

Report of National Food Research Institute no.76 Index

| | |
|-------|---|
| メタデータ | 言語: jpn 出版者: 公開日: 2019-12-20 キーワード (Ja): キーワード (En): 作成者: メールアドレス: 所属: |
| URL | https://repository.naro.go.jp/records/3002 |

食品総合研究所研究報告

REPORT OF NATIONAL FOOD RESEARCH INSTITUTE

76

平成24年 3 月

March, 2012

独立行政法人 農業・食品産業技術総合研究機構

食品総合研究所

NARO Food Research Institute (NFRI)

National Agriculture and Food Research Organization (NARO)

Tsukuba, Ibaraki 305-8642, Japan

食品総合研究所研究報告

第 76 号

平成 24 年 3 月

独立行政法人 農業・食品産業技術総合研究機構

食品総合研究所

食品総合研究所研究報告

第 76 号

| | | | | | | | |
|-------|----|-----|---|---|---|---|--|
| 所長 | 林 | 清 | | | | | |
| 編集委員会 | | | | | | | |
| 委員長 | 矢部 | 希見子 | | | | | |
| 委員 | 矢野 | 裕之 | 稲 | 津 | 康 | 弘 | |
| | 八卷 | 幸二 | 中 | 村 | 宣 | 貴 | |
| | 安藤 | 聰 | 岡 | 本 | | 晋 | |
| | 逸見 | 光 | | | | | |
| 事務局 | 田丸 | 政男 | | | | | |

REPORT OF NATIONAL FOOD RESEARCH INSTITUTE

No. 76

President and Director General

HAYASHI Kiyoshi

Editorial Board

Chairman YABE Kimiko

Members YANO Hiroyuki

INATSU Yasuhiro

YAMAKI Kohji

NAKAMURA Nobutaka

ANDO Akira

OKAMOTO Susumu

HEMMI Hikaru

Secretary TAMARU Masao

NARO Food Research Institute (NFRI)

National Agriculture and Food Research Organization (NARO)

Tsukuba, Ibaraki 305-8642, Japan

食品総合研究所報告（第76号）目次

報 文

- 澱粉の糊化と酵素処理が米蛋白質の溶解性に与える影響
矢野 裕之, 竹内 正彦, 加藤 (江森) 澄恵, 我妻 義則,
田口 計哉, 岡澤 由晃, 西澤 賢一, 黒田 秧……………1
- 苦味マスキング効果の定量的解析
河合 崇行, 日下部 裕子……………9

研究ノート

- Effect of cooking procedure and roasting on the protein composition and *in vitro* digestibility of common bean proteins
Michiko Momma, Keiko Sasaki, Kiyoshi Ohba, Seiichiro Isobe……………17
- Inulin Fructotransferase (DFA III-producing) From *Arthrobacter nicotinovorans* K-9
Kazutomo Haraguchi……………23
- Comparison of antiproliferative effects of trichothecene mycotoxins, nivalenol and deoxynivalenol, in cultured cells
Hitoshi Nagashima, Masayo Kushiro, Hiroyuki Nakagawa and Keiko Iwashita……………29
- 醤油粕の植物細胞壁分解酵素製剤及び糸状菌培養による減量効果
服部 領太, 楠本 憲一, 鈴木 聡, 北本 則行, 柏木 豊……………33
- 蛋白質の溶液X線散乱測定における2次元データの評価
渡邊 康, 猪子 洋二……………39
- ダイズ種子エポキシド加水分解酵素変異体の作出及びその性質検討
荒平 正緒美, Benjamin Sailas, Sam-Pin Lee, Ngoc Minh Nghiem, Van Chi Phan, 深澤 親房……………45

技術報告

- 食用油の加熱によって生じる有害アルデヒド4-hydroxy-2E-nonenal
およびその類縁化合物4-hydroxy-2E-hexenalの定量分析
箭田 浩士, 亀山 眞由美……………51
- 食品害虫サイトの大幅改訂による訪問者のアクセス行動の変化
曲山 幸生, 七里 与子, 宮ノ下 明大, 今村 太郎, 和田 有史, 増田 知尋……………59

国連大学生研究成果

- In Vitro Screening of Food Functionalities of Commonly Consumed Bangladeshi Vegetables and Rice
Hossain Uddin Shekhar……………67
- Quality Control of Food Material Using Ultra-Grinding Method
Ngamjit Lowithun……………69
- Practical Production of Oligosaccharides Employing Multiple-enzymes System
Li Bingxue……………70
- CFD Analysis of Bubble Distribution in Non-Catalytic Reactor for Production of Biodiesel Fuel
Dyah Wulandani……………71
- Research Study of Nutritional and Healthy Functional Components of Vegetables
and Fermented Traditional Foods of Mongolia and Japan
Dolgorsuren Bayarsaikhan……………72

