

# Journal Articles

*Below are a few of the many peanut articles and research papers published between October, November and December 2018, which should be of interest to many members of the peanut industry -Enjoy!*

2018. **4 Rules to Consider for Late-season Peanut Defoliation.** Southeast Farm Press Exclusive Insight: N.PAG.

2018. **DNA Test Finds Trace Amounts of Peanuts in Foods.** American Laboratory 50: 8-8.

2018. **UGA Extension Releases Updated Water-Saving Peanut Irrigation Checkbook Method.** Plus Media Solutions.

2018. **World Agricultural Supply and Demand Estimates.** World Agricultural Supply & Demand Estimates: 1-40.

Abad, L.V., F.B. Aurigue, D.R.V. Montefalcon, P.H. Manguiat, F.F. Carandang, S.A. Maborang, et al. 2018. **Effect of radiation-modified kappa-carrageenan as plant growth promoter on peanut (*Arachis hypogaea* L.).** Radiation Physics & Chemistry 153: 239-244. doi:10.1016/j.radphyschem.2018.10.005.

Abuagela, M.O., B.M. Iqdam, H. Mostafa, L. Gu, M.E. Smith and P.J. Sarnoski. 2018. **Assessing pulsed light treatment on the reduction of aflatoxins in peanuts with and without skin.** International Journal of Food Science & Technology 53: 2567-2575. doi:10.1111/ijfs.13851.

Abudulai, M., J. Naab, S.S. Seini, I. Dzomeku, K. Boote, R. Brandenburg, et al. 2018. **Peanut (*Arachis hypogaea*) response to weed and disease management in northern Ghana.** International Journal of Pest Management 64: 204. doi:10.1080/09670874.2017.1371806.

Adeboye, A.S., O.E. Fayemi, A. Bamgbose, A. Adewunmi and S.S. Sobowale. 2018. **Towards the development of peanut-wheat flour**

**composite dough: influence of reduced-fat peanut flour on bread quality.** Journal of Food Processing and Preservation 42: e13385-e13385.

Agarwal, G., J. Clevenger, M.K. Pandey, H. Wang, Y. Shasidhar, Y. Chu, et al. 2018. **High-density genetic map using whole-genome resequencing for fine mapping and candidate gene discovery for disease resistance in peanut.** Plant Biotechnology Journal 16: 1954-1967. doi:10.1111/pbi.12930.

Akram, N.A., F. Shafiq and M. Ashraf. 2018. **Peanut (*Arachis hypogaea* L.): A Prospective Legume Crop to Offer Multiple Health Benefits Under Changing Climate.** Comprehensive Reviews in Food Science & Food Safety 17: 1325-1338. doi:10.1111/1541-4337.12383.

Amir, I., B.L. Gonçalves, D.V.d. Neeff, B. Ponzilacqua, C.F.S.C. Coppa, H. Hintzsche, et al. 2018. **Aflatoxin in foodstuffs: occurrence and recent advances in decontamination.** Food Research International 113: 74-85.

Aravintharaj, R., R. Asokan, B.S. Pavithra and M.K. Reddy. 2018. **First Report of Groundnut Bud Necrosis Virus in *Pergularia daemia* (Asclepiadaceae) in India.** Plant Disease 102: 2671-2671. doi:10.1094/PDIS-02-18-0358-PDN.

Banla, E.M., D.K. Dzidzienyo, I.E. Beatrice, S.K. Offei, P. Tongoona and H. Desmae. 2018. **Groundnut production constraints and farmers' trait preferences: a pre-breeding study in Togo.** Journal of Ethnobiology and Ethnomedicine.

Bansode, R.R., N.J. Plundrich, P.D. Randolph, M.A. Lila and L.L. Williams. 2018. **Peanut flour aggregation with polyphenolic extracts derived from peanut skin inhibits IgE binding capacity and attenuates RBL-2H3 cells degranulation via MAPK signaling pathway.** Food Chemistry 263: 307-314. doi:10.1016/j.foodchem.2018.05.007.

Bera, S.K., J.H. Kamdar, S.V. Kasundra, P. Dash, A.K. Maurya,

M.D. Jasani, et al. 2018. **Improving oil quality by altering levels of fatty acids through marker-assisted selection of ahfad2 alleles in peanut (*Arachis hypogaea* L.)**. Euphytica 214 (9): 162 doi: 10:1007.s10681-018-2241-0.

