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前沿资讯

1．国家蔬菜质量标准化创新联盟成立大会隆重召开

简介：2019年7月11日，国家蔬菜质量标准化创新联盟（以下简称“联盟”）成立大会在山东寿光隆重召开，会议由寿光市委常委马焕军主持。农业农村部农产品质量安全监管司标准处处长董洪岩、农业农村部科技教育司体制改革处处长窦鹏辉出席会议并致辞。国家农业科技创新联盟办公室、山东省农业农村厅农产品质量安全监管处、潍坊市人民政府、潍坊市农业农村局、寿光市市场监督管理局、寿光市科技局分管等单位负责人参加会议。

来源：中国设施园艺信息网

发布日期:2019-07-12

全文链接:

http://www.sheshiyuanyi.com/news-id-1945.html

2．肥料创新成果标准国际化建设论坛在杭州召开—— 中外专家呼吁从健康视角重塑肥料产业

简介：7月8日，由全国肥料和土壤调理剂标准化技术委员会、《肥料与健康》编辑部和杭州标准化国际交流中心联合承办的2019肥料创新成果标准国际化建设论坛在杭州召开，来自国际标准化组织（ISO）、欧盟标准化委员会生物刺激素技术委员会、全国肥料与土壤调理剂标准化技术委员会、中国植物营养与肥料学会、中国农科院、中科院大连化学物理研究所、北京市农林科学院，以及成都云图控股、安徽司尔特等业界代表与会。专家呼吁，当前急待以健康为导向重新解析肥料产业的创新方向，并以此为立足点，推动中国肥料标准国际化进程，促进农业可持续发展。

来源：世界农化网

发布日期:2019-07-09

全文链接:

http://cn.agropages.com/News/NewsDetail---19033.htm

3．高温影响 意大利蔬菜销量骤增20%

简介：据欧联网援引欧联通讯社报道，和欧洲大多数国家一样，意大利近来遭受热浪侵袭。为应对酷暑天气，意大利民众争先购买瓜果蔬菜消暑，致使全国蔬菜水果销量骤增20%。

来源：中国蔬菜网

发布日期:2019-07-03

全文链接:

http://www.vegnet.com.cn/News/1303440.html

学术文献

1．Auxin response factor 6A regulates photosynthesis, sugar

accumulation, and fruit development in tomato(生长素响应因子基因SlARF6调控了番茄叶绿素合成，光合作用，糖类积累以及果实发育过程。)

简介： Auxin response factors (ARFs) are involved in auxin-mediated transcriptional regulation in plants. In this study, we performed functional characterization of SlARF6A in tomato. SlARF6A is located in the nucleus and exhibits transcriptional activator activity. Overexpression of SlARF6A increased chlorophyll contents in the fruits and leaves of tomato plants, whereas downregulation of SlARF6A decreased chlorophyll contents compared with those of wild-type (WT) plants. Analysis of chloroplasts using transmission electron microscopy indicated increased sizes of chloroplasts in SlARF6A-overexpressing plants and decreased numbers of chloroplasts in SlARF6A-downregulated plants. Overexpression of SlARF6A increased the photosynthesis rate and accumulation of starch and soluble sugars, whereas knockdown of SlARF6A resulted in opposite phenotypes in tomato leaves and fruits. RNA-sequence analysis showed that regulation of SlARF6A expression altered the expression of genes involved in chlorophyll metabolism, photosynthesis and sugar metabolism. SlARF6A directly bound to the promoters of SlGLK1, CAB, and RbcS genes and positively regulated the expression of these genes. Overexpression of SlARF6A also inhibited fruit ripening and ethylene production, whereas downregulation of SlARF6A increased fruit ripening and ethylene production. SlARF6A directly bound to the SAMS1 promoter and negatively regulated SAMS1 expression. Taken together, these results expand our understanding of ARFs with regard to photosynthesis, sugar accumulation and fruit development and provide a potential target for genetic engineering to improve fruit nutrition in horticulture crops.

来源： Horticulture Research

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全文链接:

http://agri.ckcest.cn/file1/M00/06/89/CsgkOF0sEbCAeSspACwaFU1unUQ495.pdf

2．Tissue-specific respiratory burst oxidase homologue -dependent H2O2 signaling to the plasma membrane H+-ATPase confers potassium uptake and salinity tolerance in Cucurbitaceae(南瓜和黄瓜耐盐性差异的分子机制)

简介： Potassium (K+) is a critical determinant of salinity tolerance, and H2O2 has been recognised as an important signaling molecule that mediates many physiological responses. However, the details on how H2O2 signaling regulates potassium uptake in the root under salt stress remain elusive. In this study, the salt sensitive cucumber and salt tolerant pumpkin which belong to the same family cucurbitaceae were used to answer the above question. We show that higher salt tolerance in pumpkin was related to its superior ability for K+ uptake and higher H2O2 accumulation in the root apex. Transcriptome analysis showed that salinity induced 5886 (3005 up and 2811 down) and 4679 (3965 up and 714 down) differentially expressed genes (DEGs) in cucumber and pumpkin, respectively. DEGs encoding NADPH oxidase (RBOHD), 14-3-3 protein (GRF12), plasma membrane H+- ATPase (AHA1) and

potassium transporter (HAK5) showed higher expression in pumpkin than cucumber under salinity stress. Treatment with a NADPH oxidase inhibitor diphenylene iodonium resulted in a lower RBOHD, GRF12, AHA1 and HAK5 expression, reduced plasma membrane H+-ATPase activity, and smaller K+ uptake, resulting in a loss of salinity tolerance trait in pumpkin. The opposite results were obtained when the plants were pre-treated with exogenous H2O2. Knocking out of RBOHD in pumpkin by CRISPR-Cas9 editing of coding sequences resulted in lower root apex H2O2 and K+ content and GRF12, AHA1 and HAK5 expression, ultimately resulting in a salt-sensitive phenotype. However, ectopic expression of pumpkin RBOHD in Arabidopsis led to the opposite effect. Taken together, this study shows that RBOHD- dependent H2O2 signaling in the root apex is important for the pumpkin salt tolerance and suggests a novel mechanism that confers this trait, namely RBOHD-mediated transcriptional and post-translational activation of plasma membrane H+-ATPase operating upstream of HAK5 K+ uptake transporters.

来源： Journal of Experimental Botany
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http://agri.ckcest.cn/file1/M00/00/01/CsgkOVOsExyATOHbACOIb-mj3l0481.pdf