

**DAFTAR PUBLIKASI ILMIAH TERINDEKS SCOPUS DOSEN FAKULTAS PERTANIAN  
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No.	Authors	Affiliation	Year	Title	Journal/ Proceeding
1.	Sanjaya, A.P. Cahyanto, M.N. Millati, R.	Department of Food Science and Technology, Faculty of Agriculture, , Surakarta, Indonesia	2016	Mesophilic batch anaerobic digestion from fruit fragments	Renewable Energy Volume 98, 1 December 2016, Pages 135-141 ISSN: 09601481 DOI: 10.1016/j.renene.2016.02.059
<p>Abstract Fresh ripe and rotten fruits including oranges, mangosteen, bananas, and rambutan were separated into its fragments, i.e., peel, pulp, and seed in order to determine the rates and yield of their conversion into methane. Methane production from each of the components of the fruit was carried out under mesophilic conditions (35 °C) using 120 ml-glass serum bottles during 60 days of incubation. The effectiveness of the anaerobic digestion was expressed using the value of digestibility. The level of methane yield from the tested fruit fractions was in the order of seed &gt; pulp &gt; peel. The methane yields from the seed, pulp, and peel were in the range of 504.11 ± 21.15 to 657.89 ± 63.58 ml CH<sub>4</sub>/g VS, 287.89 ± 38.79 to 468.91 ± 27.62 ml CH<sub>4</sub>/g VS, and 0.00 ± 0.00 to 202.75 ± 40.86 ml CH<sub>4</sub>/g VS, respectively. The highest digestibility was obtained from the anaerobic digestion of the seed of mangosteen, which was 99.3% and 99.4% from the fresh ripe and rotten mangosteen, respectively. The lowest digestibility was obtained from the mangosteen peel, which was 0.00%. The chemical composition, the presence of flavor compounds, and the physical structure of the fruit fragments affect the methane production. © 2016 Elsevier Ltd</p>					
2.	Jin, S. Lee, J.H. Seo, D.W. Cahyadi, M. Choi, N.R. Heo, K.N. Jo, C.	Division of Animal and Dairy Science, Chungnam National University, Deajeon, South Korea  Department of Animal Science, of , , Surakarta, Indonesia	2016	A major locus for quantitatively measured Shank Skin Color Traits in Korean Native Chicken	Asian-Australasian Journal of Animal Sciences Volume 29, Issue 11, November 2016, Pages 1555-1561 ISSN: 10112367 DOI: 10.5713/ajas.16.0183

	Park, H.B.				
	<p><b>Abstract</b>  Shank skin color of Korean native chicken (KNC) shows large color variations. It varies from white, yellow, green, bluish or grey to black, whilst in the majority of European breeds the shanks are typically yellow-colored. Three shank skin color-related traits (i.e., lightness [L*], redness [a*], and yellowness [b*]) were measured by a spectrophotometer in 585 progeny from 68 nuclear families in the KNC resource population. We performed genome scan linkage analysis to identify loci that affect quantitatively measured shank skin color traits in KNC. All these birds were genotyped with 167 DNA markers located throughout the 26 autosomes. The SOLAR program was used to conduct multipoint variance-component quantitative trait locus (QTL) analyses. We detected a major QTL that affects b* value (logarithm of odds [LOD] = 47.5, p = 1.60×10-49) on GGA24 (GGA for Gallus gallus). At the same location, we also detected a QTL that influences a* value (LOD = 14.2, p = 6.14×10-16). Additionally, beta-carotene dioxygenase 2 (BCDO2), the obvious positional candidate gene under the linkage peaks on GGA24, was investigated by the two association tests: i.e., measured genotype association (MGA) and quantitative transmission disequilibrium test (QTDT). Significant associations were detected between BCDO2 g.9367 A&gt;C and a* (PMGA = 1.69×10-28; PQTDT = 2.40×10-25). The strongest associations were between BCDO2 g.9367 A&gt;C and b* (PMGA = 3.56×10-66; PQTDT = 1.68×10-65). However, linkage analyses conditional on the single nucleotide polymorphism indicated that other functional variants should exist. Taken together, we demonstrate for the first time the linkage and association between the BCDO2 locus on GGA24 and quantitatively measured shank skin color traits in KNC. © 2016 by Asian-Australasian Journal of Animal Sciences.</p>				
3.	Latifatunissa, Z.N. Kawiji Khasanah, L.U. Utami, R	Department of Food Science and Technology, Agriculture , Sebelas Maret University, Jl. Ir. Sutami 36A, Surakarta, Indonesia	2016	Effect of varieties composition of wall material on physical and chemistry characteristics of microcapsulated kaffir lime leave oleoresin (Citrus hystrix DC)	6th Nanoscience and Nanotechnology Symposium, NNS 2015; Sunan Hotel Surakarta; Indonesia; 4 November 2015 through 5 November 2015; Code 119431 Volume 1710, 8 February 2016, Article number 4941490 ISSN: 0094243X ISBN: 978-073541357-3 DOI: 10.1063/1.4941490
	<b>Abstract</b>				