Bera, S.K., S.S. Manohar, M.T. Variath, S. Chaudhari, S. Yaduru, R. Thankappan, et al. 2018. **Assessing variability for disease resistance and nutritional quality traits in an interspecific collection of groundnut (*Arachis hypogaea*)**. Plant Breeding 137: 883-894. doi:10.1111/pbr.12647.

Bhagwat, N., G.P. Mishra, T. Radhakrishnan, S.M. Dodia, A. Suhail, K. Abhay, et al. 2018. **High oleic peanut breeding: achievements, perspectives, and prospects**. Trends in Food Science & Technology 78: 107-119.

Boote, K.J., V. Prasad, L.H. Allen, P. Singh and J.W. Jones. 2018. **Modeling sensitivity of grain yield to elevated temperature in the DSSAT crop models for peanut, soybean, dry bean, chickpea, sorghum, and millet**. European Journal of Agronomy 100: 99-109. doi:10.1016/j.eja.2017.09.002.

Calhoun, S., L. Post, B. Warren, S. Thompson and A.R. Bontempo. 2018. **Prevalence and Concentration of Salmonella on Raw, Shelled Peanuts in the United States**. Journal of Food Protection 81: 1755.

Chen, T., J. Zhang, Y. Chen, S. Wan and L. Zhang. 2019. **Detection of peanut leaf spots disease using canopy hyperspectral reflectance**. Computers & Electronics in Agriculture 156: 677-683. doi:10.1016/j.compag.2018.12.036.

Cheng, L., L. Dan, L. Lili, H. Shaoxin, X. Zhigang and T. Canming. 2018. **Effects of Light-Emitting Diodes on the Growth of Peanut Plants**. Agronomy Journal 110: 2369-2377. doi:10.2134/agronj2017.11.0674.

Christman, L.M., L.L. Dean, C. Bueno Almeida and J.R. Weissburg. 2018. **Acceptability of Peanut Skins as a Natural**

**Antioxidant in Flavored Coated Peanuts.** Journal of Food Science 83: 2571-2577. doi:10.1111/1750-3841.14323.

Dauda, A.O., O.A. Abiodun, A.K. Arise and S.A. Oyeyinka. 2018. **Nutritional and consumers acceptance of biscuit made from wheat flour fortified with partially defatted groundnut paste.** LWT – Food Science and Technology 90: 265-269.

Daudi, H., H. Shimelis, M. Laing, P. Okori and O. Mponda. 2018. **Groundnut production constraints, farming systems, and farmer-preferred traits in Tanzania.** Journal of Crop Improvement 32: 812-828. doi:10.1080/15427528.2018.1531801.

Dieme, R.M.A., I. Faye, Y.A.B. Zoclanclounon, D. Fonceka, O. Ndoye and P.M. Diedhiou. 2018. **Identification of Sources of Resistance for Peanut *Aspergillus flavus* Colonization and Aflatoxin Contamination.** International Journal of Agronomy: 1.

Diksha, S., A.N. Mathur and M.K. Shirshat. 2018. **Use of de-oiled groundnut cake flour as an alternate source of nutrition.** International Journal of Agricultural Engineering 11: 150-152.

Dong, Z., Y. Li, X. Xiao, Y. Chen and X. Shen. 2018. **Silicon effect on growth, nutrient uptake, and yield of peanut (*Arachis hypogaea* L.) under aluminum stress.** Journal of Plant Nutrition 41: 2001-2008. doi:10.1080/01904167.2018.1485163.

Elsorady, M.E.I. and S.E. Ali. 2018. **Antioxidant activity of roasted and unroasted peanut skin extracts.** International Food Research Journal 25: 43-50.

Elysée, S.Y., C. Aminata and P. Donnen. 2018. **Can blended flour recipes made of locally available and cheap ingredients be used for adequate complementary feeding of infants in rural settings in Burkina Faso?** African Journal of Food, Agriculture, Nutrition and Development 18: 13171-13185.

Ferezin, E., R.P. da Silva, A.F. dos Santos and C. Zerbato.

2018. **Development of an electrohydraulic drive system for the vibrating conveyor belt of the peanut digger-inverter.** PLoS ONE 13: 1.