抄 録

《食品機能研究領域》

- 生米における α グルコシダーゼとアミラーゼの層別分布
露久保美夏, 大倉 哲也, 馬橋 由佳, 香西みどり73
- 異なる品種における精白米内在性酵素の米飯成分への関与
馬橋 由佳, 三輪有紀枝, 大倉 哲也, 香西みどり73
- 搗精度合いの異なる米における米内在性酵素の米飯成分への影響
馬橋 由佳, 矢吹 里美, 大倉 哲也, 香西みどり73
- Effect of Dietary Lipid Type on the Enhancement of Swimming Endurance of Mice by L-Lactic Acid
Guihua Zhang, Nobuya Shirai, Hiramitsu Suzuki and Eiji Shimizu74
- Effect of Extruded Polished, Brown, and Germinated Brown Rice on the Behavior and Plasma Parameters of ICR Mice
Nobuya Shirai, Hiramitsu Suzuki, Keitaro Suzuki and Ken'ichi Ohtsubo74
- A Comparative Study of the Effects of Erabu Sea Snake (*Laticauda semifasciata*) Lipids,
Green Tea Extract and Conjugated Linoleic Acid on the Swimming Endurance of Mice
Guihua Zhang, Nobuya Shirai, Tomoyuki Higuchi, Hiramitsu Suzuki, Eiji Shimizu74
- Angiotensin I-Converting Enzyme Inhibitory Activities of Extracts from Commercial Chinese Style Fermented Soypaste
Feng-Juan LI, Li-Jun YIN, Yong-Qiang CHENG, Masayoshi SAITO, Kohji YAMAKI and Li-Te LI75
- Purification and identification of 1-deoxynojirimycin (DNJ) in okara fermented
by *Bacillus subtilis* B2 from Chinese traditional food (Meitaoza).
Yun-Ping Zhu, Kohji Yamaki, Tadashi Yoshihashi, Mayumi Ohnishi-Kameyama, Xiu-Ting Li,
Yong-Qiang Cheng, Yutaka Mori and Li-Te Li75
- Effects of Drying Method on Physicochemical and Functional Properties of Soy Protein Isolates
Xiao-Zhong Hu, Yong-Qiang Cheng, Jun-Feng Fan, Zhan-Hui Lu, Kohji Yamaki and Li-Te Li75
- Simple, Selective, and Rapid Quantification of 1-Deoxynojirimycin in Mulberry Leaf Products
by High-Performance Anion-Exchange Chromatography with Pulsed Amperometric Detection
Tadashi Yoshihashi, Huong Thi Thu Do, Patcharee Tungtrakul, Sumitra Boonbumrung, Kohji Yamaki76
- Soy protein and fish oil independently decrease serum lipid concentrations
but interactively reduce hepatic enzymatic activity and gene expression involved in fatty acid synthesis in rats
Yoko Takahashi76
- The Effect of Methanol Extracts of Tsao-ko (*Amomum tsao-ko* Crevost et Lemaire) on Digestive Enzyme
and Antioxidant Activity In Vitro, and Plasma Lipids and Glucose and Liver Lipids in Mice
Longquan YU, Nobuya SHIRAI, Hiramitsu SUZUKI, Nozomi SUGANE, Tsuyoshi HOSONO,
Yoshijiro NAKAJIMA, Masahiro KAJIWARA and Kazuhiro TAKATORI76
- 凍り豆腐がラット肝臓でのコレステロール代謝に及ぼす影響
高橋 陽子77
- Estimated Average Daily Intake of Antioxidants from Typical Vegetables Consumed in Japan: A Preliminary Study
Jun TAKEBAYASHI, Tomoyuki OKI, Jianbin CHEN, Maki SATO, Teruki MATSUMOTO,
Kyoko TAKU, Megumi TSUBOTA-UTSUGI, Jun WATANABE, Yoshiko ISHIMI77
- An in Vitro Effect of Coffee on the Antigen-Specific Immune Responses of Naive Splenocytes
Masao Goto, Yuko Takano-Ishikawa, Hiroshi Shinmoto77
- Effects of Fructo-Oligosaccharide on DSS-Induced Colitis Differ in Mice Fed Nonpurified and Purified Diets
Haruka Goto, Naoki Takemura, Toru Ogasawara, Naho Sasajima,
Jun Watanabe, Hiroyuki Ito, Tatsuya Morita, Kei Sonoyama78

| | |
|--|----|
| 2,4-Dinitrofluorobenzene-Induced Contact Hypersensitivity Response in NC/Nga Mice Fed Fructo-Oligosaccharide Reiko FUJIWARA, Naho SASAJIMA, Naoki TAKEMURA, Keisuke OZAWA, Yuki NAGASAKA, Takuma OKUBO, Yuraporn SAHASAKUL, Jun WATANABE, Kei SONOYAMA | 78 |
| カフェインの抗原特異的免疫応答への影響のマウス脾臓細胞を用いた評価 後藤 真生, 石川 (高野) 祐子, 新本 洋士 | 78 |
| 群馬県育成スモウメ品種 '紅の舞' の生体調節機能評価, 北爪 雅恵, 渡辺 純, 後藤 真生, 石川 (高野) 祐子 | 79 |
| 抗酸化能測定法である H-ORAC 法の室間共同試験 渡辺 純, 沖 智之, 竹林 純, 山崎 光司, 津志田藤二郎 | 79 |
| Autophagy impairment stimulates PS1 expression and gamma-secretase activity Kazunori Ohta, Akihito Mizuno, Masashi Ueda, Shimo Li, Yoshihiro Suzuki, Yoko Hida, Yoshika Hayakawa-Yano, Masanori Itoh, Eri Ohta, Masuko Kobori, Toshiyuki Nakagawa | 80 |
| High-salt diet advances molecular circadian rhythms in mouse peripheral tissues Hideaki Oike, Kanji Nagai, Tatsunobu Fukushima, Norio Ishida, Masuko Kobori | 80 |
| Evaluation of anti-inflammatory and anti-allergic effects of food components using DNA microarray analysis Masuko Kobori, Kanji Nagai, Yumiko Takahashi, Hideaki Oike | 80 |
| Interactive effects of carbon footprint information and its accessibility on value and subjective qualities of food products Atsushi Kimura, Yuji Wada, Akiko Kamada, Tomohiro Masuda, Masako Okamoto, Sho-ichi Goto, Daisuke Tsuzuki, Dongsheng Cai, Takashi Oka, Ippeita Dan | 81 |
| Eating habits in childhood relate to preference for traditional diets among young Japanese Atsushi Kimura, Yuji Wada, Kentaro Ohshima, Yui Yamaguchi, Daisuke Tsuzuki, Takashi Oka, Ippeita Dan | 81 |
| Package images modulate flavor perception for orange juice Nanami Mizutani, Masako Okamoto, Yui Yamaguchi, Yuko Kusakabe, Ippeita Dan, Toshimasa Yamanaka | 82 |
| Process-specific prefrontal contributions to episodic encoding and retrieval of tastes: A functional NIRS study. Masako Okamoto, Yuji Wada, Yui Yamaguchi, Yasushi Kyutoku, Lester Clowney, Archana K. Singh, Ippeita Dan | 82 |
| Hardness perception in visual motion -An experimental investigation in penetratitong motion- Tomohiro Masuda, Atsushi Kimura, Sho-ichi Goto, Yuji Wada | 83 |
| Relationship between the rheological properties of thickener solutions and their velocity through the pharynx as measured by the ultrasonic pulse Doppler method Akiko TASHIRO, Atsuko HASEGAWA, Kaoru KOHYAMA, Hitomi KUMAGAI, Hitoshi KUMAGAI | 83 |
| Effect of non-starch polysaccharides on the in vitro digestibility and rheological properties of rice starch gel Tomoko SASAKI, and Kaoru KOHYAMA | 83 |
| Phenomenological viscoelasticity of some rice starch gels Navdeep Singh SODHI, Tomoko SASAKI, Zhan-Hui LU, Kaoru Kohyama | 84 |
| Sensory lexicon of brewed coffee for Japanese consumers, untrained coffee professionals and trained coffee tasters Fumiyo Hayakawa, Yukari Kazami, Hideto Wakayama, Rutsu Oboshi, Hiroyuki Tanaka, Gou Maeda, Chiaki Hoshino, Hidekazu Iwawaki, Tetsuo Miyabayashi | 84 |
| Fragmentation of a viscoelastic food by human mastication Naoki KOBATASHI, Kaoru KOHYAMA, Kouichi SHIOZAWA | 85 |
| Chain-length distribution profiles of amylopectin isolated from endosperm starch of waxy and low-amylose bread wheat (<i>Triticum aestivum</i> L.) lines with common genetic background Takeshi YASUI, Kanae Ashida, and Tomoko SASAKI | 85 |