	<p>This study aimed to determine the effect of variety composition of wall material on characteristic of micro capsulated kaffir lime leave oleoresin which includes yield, water content, and solubility in water, microstructure, residual solvent content and active compound content. This study used variety composition of maltodextrin and carrageenan (100%: 0%; 97%: 3%; 95%: 5%; 90%: 10%) as wall material, and kaffir lime leave oleoresin as core material which was extracted by maceration using ethanol as solvent. Analysis's result showed that the varieties composition of wall material influenced on yield and water content significantly. However, there was no significant influence discovered in solubility in water and residual solvent content. Active compounds contained in the product of oleoresin microcapsules kaffir lime leaves are citronella, citronellol, citronellyl acetate, nerolidol, phytol, farnesol while the levels of residual solvents in this study ranged from 0.01-0.015%. Based on experiment result showed that use carrageenan can produce preferable microstructure. © 2016 AIP Publishing LLC.</p> <p>Author keywords carrageenan; kaffir lime leaves oleoresin; maltodextrin; microencapsulation; wall material</p>				
4.	Manuhara, G.J. Khasanah, L.U. Utami, R.	Department of Food Science and Technology, Faculty of , Sebelas Maret University, Jl. Ir. Sutami no.36A, Central Java, Surakarta, Indonesia	2016	Changes in grammage, tearing resistance, and water vapor transmission rate of active paper incorporated with Cinnamaldehyde during storage at various temperatures	10th Joint Conference on Chemistry; Solo; Indonesia; 8 September 2015 through 9 September 2015; Code 119253 Volume 107, Issue 1, 5 February 2016, Article number 012031 ISSN: 17578981 DOI: 10.1088/1757-899X/107/1/012031
<p>Abstract Antimicrobial properties of active paper packaging incorporated with cinnamaldehyde and its application in the storage of agricultural products had been studied. However, changes in grammage, tear resistance and water vapor transmission rate (WVTR) of the active paper during storage is not yet known, whereas it is important to provide consideration in application of the active paper. This study aims to determine the changes in those physical properties during storage (20 days) at various temperatures (10, 20, 25, 30, and 40 °C). The grammage and WVTR of the active paper decreased as increase in storage time and</p>					

	<p>temperature, while the tearing resistance increased as storage time. Higher temperature caused slower increase in tearing resistance, but the results showed fluctuation. The results of Arrhenius plot indicated the activation energy (in kJ/mol) of those physical properties, sorted from the highest to the lowest as follows: 53.6 (grammage), 14.8 (WVTR) and 13.8 (tearing resistance). © Published under licence by IOP Publishing Ltd.</p> <p>Indexed keywords  Engineering controlled terms: Activation energy; Agricultural products; Arrhenius plots; Paper; Physical properties  Anti-microbial properties; Cinnamaldehyde; ITS applications; Paper packaging; Storage time; Tear resistance; Tearing resistance;  Water vapor transmission rate  Engineering main heading: Water vapor  PaperChem Variable: Basis Weight; Cinnamaldehyde; Paper; Physical Properties; Tear Strength</p>				
5.	Supriyadi Widijanto, H Pranoto Dewi A	Department of Agrotechnology, Agriculture, ebelas Maret University, Jl. Ir. Sutami 36A, Surakarta, Indonesia	2016	Improving quality of textile wastewater with organic materials as multi soil layering	10th Joint Conference on Chemistry; Solo; Indonesia; 8 September 2015 through 9 September 2015; Code 119253 Volume 107, Issue 1, 5 February 2016, Article number 012016 ISSN: 17578981 DOI: 10.1088/1757-899X/107/1/012016
<p><b>Abstract</b>  On agricultural land, fresh water is needed especially for irrigation. Alternative ways to fulfill needs of fresh water is by utilizing wastewater from industry. Wastewater that produced in the industry in Surakarta is over flowing especially textile wastewater. Wastewater that produced from industry has many pollutants that affected decreasing fresh water quality for irrigation. Multi Soil Layering (MSL) is one of method that utilize the soil ability as main media by increasing its function of soil structure to purify wastewater, so it does not contaminate the environment and reusable. This research was purposed to know affectivity of organic materials (such as rice straw, baggase, sawdust, coconut fibre, and corncob) and dosage (5%, 10% and 25%) in MSL, also get alternative purification ways with easy and cheaper price as natural adsorbent. This study using field and laboratory experiment. The result shows that MSL can be an alternative method of purification of wastewater. The appropriate composition of organic materials that can be used as adsorbent is MSL with wood sawdust 10% dosage because it can increase pH, decrease the number of Cr, ammonia, and phosphate but less effective to decrease BOD and COD. © Published under licence by IOP Publishing Ltd.</p>					