Figueredo, M.S., F. Ibanez, J. Rodriguez and A. Fabra. 2018. **Simultaneous inoculation with beneficial and pathogenic microorganisms modifies peanut plant responses triggered by each microorganism.** p. 353-361. Plant and Soil 433 (1/2): 353-361. doi: 10.1007/s11104-018-3846-8.

Freisling, H., H. Noh, N. Slimani, V. Chajès, A.M. May, P.H. Peeters, et al. 2018. **Nut intake and 5-year changes in body weight and obesity risk in adults: results from the EPIC-PANACEA study.** European Journal of Nutrition 57: 2399-2408. doi:10.1007/s00394-017-1513-0.

Garcia, D., N.S. Girardi, M.A. Passone, A. Nesci and M. Etcheverry. 2018. **Effect of micro-encapsulated antioxidant formulations on mycobiota, residual levels, sensory analyses and insect pest attack in stored peanuts.** International Journal of Food Microbiology 285: 158-164. doi:10.1016/j.ijfoodmicro.2018.08.022.

Guo, Y., H. Hu, Q. Wang and H. Liu. 2018. **A novel process for peanut tofu gel: Its texture, microstructure and protein behavioral changes affected by processing conditions.** LWT – Food Science & Technology 96: 140-146. doi:10.1016/j.lwt.2018.05.020.

Haire, B. 2018. **Georgia's peanut specialist takes a bet on crop.** Southeast Farm Press 45: 4-16.

Hart, J. 2018. **Does Thimet have a place in North Carolina peanut production?** Southeast Farm Press 45: 10-10.

Hart, J. 2018. **North Carolina's new peanut breeder settling into job.** Southeast Farm Press 45: 11-11.

Hong-Wei, W., T. Meng-Jun, S. Chun-Lun, Z. Wei, X. Ri-Sheng,

G. Yong-Xiang, et al. 2018. **The Alleopathic Compound Luteolin from Peanut Litter Affects Peanut Nodule Formation and the Rhizosphere Microbial Community.** *Agronomy Journal* 110: 2587-2595. doi:10.2134/agronj2018.03.0149.

Hou, Y.-Y., O. Ojo, L.-L. Wang, Q. Wang, Q. Jiang, X.-Y. Shao, et al. 2018. **A Randomized Controlled Trial to Compare the Effect of Peanuts and Almonds on the Cardio-Metabolic and Inflammatory Parameters in Patients with Type 2 Diabetes Mellitus.** *Nutrients* 10: 1565. doi:10.3390/nu10111565.

Jain, N.K., H.N. Meena, D. Bhaduri and R.S. Yadav. 2018. **Drip fertigation and irrigation interval effects on growth, productivity, nutrient, and water economy in summer peanut.** *Communications in Soil Science & Plant Analysis* 49: 2406-2417. doi:10.1080/00103624.2018.1510951.

Jaramillo, D.M., J.C.B. Dubeux Jr, C. Mackowiak, L.E. Sollenberger, E.R.S. Santos, L. Garcia, et al. 2018. **Annual and Perennial Peanut Species as Alternatives to Nitrogen Fertilizer in Bermudagrass Hay Production Systems.** *Agronomy Journal* 110: 2390-2399. doi:10.2134/agronj2018.01.0036.

Jenne, M., M. Kambham, N.V.K.V.P. Tollamadugu, H.P. Karanam, M.K. Tirupati, R.R. Balam, et al. 2018. **The use of slow releasing nanoparticle encapsulated Azadirachtin formulations for the management of *Caryedon serratus* O. (groundnut bruchid).** *IET Nanobiotechnology* 12: 963-967. doi:10.1049/iet-nbt.2017.0276.

Ji, H., S. Dong, F. Han, Y. Li, G. Chen, L. Li, et al. 2018. **Effects of dielectric barrier discharge (DBD) cold plasma treatment on physicochemical and functional properties of peanut protein.** *Food and Bioprocess Technology* 11: 344-354.