| | |
|--|----|
| ジャムのテクスチャー用語リストの作成 早川 文代, 長縄 省吾, 干野 隆芳, 風見由香利, 神山かおる | 85 |
| 皮を加工したたくあんの力学および咀嚼特性解析 大山 高裕, 阿久津智美, 伊藤 和子, 渡邊 恒夫, 山崎 公位, 神山かおる | 86 |
| 《食品安全研究領域》 | |
| Identification of Irradiated Prawn (<i>Penaeus monodon</i>) Using Thermoluminescence and 2-Alkylcyclobutanone Analyses Susu Chen, Yuka Morita, Kimie Saito, Hiromi Kameya, Mitsutoshi Nakajima, Setsuko Todoriki | 86 |
| X線照射を用いた熱ルミネッセンス法による照射食品検知法の開発と単一試験室における妥当性確認 坂部 寛, 森 良 種, 齊藤希巳江, 等々力節子 | 86 |
| 射線照射によるニンニクの萌芽発根抑制効果 小林 泰彦, 菊地 正博, 等々力節子, 齊藤希巳江, 桂 洋子, 亀谷 宏美, 市川まりこ, 飯塚 友子, 千葉 悦子, 鶴飼 光子 | 87 |
| Nuclear factor-kappaB inhibitors alleviate nivalenol-induced cytotoxicity in HL60 cells Hitoshi NAGASHIMA, Masayo KUSHIRO, Hiroyuki NAKAGAWA | 87 |
| Distribution of deoxynivalenol and nivalenol in milling fractions from <i>Fusarium</i> -infected Japanese wheat cultivars Manasikan THAMMAWONG, Mayuko OKABE, Tomomi KAWASAKI, Hiroyuki NAKAGAWA, Hitoshi NAGASHIMA, Hiroshi OKADOME, Takashi NAKAJIMA, AND Masayo KUSHIRO | 87 |
| Relaxation behavior and dose dependence of radiation induced radicals in irradiated mango Hiromi Kameya, Daisuke Kakita, Yoshihiko Kaimori, Masahiro Kikuchi, Yasuhiko Kobayashi, Mitsuko Ukai, Yuhei Shimoyama | 88 |
| Analysis of radicals of irradiated garlic Hiromi KAMEYA, Yoshihiko KAIMORI and Mitsuko UKAI | 88 |
| ESR によるグルコースポリマー中の照射誘導ラジカルの解析 亀谷 宏美, 中村 秀夫, 鶴飼 光子, 下山 雄平 | 88 |
| 放射線照射漢方薬 (エキス剤) の照射誘導ラジカルの緩和挙動 中村 秀夫, 高橋 司, 本多 由依, 貝森 良彦, 亀谷 宏美, 鶴飼 光子 | 89 |
| 照射ニンニクの ESR, PSL, TL による検知 亀谷 宏美, 齊藤希巳江, 菊地 正博, 小林 泰彦, 鶴飼 光子, 等々力節子 | 89 |
| 乳児用成型ミルクの ESR による分析 鶴飼 光子, 亀谷 宏美 | 89 |
| 殺菌処理された香辛料の成分変化の ESR による解析 亀谷 宏美, 鶴飼 光子 | 90 |
| 次亜塩素酸ナトリウムに繰り返し曝露した大腸菌 O157:H7 の塩素耐性への影響 稲津 康弘, Md. Latiful Bari, 北川 智子, 川崎 晋, Vijay K. Junera, 川本 伸一 | 90 |
| Combined effect of low-dose irradiation and acidified sodium chlorite washing on <i>Escherichia coli</i> O157/H7 inoculated on mung bean seeds Daisuke Nei, Md. Latiful Bari, Yasuhiro Inatsu, Susumu Kawasaki, and Setsuko Todoriki, Shinichi Kawamoto | 90 |
| 酸性化亜塩素酸水と次亜塩素酸ナトリウムによる大腸菌殺菌効果の比較 Rachel Ramos Elano, 北川 智子, Md. Latiful Bari, 川崎 晋, 川本 伸一, 稲津 康弘 | 91 |
| Effectiveness of superheated steam and gas catalytic infrared heat treatments to inactivate <i>Salmonella</i> on raw almonds Md. Latiful Bari, Daisuke Nei, Itaru Sotome, Ikuo Nishina, Fumiyo Hayakawa, Seiichiro Isobe and Shinichi Kawamoto | 91 |
| 多重リアルタイム PCR 法を用いた豚挽肉中でのサルモネラ, リステリアモノサイトゲネス, 病原性大腸菌 O157:H7 の同時検出と定量について 川崎 晋, Pina M. Fratamico, 堀越菜穂子, 岡田 幸男, 竹下 和子, 鮫島 隆, 川本 伸一 | 91 |