6.	Utami R Praseptiangga D Nurhartadi E Manuhara GJ Khasanah LU Azzahra FA Indrayati F	Department of Food Science and Technology, Faculty of , Universitas Sebelas Maret, Jl. Ir. Sutami 36A Kentingan, Surakarta, Indonesia	2016	Cassava starch-based edible coatings enriched with alpina purpurata and kaempferia rotunda essential oils for patin fillets preservation	Jurnal Teknologi ISSN: 01279696
<p>Abstract</p> <p>Cassava starch-based edible coating enriched with essential oil of <i>Alpinia purpurata</i> and <i>Kaempferia rotunda</i> was applied to preserve patin fillets during frozen storage. The quality of fillets was analyzed based on microbiological and chemical properties. Different concentration of essential oil in distilled water, 0% (control), 0.1% and 1% (v/v), was added in cassava starch-based edible coating. The addition of essential oil significantly inhibited the microbial growth by reducing protein deterioration and delaying lipid oxidation in fillets during 4 mo of frozen storage. The results indicates that essential oil of <i>Alpinia purpurata</i> and <i>Kaempferia rotunda</i> can be used as an alternative preservation as it could protect frozen fish fillets from deterioration and extend the shelf life. © 2016 Penerbit UTM Press. All rights reserved.</p>					
7.	Wahjuningsih SB Marsono Y Praseptiangga D Haryanto B	Faculty of Agricultural Technology, Semarang University, Jl. Soekarno Hatta, Semarang, Central Java, Indonesia  Department of Food and Agricultural Products Technology, of Agricultural Technology, Gadjah Mada	2016	Resistant starch content and glycaemic index of Sago ( <i>Metroxylon</i> spp.) starch and red bean ( <i>Phaseolus vulgaris</i> ) based analogue rice	Pakistan Journal of Nutrition ISSN: 16805194 DOI: 10.3923/pjn.2016.667.672

