

# JARQ

Japan Agricultural Research Quarterly

[www.jircas.affrc.go.jp](http://www.jircas.affrc.go.jp)

Vol. 47 No. 4 October 2013



JIRCAS

Japan International Research Center for Agricultural Sciences

**Contents****Vol. 47 No. 4 2013****REVIEWS****Crop Science**

- 339 Characteristics of Ion Beams as Mutagens for Mutation Breeding in Rice and Chrysanthemums Hiroyasu YAMAGUCHI

**Agricultural Environment**

- 347 Estimating Phosphorus Availability in Andosols Using Soil Biomass Phosphorus as an Indicator Tomoko SUGITO & Takuro SHINANO
- 353 Potential Utilization of Local Phosphate Rocks to Enhance Rice Production in Sub-Saharan Africa Satoshi NAKAMURA, Monrawee FUKUDA, Fujio NAGUMO & Satoshi TOBITA
- 365 Ecology of the Maize Orange Leafhopper, *Cicadulina bipunctata* (Melichar) (Hemiptera: Cicadellidae) Keiichiro MATSUKURA & Masaya MATSUMURA

**ARTICLES****Crop Science**

- 371 Characterization of a Novel Early Leaf-Senescence Line in Common Buckwheat (*Fagopyrum esculentum*) Katsuhiro MATSUI, Kiyofumi MORI, Yumiko KOGA, Yukiko FUKUDA, Yoshihiko FURUTA, Asana MATSUURA & Takahisa TETSUKA

**Agricultural Environment**

- 377 Long-Term Change in the Application Rate of On-Farm Organic Amendments in Japanese Upland Fields Ai LEON, Kazunori KOHYAMA, Toshiaki OHKURA, Yusuke TAKATA & Hiroshi OBARA
- 389 Evaluation of the Indigenous Use of the Weed *Sida cordifolia* L. in the Sahelian Zone of West Africa Keiichi HAYASHI, Evangeline T. HAYASHI & Dougbedji FATONDJI
- 397 Combined Effects of the Continual Application of Composted Rice Straw and Chemical Fertilizer on Rice Yield under a Double Rice Cropping System in the Mekong Delta, Vietnam Takeshi WATANABE, Hong Man LUU, Ngoc Han NGUYEN, Osamu ITO & Kazuyuki INUBUSHI
- 405 The Effect of Simulated Sea Level on the Sedimentation of the Tien River Estuaries, Lower Mekong River, Southern Vietnam Trieu Anh NGOC, Thanh LETRUNG, Kazuaki HIRAMATSU & Thai Quyet NGUYEN

**Food Technology**

- 417 Further Studies on the Protein Chemistry and Property of Glutathione-Added Rice Bread: Evidence of Glutathionylation of Batter Protein as well as Crumb Structure/Sensory Evaluation Hiroyuki YANO, Naoto KAJI & Motoyuki TOKURIKI

**Agricultural Economics**

- 423 Spatial Market Integration of Livestock Products and Road Conditions in Mongolia Eiichi KUSANO & Izuru SAIZEN

**Horticulture**

- 435 Influence of Growing Temperature on Dry Matter Accumulation in Plant Parts of 'Siberia' Oriental Hybrid Lily Katsuhiko INAMOTO, Kaori NAGASUGA, Takayoshi YANO & Hiroko YAMAZAKI

**Fisheries**

- 443 Nutrient Load and Environmental Conditions for Lower Trophic Level Production on a Reef Slope in Miyara Bay, Ishigaki Island, Japan Toru SHIMODA & Kouki FUKUOKA