| | |
|---|----|
| サルモネラ, リステリアモノサイトゲネス, 病原性大腸菌 O157:H7 の多重 PCR 検出キットの開発 川崎 晋, Pina M. Fratamico, 堀越菜穂子, 岡田 幸男, 竹下 和子, 鮫島 隆, 川本 伸一 | 92 |
| Practical evaluation of mung bean seed pasteurization method in Japan Md. Latiful Bari, Katsuyoshi Enomoto, Daisuke Nei and Shinichi Kawamoto | 92 |
| Detection and identification of Wolbachia endosymbionts from laboratory stock of stored-product insect pests and their parasitoids Daisuke Kageyama, Satoko Narita, Taro Imamura, Akihiro Miyano-shita | 92 |
| スチール製倉庫内でのコクゾウムシの越冬実験—シェルターと水分の効果— 今村 太郎, 宮ノ下明大, 松阪 守, 峯岸 利充, 石向 稔, 中北 宏 | 93 |
| 堅果類で発育するコクゾウムシ 宮ノ下明大, 小畑 弘己, 真邊 彩, 今村 太郎 | 93 |
| 《食品分析研究領域》 NMR characterization of acidic xylo-oligosaccharides containing two methylglucuronic acid residues from Japanese cedar and Hinoki cypress Tadashi ISHII, Tomoyuki KONISHI, Takashi YAMASAKI, Ayumi ENOMOTO, Mitsuru YOSHIDA, Ikuko MAEDA, Kazumasa SHIMIZU | 93 |
| Oryzamuraic acids H-J, new alkaloids from an <i>Oryza sativa</i> mutant with yellow endosperm Hiroshi NAKANO, Seiji KOSEMURA, Mitsuru YOSHIDA, Rika IWAURA, Toshisada SUZUKI, Ryota KAJI, Makoto SAKAI | 94 |
| 熱分解型元素分析/同位体比質量分析計 (TCEA/IRMS) を用いた 有機物の水素・酸素安定同位体比の測定方法における留意点とその応用 鈴木彌生子, 佐藤 里恵 | 94 |
| オオバギボウシ (<i>Hosta sieboldiana</i>) の新規ステロイドサポニン 箭田 浩士, 木村 俊之, 鈴木 雅博, 亀山 (大西) 真由美, 新本 洋士 | 94 |
| Six New Acylated Anthocyanins from Red Radish (<i>Raphanus sativus</i>) Satoru Tamura, Kouji Tsuji, Piao Yongzhen, Mayumi Ohnishi-Kameyama and Nobutoshi Murakami | 95 |
| 1,18-ヌクレオチド双頭型資質による多様な自己集合体: 核酸塩基と相補的オリゴヌクレオチドの影響 岩浦 里愛, 飯澤 智彦, 南川 博之, 亀山真由美, 清水 敏美 | 95 |
| タラヨウの当年葉および古葉中のカフェ酸誘導体含量の季節変動 翠川 美穂, 亀山真由美, 永田 忠博 | 95 |
| Sampling variability and uncertainty in total diet studies Yoshiki Tsukakoshi | 96 |
| Evaluation of a Semipolar Solvent System as a Step toward Heteronuclear Multidimensional NMR-Based Metabolomics for ¹³ C-Labeled Bacteria, Plants, and Animals Yasuyo Sekiyama, Eisuke Chikayama and Jun Kikuchi | 96 |
| Mapping the {eta}-value and the test results on the hyper-Gutenberg-Richter relation for microseismicity around the Japanese Islands Yoshiki Tsukakoshi | 96 |
| Far-ultraviolet spectra of n-alkanes and branched alkanes in the liquid phase observed by an attenuated total reflectance-far ultraviolet spectrometer Shin Tachibana, Yusuke Morisawa, Akifumi Ikehata, Harumi Sato, Noboru Higashi, Yukihiro Ozaki | 97 |
| Applying near infrared spectroscopy to the detection of fruit fly eggs and larvae in intact fruit Sirinnapa Saranwong, Warunee Thanapase, Nattaporn Suttawijitpukdee, Ronnarit Rittiron, Sumaporn Kasemsumran, Sumio Kawano | 97 |

| | |
|--|-----|
| Factors affecting the accuracy of non-invasive blood glucose measurement by short-wavelength near infrared spectroscopy in the determination of the glycaemic index of foods Yasuhiro Uwadaira, Norihiko Adachi, Akifumi Ikehata, Sumio Kawano | 97 |
| Effect of cations on absorption bands of first electronic transition of liquid water Akifumi Ikehata, Motoki Mitsuoka, Yusuke Morisawa, Naomi Kariyama, Noboru Higashi, Yukihiko Ozaki | 98 |
| Tendency for interlaboratory precision in the GMO analysis method based on real-Time PCR Takashi Kodama, Yasunori Kurosawa, Kazumi Kitta, Shigehiro Naito | 98 |
| Possibilities of salinity stress as a variation factor of sodium content in rice Kumiko SHINDOH, Akemi YASUI | 98 |
| A novel detection system for the genetically modified canola (<i>Brassica rapa</i>) line RT73 Hiroshi AKIYAMA, Daiki MAKIYAMA, Kosuke NAKAMURA, Nobuhiro SASAKI, Yasutaka MINEGISHI, Junichi MANO, Kazumi KITTA, Yoshihiro OZEKI, Reiko TESHIMA | 99 |
| A novel L-isoleucine metabolism in <i>Bacillus thuringiensis</i> generating (2S,3R,4S)-4-hydroxyisoleucine, a potential insulinotropic and anti-obesity amino acid Jun OGAWA, Tomohiro KODERA, Sergey V. SMIRNOV, Makoto HIBI, Natalia N. SAMSONOVA, Ryoukichi KOYAMA, Hiroyuki YAMANAKA, Junichi MANO, Takashi KAWASHIMA, Kenzo YOKOZEKI, Sakayu SHIMIZU | 99 |
| Evaluation of quantitative PCR methods for genetically modified maize (MON863, NK603, TC1507 and T25) Reona TAKABATAKE, Satoshi FUTO, Yasutaka MINEGISHI, Masatoshi WATAI, Chihiro SAWADA, Kosuke NAKAMURA, Hiroshi AKIYAMA, Reiko TESHIMA, Satoshi FURUI, Akihiro HINO, Kazumi KITTA | 100 |
| Immunological characterization of polyclonal antisera prepared against recombinant rice RAG2 and its application in detection of 14-16 kDa α -amylase/trypsin inhibitors from processed foods Gang-hua LANG, Mika OHBA, Shinichi KAWAMOTO Koichi YOZA, Tatsuya MORIYAMA, Kazumi KITTA | 100 |
| Qualitative PCR method for Roundup Ready soybean: interlaboratory study Takashi KODAMA, Masaki KASAHARA, Yasutaka MINEGISHI, Satoshi FUTO, Chihiro SAWADA, Masatoshi WATAI, Hiroshi AKIYAMA, Reiko TESHIMA, Yasunori KUROSAWA, Satoshi FURUI, Akihiro HINO, Kazumi KITTA | 101 |
| Extracts from <i>Ralstonia Solanacearum</i> induce effective resistance to the pathogen in both <i>Arabidopsis</i> and solanaceous plants Reona TAKABATAKE, Takafumi MUKAIHARA | 101 |
| Analyses of the cis-regulatory regions responsible for the transcriptional activation of the N resistance gene by Tobacco mosaic virus Michie KOBAYASHI, Nobuaki ISHIHAMA, Hirofumi YOSHIOKA, Reona TAKABATAKE, Shinya TSUDA, Shigemi SEO, Yuko OHASHI, Ichiro MITSUHARA | 102 |
| Development of multiplex PCR method for simultaneous detection of four events of genetically modified maize: DAS-59122-7, MIR604, MON863 and MON88017 Taichi OGUCHI, Mari ONISHI, Junichi MANO, Hiroshi AKIYAMA, Reiko TESHIMA, Satoshi FUTO, Satoshi FURUI, Kazumi KITTA | 102 |
| Establishment and evaluation of event-specific quantitative PCR method for genetically modified soybean MON89788 Reona TAKABATAKE, Mari ONISHI, Tomohiro KOIWA, Satoshi FUTO, Yasutaka MINEGISHI, Hiroshi AKIYAMA, Reiko TESHIMA, Satoshi FURUI, Kazumi KITTA | 103 |
| Interlaboratory validation of an event-specific real time polymerase chain reaction detection method for genetically modified DAS59132 maize Hiroshi AKIYAMA, Kozue SAKATA, Frank Spigelhalter, Satoshi FURUI, Akie NAKASHIMA, Kazumi KITTA, Reiko TESHIMA | 103 |