		University (UGM), Jl., Flora No. 1, Bulaksumur, Yogyakarta, Indonesia			
	<p><b>Abstract</b> Foods with low glycaemic index (GI) are part of the functional aliments recommended for patients with diabetes mellitus. These foods can be produced from materials with high amylose and/or high dietary fibre content by using specific processing technologies that increase their resistant starch content. Here, analogue rice formulations were prepared using sago and red beans as main materials, employing extrusion technology. We determined their resistant starch (RS) content and GI to evaluate their potential as functional foods for diabetics. Six formulations were tested: pure sago analogue rice (BS100) and five sago analogue rices with the addition of 5, 10, 15, 20 and 25% red bean flour (BSKM5, 10, 15, 20 and 25, respectively). The GIs were determined for 20 healthy volunteers. RS contents of BS100, BSKM5, 10, 15, 20 and 25 analogue rices were 12.25, 11.80, 11.18, 10.97, 10.24 and 9.28%, respectively. The lowest GI value was obtained with BS100 (40.7), while BSKM5 and BSKM10 had GIs of 48.3 and 50.4, respectively. Analogue rice BSKM15 and 20 had medium GIs, 68.8 and 69.5, respectively and BSKM25 was included in the high GI category (76.5). Pure sago analogue rice (BS100) and analogue sago rice with red bean flour added up to 10% (BSKM5 and 10) were included within low GI category, making them potential functional foods for type 2 diabetics. © Asian Network for Scientific Information, 2016.</p>				
8.	Cahyadi M Park HB Seo DW Jin S Choi N Heo KN Kang BS Jo C	Division of Animal and Dairy Science, Chungnam National University, Daejeon, South Korea  Department of Animal Science, of , Sebelas Maret University, Surakarta, Indonesia	2016	Variance component quantitative trait locus analysis for body weight traits in purebred Korean native chicken	Asian-Australasian Journal of Animal Sciences Volume 29, Issue 1, January 2016, Pages 43- 50 ISSN: 10112367 DOI: 10.5713/ajas.15.0193
	<p><b>Abstract</b> Quantitative trait locus (QTL) is a particular region of the genome containing one or more genes associated with economically important quantitative traits. This study was conducted to identify QTL regions for body weight and growth traits in purebred Korean native chicken (KNC). F1 samples (n = 595) were genotyped using 127 microsatellite markers and 8 single nucleotide polymorphisms that covered 2,616.1 centi Morgan (cM) of map length for 26 autosomal linkage groups. Body weight traits were</p>				

	<p>measured every 2 weeks from hatch to 20 weeks of age. Weight of half carcass was also collected together with growth rate. A multipoint variance component linkage approach was used to identify QTLs for the body weight traits. Two significant QTLs for growth were identified on chicken chromosome 3 (GGA3) for growth 16 to 18 weeks (logarithm of the odds [LOD] = 3.24, Nominal p value = 0.0001) and GGA4 for growth 6 to 8 weeks (LOD = 2.88, Nominal p value = 0.0003). Additionally, one significant QTL and three suggestive QTLs were detected for body weight traits in KNC; significant QTL for body weight at 4 weeks (LOD = 2.52, nominal p value = 0.0007) and suggestive QTL for 8 weeks (LOD = 1.96, Nominal p value = 0.0027) were detected on GGA4; QTLs were also detected for two different body weight traits: body weight at 16 weeks on GGA3 and body weight at 18 weeks on GGA19. Additionally, two suggestive QTLs for carcass weight were detected at 0 and 70 cM on GGA19. In conclusion, the current study identified several significant and suggestive QTLs that affect growth related traits in a unique resource pedigree in purebred KNC. This information will contribute to improving the body weight traits in native chicken breeds, especially for the Asian native chicken breeds. Copyright © 2016 by Asian-Australasian Journal of Animal Sciences.</p>				
9.	Supriyadi Hartati S Machfiroh N Ustiatik R	Department of Soil Science, University of Sebelas, Jl. Ir. Sutami 36A Kentingan, Surakarta, Central Java, Indonesia	2016	Soil quality index in the upstream of bengawan solo river basin according to the soil function in nutrient cycling based on soybean production in agroforestry	AGRIVITA Volume 38, Issue 1, February 2016, Pages 55- 63 ISSN: 01260537 DOI: 10.17503/agrivita.v38i1.496
<p><b>Abstract</b> Over the function of the upstream region watersheds causes the soil susceptible to degradation of soil fertility. Agroforestry systems that have been implemented should be reviewed to determine their effectiveness in improving soil fertility using a soil quality index. The varieties of soybean that cultivated in the study site were Grobogan, Kaba, and Argomulyo. The variables of this study consists of organic-C, pH, cation exchange capacity (CEC), total-N, available-P, available-K, Na, Ca, Mg, base saturation, and electrical conductivity (EC). Soil quality index calculation performed on selected outcome variables principal component analysis (PCA) which is then multiplied by the weights index on each PC. Selected variables from PCA consist of available-P, available-K, base saturation, and pH. Soil quality index values for all types of Agroforestry in the upstream of Bengawan Solo river basin</p>					