John, K., P.R. Reddy, T.C.M. Naidu and N.V. Naidu. 2018. **Identification of Heterotic Crosses for yield and Water Use Efficiency Traits in Relation to Moisture Stress Tolerance in Groundnut (*Arachis hypogaea* L.).** *International Journal of Bio-*

- Resource & Stress Management 9: 475-483.  
doi:10.23910/IJBSM/2018.9.4.3C0406.
- Kuhumba, G.D., A.H. Simonne and J.K. Mugula. 2018. **Evaluation of aflatoxins in peanut-enriched complementary flours from selected urban markets in Tanzania.** Food Control 89: 196-202.
- Larsson, S.C., N. Drca, M. Björck, M. Bäck and A. Wolk. 2018. **Nut consumption and incidence of seven cardiovascular diseases.** Heart 104: 1615.
- Launio, C.C., J.S. Luis and Y.B. Angeles. 2018. **Factors influencing adoption of selected peanut protection and production technologies in Northern Luzon, Philippines.** Technology in Society 55: 56-62.  
doi:10.1016/j.techsoc.2018.05.007.
- Li, J., Y. Tang, A.L. Jacobson, P.M. Dang, X. Li, M.L. Wang, et al. 2018. **Population structure and association mapping to detect QTL controlling tomato spotted wilt virus resistance in cultivated peanuts.** p. 516-526. Crop Journal 6 (5): 516-526.  
doi: 10.1016/j.cj.2018.004.001.
- Li, Y., R. Zhang, X. Qin, Y. Liao and K.H.M. Siddique. 2018. **Changes in the protein and fat contents of peanut (*Arachis hypogaea* L.) cultivars released in China in the last 60 years.** Plant Breeding 137: 746-756. doi:10.1111/pbr.12621.
- Liu, K., Y. Liu and F. Chen. 2018. **Effect of gamma irradiation on the physicochemical properties and nutrient contents of peanut.** LWT – Food Science & Technology 96: 535-542.  
doi:10.1016/j.lwt.2018.06.009.
- Liu, Z., F. Gao, Y. Liu, J. Yang, X. Zhen, X. Li, et al. 2018. **Timing and splitting of nitrogen fertilizer supply to increase crop yield and efficiency of nitrogen utilization in a wheat-peanut relay intercropping system in China.** The Crop Journal. doi:10.1016/j.cj.2018.08.006.

Makau, J.N., K. Watanabe, M.M.D. Mohammed and N. Nishida. 2018. **Antiviral activity of peanut (*Arachis hypogaea* L.) skin extract against human influenza viruses.** Journal of Medicinal Food 21: 777-784.

Mondal, S. and A.M. Badigannavar. 2018. **Mapping of a dominant rust resistance gene revealed two R genes around the major Rust\_QTL in cultivated peanut (*Arachis hypogaea* L.).** p. 1671-1681. Theoretical and Applied Genetics 131 (8): 1671-1681. doi: 10.1007/s00122-018-3106-6.

Nieuwenhuis, L. and P.A.v.d. Brandt. 2018. **Total nut, tree nut, peanut, and peanut butter consumption and the risk of pancreatic cancer in the Netherlands Cohort Study.** Cancer Epidemiology, Biomarkers & Prevention 27: 274-284.

Njoroge, S.M.C. 2018. **A Critical Review of Aflatoxin Contamination of Peanuts in Malawi and Zambia: The Past, Present, and Future.** Plant Disease 102: 2394-2406. doi:10.1094/PDIS-02-18-0266-FE.

Oteng-Frimpong, R., Y.B. Kassim, R. Danful, R. Akromah, A. Wireko-Kena and S. Forson. 2019. **Modeling groundnut (*Arachis hypogaea* L.) performance under drought conditions.** Journal of Crop Improvement 33: 125-144. doi:10.1080/15427528.2018.1542363.

Pati, D.H., M.A. Shankar, N. Krishnamurthy, Y.G. Shadakshari and V.R.R. Parama. 2018. **Studies on site specific nutrient management (SSNM) on growth and yield of groundnut (*Arachis hypogaea*) under irrigation in southern Karnataka.** Legume Research: An International Journal 41: 728-733. doi:10.18805/LR-3928.

Prostko, E.P. 2018. **Auxin nozzles showing promise for use in peanuts.** Southeast Farm Press 45: 17-19.

Qi, P., H. Jiang, T. Wang, X. Chi, M. Wang, M. Chen, et al. 2019. **Role of halotolerant phosphate-solubilising bacteria on**



**growth promotion of peanut (*Arachis hypogaea*) under saline soil.** Annals of Applied Biology 174: 20-30. doi:10.1111/aab.12473.