| | |
|--|-----|
| コンニャク製粉含有コメ粉からのコメDNA抽出精製法の検討 峰松 和彦, 中村 公亮, 穂山 浩, 張替 直樹, 中島 治, 橋田 和美, 手島 玲子, 飯塚 太由 | 104 |
| A novel chromogenic method for determining the genetically modified soybean content in soybean powder with primer extension Naoki HARIKAI, Hiroshi AKIYAMA, Kazunari KONDO, Kazumi KITTA, Reiko TESHIMA, Yuzo YOSHIDA | 104 |
| Evaluation of tomato DNA fragmentation and PCR amplicon size for detection of tomato DNA in processed products Kosuke NAKAMURA, Chihiro YAMADA, Hiroshi AKIYAMA, Reona TAKABATAKE, Mamiko KITAGAWA, Kazumi KITTA, Hiroshi KAWAKAMI, Reiko TESHIMA | 104 |
| 《食品素材科学研究領域》 cis-trans Isomerization of carbon double bonds in monounsaturated triacylglycerols via generation of free radicals Wakako Tsuzuki | 105 |
| Formation of trans fatty acids in edible oils during the frying and heating process Wakako Tsuzuki, Akiko Matsuoka, Kaori Ushida | 105 |
| DNA マーカーによる糯米検出法 岸根 雅宏, 奥西 智哉 | 105 |
| 米粉パンの加工適性評価と宮崎県産米粉間の比較 高橋 克嘉, 奥西 智哉, 鈴木啓太郎, 柚木崎千鶴子 | 106 |
| Cellulase production on glucose-based media by the UV-irradiated mutants of <i>Trichoderma reesei</i> Masakazu Ike, Jeung-yil Park, Mine Tabuse, Ken Tokuyasu | 106 |
| Alkali-aided enzymatic viscosity reduction of sugar beet mash for novel bioethanol production process Sathaporn Srichuwong, Mitsuhiro Arakane, Maki Fujiwara, Zilian Zhang, Hiroyuki Takahashi, Ken Tokuyasu | 106 |
| A novel lime pretreatment for subsequent bioethanol production from rice straw-calcium capturing by carbonation (CaCCO) process Jeung-yil Park, Riki Shiroma, Muhammad Imran Al-Haq, Ying Zhang, Masakazu Ike, Yumiko Arai-Sanoh, Atsuhisa Ida, Motohiko Kondo, Ken Tokuyasu | 107 |
| Bioconversion of L-arabinose and other carbohydrates from plant cell walls to alpha-glucan by a soil bacterium, <i>Sporosarcina</i> sp. N52 Zilian Zhang, Sathaporn Srichuwong, Tooru, Kobayashi, Mitsuhiro Arakane, Jeung-yil Park, Ken Tokuyasu | 107 |
| RT-CaCCO process: An improved CaCCO process for rice straw by its incorporation with a step of lime pretreatment at room temperature Riki Shiroma, Jeung-yil Park, Muhammad Imran AL-HAQ, Mitsuhiro Arakane, Masakazu Ike, Ken Tokuyasu | 107 |
| An improved CARV process for bioethanol production from a mixture of sugar beet mash and potato mash. Min-Soo Yun, Jeung-yil Park, Mitsuhiro Arakane, Riki Shiroma, Masakazu Ike, Seiji Tamiya, Hiroyuki Takahashi, Ken Tokuyasu | 108 |
| Characterization of starch granules in rice culms for application of rice straw as a feedstock for saccharification Junko Matsuki, Jeung-yil Park, Riki Shiroma, Yumiko Arai-Sanoh, Masashi Ida, Motohiko Kondo, Kota Motobayashi, Ken Tokuyasu | 108 |
| ミキサーの消費電力測定による米粉パン生地のミキシング特性の解析 與座 宏一, 松木 順子, 岡留 博司, 徳安 健 | 108 |
| Immunoproteomic and two-dimensional difference gel electrophoresis analysis of <i>Arabidopsis</i> dehydration response element-binding protein 1A (DREB1A)-transgenic potato Rika Nakamura, Rie Satoh, Ryosuke Nakamura, Takayoshi Shimazaki, Mie Kasuga, Kazuko Yamaguchi-Shinozaki, Akira Kikuchi, Kazuo N. Watanabe, Reiko Teshima | 109 |
| Identification of an IgE-Binding Epitope of a Major Buckwheat Allergen, BWp16, by SPOTs Assay and Mimotope Screening Rie Satoh, Satoru Koyano, Kayoko Takagi, Rika Nakamura, Reiko Teshima | 109 |