	(Wonogiri) is under secondary forest (<4.1) so that it can be concluded that the adoption of Agroforestry in the upstream of Bengawan Solo river basin has not effect on soil quality based on soil functions in the recycling of nutrients. Mean of soybean grain yield in agroforestry system are higher than the mean of national soybean production, but there are an obstacle such as light conditions. © 2016, Agriculture Faculty Brawijaya University. All rights reserved.				
10.	Supriyadi, Utami, A.D. Widijanto, H. Sumani	Faculty of Agriculture, of (UNS), Surakarta, Indonesia	2015	Organophosphate residue in different land use in Mojogedang Karanganyar central java Indonesia	Modern Applied Science Volume 9, Issue 6, 2015, Pages 87-96 ISSN: 19131844 DOI: 10.5539/mas.v9n6p87
	<p>Abstract</p> <p>The use of inorganic pesticides result in residues of pesticides in the environment. Mojogedang is an area that has implemented a system of organic farming but also there are farmers who apply chemical pesticides. Pesticides are commonly used by farmers in Mojogedang causing residues, such as organophosphate. Organophosphates contains the active ingredient with a relatively long persistence in the environment and dangerous that it needs a study to investigate the organophosphate residues. The aims of this research to study the level of organophosphate residue and their exposure to soil properties in a variety of land uses in Mojogedang (paddy field, dryland, community forest). This study to analyze organic-C, pH, soil texture, total microbia and organophosphate residues including diazinon, parathion, profenofos, ethion, chlorpyrifos, malathion. Data was analyzed statistically using correlation analysis. Results of this study show that all residue concentration of organophosphate residues active ingredients in organic paddy field soil, inorganic paddy field soil, dryland soil, community forest soil less than maximum residue limits (MRL) 0,05 mg/kg. Residue levels of horticultural dryland with profenofos active ingredient more than MRL (62,060 mg/kg) while the other active ingredient less than MRL. Soil texture is a soil property which closely correlate with organophosphate residues in the soil (sand fraction <math>r = -0,601</math>, dust fraction <math>r = -0,658</math>, clay fraction = <math>-0,509</math>). © by the author(s).</p>				
11.	Ariviani, S. Anggrahini, S. Naruki, S. Raharjo, S.	Department of Agricultural Technology, Faculty of Agriculture, , Jl. Ir. Sutami No. 36A, Ketingan, Surakarta, Indonesia	2015	Characterization and chemical stability evaluation of $\beta$ - carotene	Internation Food Research Journal Volume 22, Issue 6, 2015, Pages 2432-2439 ISSN: 19854668



				microemulsions prepared by spontaneous emulsification method using VCO and palm oil as oil phase	
<p><b>Abstract</b>  <math>\beta</math>-carotene is one of the major carotenoids in the human diet which shows pro-vitamin A activity, and is associated with prevention of cardiovascular diseases, cancer, and immune system enhancer. However, the poor water-solubility, high melting point, and chemical instability of carotenoids is currently a challenge to their application in the food sector. In this research, the characteristics of <math>\beta</math>-carotene microemulsions (0.025%, 0.05% wt) prepared with ternary food grade surfactants (Span 80, Span 40, Tween 80) and VCO (virgin coconut oil) or palm oil as oil phase, using spontaneous emulsification method were evaluated. Chemical stability of <math>\beta</math>-carotene loaded microemulsions during storage was also examined. The result showed that <math>\beta</math>-carotene microemulsions prepared using either VCO or palm oil had viscosity, specific gravity, refractive index and pH values which were not significantly different. The mean particle diameters (z-average) of the <math>\beta</math>-carotene microemulsions ranged from 20 - 23 nm and the size distributions were monomodal with a narrow particle size range from 10 - 50 nm. The <math>\beta</math>-carotene microemulsions showed significantly different zeta potential, i.e.: <math>-14.4 \pm 0.8\text{mV}</math> (VCO, 0.025 %wt), <math>-10.6 \pm 0.3 \text{ mV}</math> (VCO, 0.05 %wt), <math>-24.6 \pm 1.0 \text{ mV}</math> (palm oil, 0.025 %wt) and <math>-16.6 \pm 0.9 \text{ mV}</math> (palm oil, 0.05 %wt). The <math>\beta</math>-carotene degradation during storage was slower in microemulsions with palm oil as an oil phase than that of VCO as an oil phase. These results have important consequences for the design and utilization of microemulsions as delivery systems to encapsulate and stabilize <math>\beta</math>-carotene for food or pharmaceutical applications.</p>					
12.	Kwon, R Cahyadi, M Park, H.B. Seo D.W. Jin, S. Kim, S.W. Choi, Y.I.	Kuju Agricultural Research Center, Kyushu University, Kuju 4045-4, Taketa City, Oita, Japan  Department of Animal Science and Biotechnology, College of and Life Sciences, Chungnam National ,	2015	Association of variation in the MC4R gene with meat quality traits in a commercial pig population	Journal of the Faculty of Agriculture, Kyushu University Volume 60, Issue 1, 1 February 2015, Pages 113-118 ISSN: 00236152

