗传结构）

简介： Starch is the most abundant storage carbohydrate in maize kernel. The content of amylose and amylopectin confers unique properties in food processing and industrial application. Thus, the resurgent interest has been switched to the study of individual amylose or amylopectin rather than total starch, whereas the enzymatic machinery for amylose synthesis remains elusive. We took advantage of the phenotype of amylose content and the genotype of 9,007,194 single nucleotide polymorphisms from 464 inbred maize lines. The genome-wide association study identified 27 associated loci involving 39 candidate genes that were linked to amylose content including transcription factors, glycosyltransferases, glycosidases, as well as hydrolases. Except the waxy gene that encodes the granule-bound starch synthase, the remaining candidate genes were located in the upstream pathway of amylose synthesis, while the downstream members were already

known from prior studies. The linked candidate genes could be transferred to manipulate amylose content and thus add value to maize kernel in the breeding programme.

来源：Plant Biotechnology Journal期刊
发布日期:2017-09-15
全文链接:
http://agri.ckcest.cn/ass/c1e049e1-71a3-4343-bc7b-7b37c903b96e.pdf