| | |
|---|-----|
| Improvements in the bread-making quality of gluten-free rice batter by glutathione Hiroyuki Yano | 109 |
| Proteomic analysis of known and candidate rice allergens between non-transgenic and transgenic plants Rie Satoh, Rika Nakamura, Akira Komatsu, Masahiro Oshima, Reiko Teshima | 110 |
| 2D-DIGE analysis of rice proteins from different cultivars Reiko Teshima, Rika Nakamura, Rie Satoh, Ryosuke Nakamura | 110 |
| 米澱粉の糊化における蛋白質の溶解性変化に関する解析 矢野 裕之, 竹内 正彦, 加藤 (江森) 澄恵, 我妻 義則, 佐藤 里絵, 田口 計哉, 岡澤 由晃, 西澤 賢一, 黒田 稔 | 110 |
| Keto-carotenoids are the major metabolites of dietary lutein and fucoxanthin in mouse tissues. Lina YONEKURA, Miyuki KOBAYASHI, Masaru TERASAKI, Akihiko NAGAO | 111 |
| 《食品工学研究領域》 ウェブアンケートによる食品害虫サイト利用状況調査 曲山 幸生, 七里 与子, 宮ノ下明大, 今村 太郎, 和田 有史, 増田 知尋, 木村 敦 | 111 |
| 食品ナノテクノロジープロジェクトのウェブサイトの開設 曲山 幸生, 七里 与子, 杉山 滋 | 111 |
| アクセス解析から推定した食品害虫の注目度と浸透度 曲山 幸生, 七里 与子, 宮ノ下明大, 今村 太郎 | 112 |
| Starch Damage and Pasting Properties of Rice Flours Produced by Dry Jet Grinding Md. Sharif Hossen, Itaru Sotome, Makiko Takenaka1, Seiichiro Isobe, Mitsutoshi Nakajima and Hiroshi Okadome | 112 |
| Effective recovery of polymethoxyflavonoids by mulch-stage extraction of Citrus depressa Makiko Takenaka, Hiroshi Ono, Hiroshi Okadome, Itaru Sotome, Kazuko Nanayama Hidekazu Sumi, Seiichiro Isobe | 112 |
| Food processing and cooking with new heating system combining superheated steam and hot water spray Itaru SOTOME, Seiichiro ISOBE | 113 |
| 青果物の呼吸速度計測法に関する研究 (第2報) - 通気法における従来式の誤差と利用可能条件および定常通気モデル式の提案 - 川越 義則, 五月女 格, 大下 誠一, 瀬尾 康久 | 113 |
| Flux behavior in a hydrophobic dense membrane with undiluted and hexane-diluted vegetable oils S. Manjula, H. Nabetani, R. Subramanian | 113 |
| Purification of crude fatty acids using a PDMS-based composite membrane Atsushi Miyagi, Hiroshi Nabetani, Rangaswamy Subramanian | 114 |
| Detection of Deoxynivalenol Using Fluorescence Excitation-Emission Matrix Kaori Fujita, Mizuki Tsuta, Mito Kokawa, Junichi Sugiyama | 114 |
| NIR spectral imaging with discriminant analysis for detecting foreign materials among blueberries Takehiro Sugiyama, Junichi Sugiyama, Mizuki Tsuta, Kaori Fujita, Mario Shibata, Mito Kokawa, Tetsuya Araki, Hiroshi Nabetani, Yasuyuki Sagara | 114 |
| スキャナを用いたパン気泡構造の計測手法の開発 柴田真理朗, 杉山 純一, 蔦 瑞樹, 藤田かおり, 杉山 武裕, 粉川 美踏, 荒木 徹也, 鍋谷 浩志, 相良 泰行 | 115 |
| パンの粘弾性と気泡構造 (すだち) との関係の定量化手法の開発 柴田真理朗, 杉山 純一, 蔦 瑞樹, 藤田かおり, 杉山 武裕, 粉川 美踏, 荒木 徹也, 鍋谷 浩志, 相良 泰行 | 115 |

| | |
|--|-----|
| 励起蛍光マトリクスによるそば粉と小麦粉の混合割合の推定 杉山 武裕, 藤田かおり, 葛 瑞樹, 杉山 純一, 柴田真理朗, 粉川 美踏, 荒木 徹也, 鍋谷 浩志, 相良 泰行 | 116 |
| Direct detection of green fluorescent protein messenger RNA expressed in Escherichia coli by rolling circle amplification Hirokazu Takahashi, Atsuko Matsumoto, Shigeru Sugiyama, Toshiro Kobori | 116 |
| A Simple DNA Characterization Method Using Fiber-Fluorescence in situ Hybridization Performed without DNA Fragmentation Tamaki HIROSE, Shigeru SUGIYAMA | 116 |
| A silanized mica substrate suitable for high-resolution fiber FISH analysis by scanning near-field optical/atomic force microscopy Shigeru SUGIYAMA, Megumi FIKUTA, Tamaki HIROSE, Toshio OHTANI, Tomoyuki YOSHINO | 117 |
| Changes in sugar and total oxalic acid contents in different sections of bamboo shoots harvested at different maturity Manasikan Thammawong, Daisuke Nei, Poritosh Roy, Nobutaka Nakamura, Yuichi Inoue, Hidenobu Hamachi, Shigeyuki Nonaka, Takeo Shiina | 117 |
| Evaluation of high electric field chamber for shelf life extension of food and agricultural commodities Takeo Shiina, Daisuke Nei, Nobutaka Nakamura, Manasikan Thammawong | 117 |
| Cooking properties of different forms of rice cooked with an automatic induction heating system rice cooker Poritosh Roy, Daisuke Nei, Takahiro Orikasa, Hiroshi Okadome, Manasikan Thammawong, Nobutaka Nakamura and Takeo Shiina | 118 |
| Characterization of a soybean oil-based biosurfactant and evaluation of its ability to form microbubbles Qingyi Xu, Zengshe Liu, Mitsutoshi Nakajima, Sosaku Ichikawa, Nobutaka Nakamura, Poritosh Roy, Hiroshi Okadome, Takeo Shiina | 118 |
| Hot Air Drying Characteristics of Sweet Potato Using Moisture Sorption Isotherm Analysis and Its Quality Changes During Drying Takahiro Orikasa, Long Wu, Yasumasa Andou, Yoshiki Muramatsu, Poritosh Roy, Toshikazu Yano, Takeo Shiina, Akio Tagawa | 118 |
| Biosurfactants for microbubble preparation and application Qingyi Xu, Mitsutoshi Nakajima, Zengshe Liu, Takeo Shiina | 119 |
| 調理用トマトの乾燥およびブランチングへのマイクロ波の適用 安藤 泰雅, 折笠 貴寛, 椎名 武夫, 五月女 格, 五十部誠一郎, 村松 良樹, 田川 彰男 | 119 |
| 成熟遺伝子型の異なるトマト緑熟果実の果皮色変動予測モデル 中村 宣貴, タンマウオン マナシカン, 金原 淳司, 伊藤 博孝, 北川麻美子, 稲熊 隆博, 伊藤 康博, 北澤 裕明, 石川 豊, 春見 隆文, 椎名 武夫 | 119 |
| 食品分野における環境負荷の見える化 椎名 武夫 | 120 |
| Impact damage to apple fruits in commercial corrugated fiberboard box packaging evaluated by the pressure-sensitive film technique Fei Lu, Yutaka Ishikawa, Hiroaki Kitazawa, Takaaki Satake | 120 |
| Effects of storage temperature on the postharvest quality of three asparagus cultivars harvested in spring Hiroaki Kitazawa, Satoru Motoki, Tomoo Maeda, Yutaka Ishikawa, Ken-ichi Matsushima, Yasunori Hamauzu, Hiroaki Sakai, Takeo Shiina and Yasushi Kyutoku | 120 |
| イチゴ輸送中の衝撃解析と損傷発生予測 北澤 裕明, 石川 豊, 路 飛, 胡 耀 華, 中村 宣貴, 椎名 武夫 | 121 |
| 収穫後の衝撃がレモン果実貯蔵中の腐敗の発生に及ぼす影響 池田 裕朗, 石川 豊, 赤阪 信二, 塩田 俊, 北澤 裕明, 路 飛 | 121 |