	Kim, K.S. Gotoh, T. Lee, J.H.	Daejeon, South Korea			
	<p><b>Abstract</b>  The melanocortin-4 receptor (MC4R) gene is known to encode a membrane-bound receptor protein and is a member of the melanocortin receptor family of genes. In mammals, these genes are involved in energy homeostasis and in regulating feeding behavior and body weight. The objective of the present study was to examine if there were any associations between variations in the MC4R gene with meat quality traits in a commercial pig population in Korea. Among the total of 593 commercial pigs, sire information was retrieved from 232 pigs. These animals were successfully genotyped for the c.892A&gt;G (p. Asp298Asn) single nucleotide polymorphism (SNP) by using ThqI PCR-RFLP methods. Association analyses between this SNP and meat quality traits were performed using a general linear model (GLM) including sire effect. This SNP was significantly associated with backfat thickness (P&lt;0.05), marbling (P&lt;0.01). Interestingly, this SNP marker was also associated with volatile basic nitrogen after 14 days of storage (P&lt;0.05). To our knowledge, it is the first results observed for the MC4R genotypes with volatile basic nitrogen after 14 days of storage in the commercial pig population. Therefore, these results suggest that the MC4R gene can be targeted in marker-assisted breeding for selecting pigs with good meat quality.</p>				
13.	Seo, D.W. Park, H.B. Jung, S. Cahyadi, M. Choi, N.R. Jin, S. Heo, K.N. Jo, C. Lee, J.H.	Division of Animal and Dairy Science, Chungnam National University, Deajeon, South Korea  Department of Animal Science, of , , Surakarta, Indonesia	2015	QTL analyses of general compound, color, and pH traits in breast and thigh muscles in Korean native chicken	Livestock Science Volume 182, 1 December 2015, Pages 145- 150 ISSN: 18711413 DOI: 10.1016/j.livsci.2015.09.020
	<p><b>Abstract</b>  Meat quality is one important selection criterium to consumers. In Asian countries, demands for native chicken breeds with better meat quality-related traits are increasing. In this study, 13 meat quality related traits in Korean native chicken were collected to identify QTLs that could affect the traits. A total of 20 novel QTLs, including 6 for general meat compounds (GC), 7 for the meat color (MC), and 7 for pH were identified. Significant QTLs (i.e., 1% chromosome wide significance) for crude protein contents in thigh and breast muscles were identified. Other QTLs were also identified with suggestive significance levels (i.e., 5% level of</p>				

	chromosome wide significance). Results presented here could provide useful information to find causal variants to improve meat quality traits in chicken. © 2015 Elsevier B.V.				
14.	Sudadi S Suryono S	Department of Soil Science, Sebelas Maret University Ir, Sutami road 36A Kentingan, Surakarta, Indonesia	2015	Exogenous application of tryptophan and indole acetic acid (IAA) to induce root nodule formation and increase soybean yield in acid, neutral and alkaline soil	AGRIVITA Volume 37, Issue 1, February - 2015, Pages 37-44 ISSN: 01260537
<p><b>Abstract</b>  The research aimed to study whether soil pH affects exogenous application of amino acid tryptophan and IAA in increasing root nodules and soybean yield. The experiment was conducted in greenhouse using 20 cm diameter plastic pot filled with fine soil, arranged in completely randomized design (CRD) with four treatments. Each treatment combination was repeated three times. Three seeds of local soybean variety were planted into each pot then to remain one plant a week after planting. Variables observed were root nodules number, shoot dry weight and seed yield. Plant nutrients were supplied in the form of solution to meet crop needs. The data obtained were analyzed statistically by F test at 5% of level confidence, followed by Duncan's multiple range test when there was a significant effect. The results showed that both exogenous amino acid tryptophan and IAA increased number of root nodules, shoot and root dry weight and soybean yield. Higher root nodules number was taken from the treatment combination of 0.001 ppm IAA applied at V<sub>3</sub> in Alfisol and Vertisols, and 1.0 ppm on Entisols. However, the highest soybean yields were taken from the treatment combination of 1.0 ppm tryptophan applied at V<sub>0</sub> in Alfisols (6.51 g plant<sup>-1</sup>). © 2015, Agriculture Faculty Brawijaya University. All rights reserved.</p>					
15.	Ariviani S Anggrahini S Naruki S	Department of Agricultural Technology, Faculty of , Sebelas Maret University, Jl. Ir. Sutami No.	2015	Characterization and chemical stability	International Food Research Journal Volume 22, Issue 6, 2015, Pages 2432-2439 ISSN: 19854668