Quamruzzaman, M., M.J. Rahman, J. Uddain, M.D. Sarkar and S. Subramaniam. 2018. **Leaf gas exchange, reproductive development, physiological and nutritional changes of peanut as influenced by boron.** Journal of Plant Interactions 13: 306-314. doi:10.1080/17429145.2018.1475021.

Rao, H., Y. Tian, W. Fu and W. Xue. 2018. **In vitro digestibility and immunoreactivity of thermally processed peanut.** Food & Agricultural Immunology 29: 989.

Rocchetti, G., G. Chiodelli, G. Giuberti and L. Lucini. 2018. **Bioaccessibility of phenolic compounds following in vitro large intestine fermentation of nuts for human consumption.** Food Chemistry 245: 633-640.

Ruan, J., F. Guo, Y. Wang, X. Li, S. Wan, L. Shan, et al. 2018. **Transcriptome analysis of alternative splicing in peanut (*Arachis hypogaea* L.).** BMC Plant Biology 18: N.PAG-N.PAG. doi:10.1186/s12870-018-1339-9.

Sadh, P.K., C. Prince, B. Latika and J.S. Duhan. 2018. **Bio-enrichment of functional properties of peanut oil cakes by solid state fermentation using *Aspergillus oryzae*.** Journal of Food Measurement and Characterization 12: 622-633.

Sahdev, R.K., M. Kumar and A.K. Dhingra. 2018. **Development of empirical expression for the groundnuts drying inside a greenhouse.** International Food Research Journal 25: 1858-1863.

Salve, A. and S. Arya. 2018. **Physical, Chemical and Nutritional Evaluation of *Arachis hypogaea* L. Seeds and Its Oil.** Journal of Microbiology, Biotechnology & Food Sciences 8: 835-841. doi:10.15414/jmbfs.2018.8.2.835-841.

Sanchez, J.M.D., J.M.B. Vendramini, M.L. Silveira, L.E.

Sollenberger, J.C.B. Dubeux, P. Moriel, et al. 2018. **Genotype and Regrowth Interval Effects on In Situ Disappearance of Rhizoma Peanut.** p. 2174-2181.

Sathiyabama, M. and R. Balasubramanian. 2018. **Protection of groundnut plants from rust disease by application of glucan isolated from a biocontrol agent *Acremonium obclavatum*.** International Journal of Biological Macromolecules 116: 316-319. doi:10.1016/j.ijbiomac.2018.04.190.

Sharma, P., D. Sharma and A. Amin. 2018. **Development of a functional fermented peanut-based cheese analog using probiotic bacteria.** Biotechnologia 99: 435.

Shore, D. 2018. **He tamed the wild peanut and refined modern plant breeding.** Southeast Farm Press Exclusive Insight: N.PAG.

Sinclair, T.R., A. Shekoofa, T.G. Isleib, M. Balota and H. Zhang. 2018. **Identification of Virginia-Type Peanut Genotypes for Water-Deficit Conditions Based on Early Decrease in Transpiration Rate with Soil Drying.** p. 2607-2612.

Smith, R.O.N. 2018. **Precision breeding crucial to peanut yield trend.** Delta Farm Press 75: 19.

Sugizaki, C.S.A. and M.M.V. Naves. 2018. **Potential Prebiotic Properties of Nuts and Edible Seeds and Their Relationship to Obesity.** Nutrients 10: 1645. doi:10.3390/nu10111645.

Sun, T., G. Li, T.-Y. Ning, Z.-M. Zhang, Q.-H. Mi and R. Lal. 2018. **Suitability of mulching with biodegradable film to moderate soil temperature and moisture and to increase photosynthesis and yield in peanut.** p. 214-223.

Tan, S.-Y., S.L. Tey and R. Brown. 2018. **Can Nuts Mitigate Malnutrition in Older Adults? A Conceptual Framework.** Nutrients 10: 1448. doi:10.3390/nu10101448.