| | |
|--|-----|
| 密植栽培がムラサキアスパラガス‘パープルパッション’の収量および生育に及ぼす影響 元木 悟, 北澤 裕明, 前田 智雄, 久徳 康史 | 121 |
| オウトウ輸出における荷傷み防止方法 高橋 和博, 仲條誉志幸, 小野寺玲子, 伊東 良久, 石川 豊, 中村 ゆり, 羽山 裕子 | 122 |
| モモ輸出における荷傷み防止方法 今野 勉, 小野寺玲子, 工藤 信, 伊東 良久, 石川 豊, 中村 ゆり, 羽山 裕子 | 122 |
| ソフトパックにより包装されたイチゴの損傷発生に及ぼす衝撃の影響 北澤 裕明, 佐藤 達雄, 石川 豊, 中村 宣貴, 椎名 武夫 | 123 |
| パーシャルシール包装による青ネギの鮮度保持技術 鈴木 芳孝, 宮崎 清宏, 石川 豊, 鶴永 陽子, 今堀 義洋 | 123 |
| Effects of sampling intervals on truck transport vibration levels Fei Lu, Yutaka Ishikawa, Hiroaki Kitazawa, Takaaki Satake | 123 |
| Analysis of Flow Phenomena in Gastric Contents Induced by Human Gastric Peristalsis Using CFD Hiroyuki Kozu, Isao Kobayashi, Mitsutoshi Nakajima, Kunihiko Uemura, Seigo Sago, Sosaku Ichikawa | 124 |
| Temperature Effect on Microchannel Oil-in-Water Emulsification Katerina Burton Fujiu, Isao Kobayashi, Kunihiko Uemura, Mitsutoshi Nakajima | 124 |
| Effect of Dispersed Phase Viscosity on Maximum Droplet Generation Frequency in Microchannel Emulsification Using Asymmetric Straight-Through Channels Goran T. Vladislavljevic, Isao Kobayashi, Mitsutoshi Nakajima | 124 |
| 《応用微生物研究領域》 Inulin fructotransferase DFA III-producing from <i>Arthrobacter ureafaciens</i> D13-3 Kazutomo Haraguchi | 125 |
| A UV-induced mutant of <i>Pichia stipitis</i> with increased ethanol production from xylose and selection of a spontaneous mutant with increased ethanol tolerance Takashi WATANABE, Itsuki WATANABE, Mami YAMAMOTO, Akira ANDO, AND Toshihide NAKAMURA | 125 |
| Selection of stress-tolerant yeasts for simultaneous saccharification and fermentation (SSF) of very high gravity (VHG) potato mash to ethanol Takashi WATANABE, Sathaporn SRICHUWONG, Mitsuhiro ARAKANE, Seiji TAMIYA, Masaru YOSHINAGA, Itsuki WATANABE, Mami YAMAMOTO, Akira ANDO, Ken TOKUYASU, AND Toshihide NAKAMURA | 125 |
| Strategy for simultaneous saccharification and fermentation using a respiratory-deficient mutant of <i>Candida glabrata</i> for bioethanol production Itsuki WATANABE, Toshihide NAKAMURA, AND Jun SHIMA | 126 |
| バチルス・サーキュランス T-3040株由来環状イソマルトオリゴ糖グルカノトランスフェラーゼの C末端領域の欠失変異による解析 舟根 和美, 川端 康之, 鈴木龍一郎, キム・ヨンミン, カン・ヒゴン, 鈴木 喜大, 藤本 瑞, 木村 淳夫, 小林 幹彦 | 126 |
| Determination of true absorption and fecal endogenous loss of zinc in goats Ryota Hattori, Shin-ichiro Torii, Masayuki Funaba, Tohru Matsui | 127 |
| Characterization of an <i>Aspergillus oryzae</i> cysteinyl dipeptidase expressed in <i>Escherichia coli</i> Ryota Hattori, Mayumi Matsushita-Morita, Junichiro Marui, Sawaki Tada, Satoshi Suzuki, Ikuyo Furukawa, Youhei Yamagata, Hitoshi Amano, Hiroki Ishida, Michio Takeuchi, Ken-ichi Kusumoto | 127 |
| Molecular cloning of <i>ocpO</i> encoding carboxypeptidase O of <i>Aspergillus oryzae</i> IAM2640 Hiroto Morita, Ken-Ichi Kuriyama, Noritaka Akiyama, Ayako Okamoto, Youhei Yamagata, Ken-Ichi Kusumoto, Yoshinao Koide, Hiroki Ishida, Michio Takeuchi | 127 |