	Raharjo S	36A, Kentingan, Surakarta, Indonesia  Gadjah Mada University, Department of Food and Agricultural Product Technology, Yogyakarta, Indonesia		evaluation of $\beta$ -carotene microemulsions prepared by spontaneous emulsification method using VCO and palm oil as oil phase	
<p><b>Abstract</b>  <math>\beta</math>-carotene is one of the major carotenoids in the human diet which shows pro-vitamin A activity, and is associated with prevention of cardiovascular diseases, cancer, and immune system enhancer. However, the poor water-solubility, high melting point, and chemical instability of carotenoids is currently a challenge to their application in the food sector. In this research, the characteristics of <math>\beta</math>-carotene microemulsions (0.025%, 0.05% wt) prepared with ternary food grade surfactants (Span 80, Span 40, Tween 80) and VCO (virgin coconut oil) or palm oil as oil phase, using spontaneous emulsification method were evaluated. Chemical stability of <math>\beta</math>-carotene loaded microemulsions during storage was also examined. The result showed that <math>\beta</math>-carotene microemulsions prepared using either VCO or palm oil had viscosity, specific gravity, refractive index and pH values which were not significantly different. The mean particle diameters (z-average) of the <math>\beta</math>-carotene microemulsions ranged from 20 - 23 nm and the size distributions were monomodal with a narrow particle size range from 10 - 50 nm. The <math>\beta</math>-carotene microemulsions showed significantly different zeta potential, i.e.: <math>-14.4 \pm 0.8\text{mV}</math> (VCO, 0.025 %wt), <math>-10.6 \pm 0.3 \text{ mV}</math> (VCO, 0.05 %wt), <math>-24.6 \pm 1.0 \text{ mV}</math> (palm oil, 0.025 %wt) and <math>-16.6 \pm 0.9 \text{ mV}</math> (palm oil, 0.05 %wt). The <math>\beta</math>-carotene degradation during storage was slower in microemulsions with palm oil as an oil phase than that of VCO as an oil phase. These results have important consequences for the design and utilization of microemulsions as delivery systems to encapsulate and stabilize <math>\beta</math>-carotene for food or pharmaceutical applications.</p>					
16.	Kwon R Cahyadi M Park HB Seo DW Jin S	Kuju Agricultural Research Center, Kyushu University, Kuju 4045-4, Taketa City, Oita, Japan  Department of Animal Science and	2015	Association of variation in the MC4R gene with meat quality traits in a	Journal of the Faculty of Agriculture, Kyushu University  Volume 60, Issue 1, 1 February 2015, Pages 113-118