Tillman, B.L. and J.L. McKinney. 2018. **Relationships among symptoms of spotted wilt disease of peanut and their potential**

- impact on crop productivity and resistance breeding.** Plant Breeding 137: 757-762. doi:10.1111/pbr.12638.
- Tseng, Y.C., B.L. Tillman, S.A. Gezan, J. Wang and D.L. Rowland. 2018. **Heritability of spotted wilt resistance in a Florida-EP™ “113”-derived peanut (*Arachis hypogaea*) population.** Plant Breeding 137: 614-620. doi:10.1111/pbr.12610.
- Wang, H.-W., M.-J. Tang, C.-L. Su, W. Zhang, R.-S. Xu, Y.-X. Guan, et al. 2018. **The Alleopathic Compound Luteolin from Peanut Litter Affects Peanut Nodule Formation and the Rhizosphere Microbial Community.** p. 2587-2595.
- Wang, X., K. Lien and M. Ling. 2018. **Probabilistic health risk assessment for dietary exposure to aflatoxin in peanut and peanut products in Taiwan.** Food Control 91: 372-380.
- Warsi, S. and G.N. Mbata. 2018. **Impact of Peanut Depth and Container Size on the Parasitism of Diapausing and Nondiapausing Larvae of Indian Meal Moth (*Lepidoptera: Pyralidae*) by *Habrobracon hebetor* (*Hymenoptera: Braconidae*).** Environmental Entomology 47: 1226.
- Wenxu, Z., D.B. William, G. Lissa and A.M. Julie. 2018. **Phytosterol Composition of *Arachis hypogaea* Seeds from Different Maturity Classes.** Molecules, Vol 24, Iss 1, p 106 (2018): 106. doi:10.3390/molecules24010106.
- Wright, G.C., M.G. Borgognone, D.J.O. Connor, R.C.N. Rachaputi, R.J. Henry, A. Furtado, et al. 2018. **Breeding for improved blanchability in peanut: phenotyping, genotype x environment interaction and selection.** Crop & Pasture Science 69: 1237-1250. doi:10.1071/CP18156.
- Wu, H., X. Liu, F. Wu and Q. Fu. 2018. **Analysis of major nutritional components in red and black peanut sprouts.** Acta Nutrimenta Sinica 40: 310-312.

Yin, H.-Y., T.J. Fang, Y.-T. Li, Y.-F. Fung, W.-C. Tsai, H.-Y. Dai, et al. 2019. **Rapidly detecting major peanut allergen-Ara h2 in edible oils using a new immunomagnetic nanoparticle-based lateral flow assay.** Food Chemistry 271: 505-515. doi:10.1016/j.foodchem.2018.07.064.

Yol, E. and B. Uzun. 2018. **Influences of genotype and location interactions on oil, fatty acids and agronomical properties of groundnuts.** Influencia de las interacciones del genotipo y ubicación sobre el aceite, los ácidos grasos y las propiedades agronómicas del maní. 69: 1-10. doi:10.3989/gya.0109181.

Yu, R., Y. Ma, Y. Li, X. Li, C. Liu, X. Du, et al. 2018. **Comparative transcriptome analysis revealed key factors for differential cadmium transport and retention in roots of two contrasting peanut cultivars.** BMC Genomics 19: N.PAG.

Zaiya Zazou, A., D. Fonceka, S. Fall, A. Fabra, F. Ibañez, S. Pignoly, et al. 2018. **Genetic diversity and symbiotic efficiency of rhizobial strains isolated from nodules of peanut (*Arachis hypogaea* L.) in Senegal.** Agriculture, Ecosystems & Environment 265: 384-391. doi:10.1016/j.agee.2018.06.001.

Zhongzhi, H. and D. Limiao. 2018. **Application driven key wavelengths mining method for aflatoxin detection using hyperspectral data.** Computers & Electronics in Agriculture 153: 248-255. doi:10.1016/j.compag.2018.08.018.

Zhou, W., W.D. Branch, L. Gilliam and J.A. Marshall. 2019. **Phytosterol Composition of *Arachis hypogaea* Seeds from Different Maturity Classes.** Molecules 24: 106. doi:10.3390/molecules24010106.

Zurweller, B.A., A. Xavier, B.L. Tillman, J.R. Mahan, P.R. Payton, N. Puppala, et al. 2018. **Pod yield performance and stability of peanut genotypes under differing soil water and regional conditions.** Journal of Crop Improvement 32: 532-551. doi:10.1080/15427528.2018.1458674.

李俊, 王, 李, 王, 李, 王, et al. 2018. 花生品种选择及土壤性质变化. (Chinese). **Peanut varieties selection and soil properties changes under paddy-upland rotation.** (English) 49: 2403. Journal of Southern Agriculture 49 (12): 2403-2409.