| | |
|---|-----|
| Overexpression and characterization of an extracellular leucine aminopeptidase from <i>Aspergillus oryzae</i> Mayumi Matsushita-Morita, Sawaki Tada, Satoshi Suzuki, Ryota Hattori, Junichiro Marui, Ikuyo Furukawa, Youhei Yamagata, Hitoshi Amano, Hiroki Ishida, Michio Takeuchi, Yutaka Kashiwagi, Ken-Ichi Kusumoto | 128 |
| Production of polygalacturonase by recombinant <i>Aspergillus oryzae</i> in solid-state fermentation using potato pulp Satoshi Suzuki, Mari Fukuoka, Sawaki Tada, Mayumi Matsushita-Morita, Ryota Hattori, Noriyuki Kitamoto, Ken-Ichi Kusumoto | 128 |
| Characterization of recombinant prolyl aminopeptidase from <i>Aspergillus oryzae</i> Mayumi Matsushita-Morita, Ikuyo Furukawa, Satoshi Suzuki, Youhei Yamagata, Yoshinao Koide, Hiroki Ishida, Michio Takeuchi, Kashiwagi Yutaka, Ken-Ichi Kusumoto | 129 |
| DNA microarray analysis suggests that zinc pyrithione causes iron starvation to the yeast <i>Saccharomyces cerevisiae</i> D. Yasokawa, S. Murata, Y. Iwahashi, E. Kitagawa, K. Kishi, Y. Okumura, H. Iwahashi | 129 |
| 《食品バイオテクノロジー研究領域》 | |
| Conversion of 11-hydroxy-O-methylsterigmatocystin to aflatoxin G1 in <i>Aspergillus parasiticus</i> Hongmei Zeng, Hidemi Hatabayashi, Hiroyuki Nakagawa, Jingjing Cai, Ryoya Suzuki, mi Sakuno, EToshitsugu Tanaka, Yasuhiro Ito, Kenneth C. Ehrlich (USDA), Hiromitsu Nakajima, Kimiko Yabe | 130 |
| Structural and biochemical analyses of <i>Kluyveromyces marxianus</i> β -glucosidase: an intracellular GH3 enzyme with PA14 domain insertion Erina Yoshida, Masafumi Hidaka, Shinya Fushinobu, Takashi Koyanagi, Hiromichi Minami, Hisanori Tamaki, Motomitsu Kitaoka, Takane Katayama, Hidehiko Kumagai | 130 |
| Practical preparation of D-galactosyl- β 1 \rightarrow 4-L-rhamnose employing the combined action of phosphorylases Masahiro NAKAJIMA, Mamoru NISHIMOTO, and Motomitsu KITAOKA | 130 |
| Effect of growth temperature, induction, and molecular chaperones on the solubilization of over-expressed cellobiose phosphorylase from <i>Cellvibrio gilvus</i> under in vivo conditions Satya P. SINGH, M. K. PUROHIT, Chika AOYAGI, Motomitsu KITAOKA, and Kiyoshi HAYASHI | 131 |
| Thermal decomposition of β -D-galactopyranosyl-(1 \rightarrow 3)-2-acetamido-2-deoxy-D-hexopyranoses under neutral conditions Kazuhiro Chiku, Mamoru NISHIMOTO, and Motomitsu KITAOKA | 131 |
| Cooperation of β -galactosidase and β -N-acetylhexosaminidase from bifidobacteria in assimilation of human milk oligosaccharides with type 2 structure Mika MIWA, Tomohiro HORIMOTO, Masashi KIYOHARA, Takane KATAYAMA, Motomitsu KITAOKA, Hisashi ASHIDA, Kenji YAMAMOTO | 131 |
| A region- and stereo-selective parallel synthesis of five types of trigalactoses on a solid support as a model of a combinatorial oligosaccharide library Shiro Komba, Takeshi Terauchi, Sachiko Machida | 132 |
| Further application of size-exclusion chromatography combined with small-angle X-ray scattering optics for characterization of biological macromolecules Yasushi WATANABE, Yoji INOKO | 132 |
| Five carboxin-resistant mutants exhibited various responses to carboxin and related fungicides Yoko Shima, Yasuhiro Ito, Hidemi Hatabayashi, Akemi Koma, Kimiko Yabe | 132 |
| Crystallization and preliminary crystallographic analysis of the glycoside hydrolase family 115 α -glucuronidase from <i>Streptomyces pristinaespiralis</i> Zui Fujimoto, Hitomi Ichinose, Peter Biely, Satoshi Kaneko | 133 |
| Development of a gene transfer system for the mycelia of <i>Flammulina velutipes</i> Fv-1 strain Tomoko Maehara, Makoto Yoshida, Yasuhiro Ito, Shizuko Tomita, Koji Takabatake, Hitomi Ichinose, Satoshi Kaneko | 133 |
| Extracellular carbohydrate esterase from the basidiomycete <i>Coprinopsis cinerea</i> released ferulic and acetic acids from xylan Kohsuke Hashimoto, Satoshi Kaneko, Makoto Yoshida | 133 |

| | |
|--|-----|
| Improvement of the transformation efficiency of <i>Flammulina velutipes</i> Fv-1 using the glyceraldehyde-3-phosphate dehydrogenase gene promoter Tomoko Maehara, Shizuko Tomita, Koji Takabatake, Satoshi Kaneko | 134 |
| Carbohydrate structural analysis of wheat flour arabinogalactan protein Theodora Tryfona, Hui-Chung Liang, Toshihisa Kotake, Satoshi Kaneko, Justin Marsh, Hitomi Ichinose, Alison Lovegrove, Yoichi Tsumuraya, Peter R. Shewry, Elaine Stephens, Paul Dupree | 134 |
| Degradation of carbohydrate moieties of arabinogalactan-proteins by glycoside hydrolases from <i>Neurospora crassa</i> Ryohei Takata, Keita Tokita, Satoko Mori, Ryohei Shimoda, Naoki Harada, Hitomi Ichinose, Satoshi Kaneko, Kiyohiko Igarashi, Masahiro Samejima, Yoichi Tsumuraya, Toshihisa Kotake | 135 |
| Crystal structure of an exo-1,5- α -L-arabinofuranosidase from <i>Streptomyces avermitilis</i> provides insights into the mechanism of substrate discrimination between exo- and endo-type enzymes in glycoside hydrolase family 43 Zui Fujimoto, Hitomi Ichinose, Tomoko Maehara, Mariko Honda, Motomitsu Kitaoka, Satoshi Kaneko | 135 |
| Recognition of the helical structure of β -1,4-galactan by a new family of carbohydrate-binding modules Melissa Cid, Henriette Lodberg Pedersen, Satoshi Kaneko, Pedro M. Coutinho, Bernard Henrissat, William G.T. Willats, Alisdair B. Boraston | 136 |
| Characterization of α -L-arabinofuranosidase related to the secondary cell walls formation in <i>Arabidopsis thaliana</i> Hitomi Ichinose, Nobuyuki Nishikubo, Taku Demura, Satoshi Kaneko | 136 |
| Molecular cloning of cDNAs encoding two glycoside hydrolase family 7 cellobiohydrolases from the basidiomycete <i>Flammulina velutipes</i> Maki Ishiguro, Tomonobu Hori, Takuya Ishida, Makoto Yoshida, Koji Takabatake, Satoshi Kaneko, Kiyohiko Igarashi, Masahiro Samejima | 136 |
| エノキタケのトランスクリプトーム配列情報を用いた全分泌タンパク質解析 石黒 真希, 堀 千明, 片山 映, 五十嵐圭日子, 高島 幸司, 金子 哲, 鮫島 正浩 | 137 |
| セルロース培養系においてエノキタケが生産する糖質加水分解酵素ファミリー7セロビオヒドロラーゼの解析 石黒 真希, 堀友 宣, 吉田 誠, 高島 幸司, 金子 哲, 五十嵐圭日子, 鮫島 正浩 | 137 |

付 録

| | |
|--|-----|
| 「食品総合研究所研究報告」の編集について..... | 138 |
| 「日本食品科学工学会誌」投稿論文記載要項（第50巻第1号より転載）..... | 140 |

食品総合研究所研究報告

第76号

平成24年3月 印刷 平成24年3月 発行
(非売品)

編集者 独立行政法人 農業・食品産業技術総合研究機構

発行者 食品総合研究所

所長 林 清

(〒305-8642 茨城県つくば市観音台2-1-12)

印刷所 茨城県土浦市大畑565-2

筑波印刷情報サービスセンター協同組合

本誌より転載・複製をする場合は食品総合研究所の許可を得て下さい。