

## CONTENTS

## Original Articles

## Soil biology

Development of anaerobic bacterial community consisted of diverse clostridial species during biological soil disinfestation amended with plant biomass

*Subrata Mowlick, Keisuke Hirota, Toshiaki Takehara, Nobuo Kaku, Katsuji Ueki and Atsuko Ueki* 273

A DGGE analysis shows that crop rotation systems influence the bacterial and fungal communities in soils

*Chika Suzuki, Makoto Takenaka, Norikuni Oka, Kazunari Nagaoka and Toshihiko Karasawa* 288

Bacterial communities that decompose root cap cells in an anaerobic soil: estimation by DNA-SIP method using rice plant callus cells

*Yong Li, Takeshi Watanabe, Susumu Asakawa and Makoto Kimura* 297

## Plant nutrition

Applying urea with urease inhibitor (N-(n-butyl) thiophosphoric triamide) in fine particle application improves nitrogen uptake in ryegrass (*Lolium perenne* L.)

*K. Dawar, M. Zaman, J.S. Rowarth and M.H. Turnbull* 309

Effects of endophytic actinomycetes and *Bradyrhizobium japonicum* strains on growth, nodulation, nitrogen fixation and seed weight of different soybean varieties

*Khin Myat Soe, Ampan Bhromsiri, Dumnern Karladee and Takeo Yamakawa* 319

Responses of herbage and cattle tail switch hair  $\delta^{15}\text{N}$  value to long-term stocking rates on a rough fescue grassland

*Chunli Li, Xiyang Hao, Walter D. Willms and Tim A. Mcallister* 326

Differences in root-to-shoot Cd and Zn translocation and by HMA3 and 4 could influence chlorophyll and anthocyanin content in *Arabidopsis* Ws and Col-0 ecotypes under excess metals

*Won Park, Kyung-Hwan Han and Sung-Ju Ahn* 334

Current situation of cadmium-polluted paddy soil, rice and soybean in the Mae Sot District, Tak Province, Thailand

*Anongnat Sriprachote, Pornthiwa Kanyawongha, Kumiko Ochiai and Toru Matoh* 349

## Environment

Validation of the DNDC-Rice model by using  $\text{CH}_4$  and  $\text{N}_2\text{O}$  flux data from rice cultivated in pots under alternate wetting and drying irrigation management

*Nobuko Katayanagi, Yuichiro Furukawa, Tamon Fumoto and Yasukazu Hosen* 360

A comparison of dieldrin residues in various vegetable crops cultivated in a contaminated field

*Takashi Saito, Takashi Otani, Nobuyasu Seike and Masanori Okazaki* 373

Nitrous oxide emissions from green tea fields in Japan: contribution of emissions from soil between rows and soil under the canopy of tea plants

*Yuhei Hirono and Kunihiko Nonaka* 384

## Abstract

Abstracts of Nippon Dojo-Hiryogaku Zasshi 393