	Kim SW Choi YI Kim KS Gotoh T Lee JH	Biotechnology, College of Agriculture and Life Sciences, Chungnam National University, Daejeon, South Korea		commercial pig population	ISSN: 00236152
	<p><b>Abstract</b>  The melanocortin-4 receptor (MC4R) gene is known to encode a membrane-bound receptor protein and is a member of the melanocortin receptor family of genes. In mammals, these genes are involved in energy homeostasis and in regulating feeding behavior and body weight. The objective of the present study was to examine if there were any associations between variations in the MC4R gene with meat quality traits in a commercial pig population in Korea. Among the total of 593 commercial pigs, sire information was retrieved from 232 pigs. These animals were successfully genotyped for the c.892A&gt;G (p. Asp298Asn) single nucleotide polymorphism (SNP) by using ThqI PCR-RFLP methods. Association analyses between this SNP and meat quality traits were performed using a general linear model (GLM) including sire effect. This SNP was significantly associated with backfat thickness (<math>P&lt;0.05</math>), marbling (<math>P&lt;0.01</math>). Interestingly, this SNP marker was also associated with volatile basic nitrogen after 14 days of storage (<math>P&lt;0.05</math>). To our knowledge, it is the first results observed for the MC4R genotypes with volatile basic nitrogen after 14 days of storage in the commercial pig population. Therefore, these results suggest that the MC4R gene can be targeted in marker-assisted breeding for selecting pigs with good meat quality.</p>				
17.	Seo DW Park HB Jung S Cahyadi M Choi NR Jin S Heo KN Jo C Lee JH	Division of Animal and Dairy Science, Chungnam National University, Deajeon, South Korea  Department of Animal Science, of, Sebelas Maret University, Surakarta, Indonesia	2015	QTL analyses of general compound, color, and pH traits in breast and thigh muscles in Korean native chicken	Livestock Science Volume 182, 1 December 2015, Pages 145- 150 ISSN: 18711413
	<p><b>Abstract</b>  Meat quality is one important selection criterium to consumers. In Asian countries, demands for native chicken breeds with better</p>				

	meat quality-related traits are increasing. In this study, 13 meat quality related traits in Korean native chicken were collected to identify QTLs that could affect the traits. A total of 20 novel QTLs, including 6 for general meat compounds (GC), 7 for the meat color (MC), and 7 for pH were identified. Significant QTLs (i.e., 1% chromosome wide significance) for crude protein contents in thigh and breast muscles were identified. Other QTLs were also identified with suggestive significance levels (i.e., 5% level of chromosome wide significance). Results presented here could provide useful information to find causal variants to improve meat quality traits in chicken.				
18.	Utami R Kawiji Nurhartadi E Putra AYJ Setiawan A	Department of Food Science and Technology, Agriculture , Sebelas Maret University, Jl. Ir. Sutami 36A, Surakarta 57126, Indonesia	2014	The effect of cassava starch-based edible coating enriched with kaempferia rotunda and curcuma xanthorrhiza essential oil on refrigerated patin fillets quality	International Food Research Journal  Volume 21, Issue 1, 2014, Pages 413-419  ISSN: 19854668
<p><b>Abstract</b></p> <p>The effects of cassava starch-based edible coating enriched with <i>Kaempferia rotunda</i> and <i>Curcuma xanthorrhiza</i> essential oil on patin fillets quality during 8 days refrigerated storage were investigated to determine their ability to extend fish shelf life. Fish quality was determined based on microbiological (Total Plate Count/TPC) and chemical (Total Volatile Bases/TVB, Thiobarbituricacid/TBA and pH) properties. Concentration of each <i>Kaempferia rotunda</i> and <i>Curcuma xanthorrhiza</i> essential oil was varied at 0.1% and 1% while without essential oil (0%) was named as control treatment. The results indicated that essential oil enrichment on edible coating were able to maintain the patin fillet's quality. Based on microbiological proprieties, patin fillet's quality only could be maintained by applying 1% essential oils during 8 day storage. Furthermore, 1% essential oils treatment also could retain patin fillet's quality longer than others treatments based on chemical properties. Therefore, <i>Kaempferia rotunda</i> and <i>Curcuma xanthorrhiza</i> essential oils enriched on cassava starch-based edible coating could extend patin fillet's shelf life and use as an alternative fish preservation.</p>					

19.	Jin S Park HB Seo DW Cahyadi M Choi NR Heo KN Jo C Lee JH	Department of Animal Science and Biotechnology, Chungnam National University, Deajeon, South Korea  Department of Animal Science, of , Sebelas Maret University, Surakarta, Indonesia	2014	Association of MC1R genotypes with shank color traits in Korean native chicken	Livestock Science  Volume 170, 1 December 2014, Pages 1-7  ISSN: 18711413
<p><b>Abstract</b></p> <p>A nation-wide conservation project for the Korean native chicken (KNC) was launched in 1994 and has been conducted primarily by the Korean government. As a result, five lines of KNC have been developed, classified mainly by plumage color. When the lines were developed, charcoal gray and dark green shank colors were selected to distinguish them from broiler breeds, which have yellow shank colors. After more than 20 generations of selection with the criteria, the shank colors in KNC still display large color variations. From an economic viewpoint, shank color is a very important trait because different consumer preferences are prevalent in different areas of Korea. In this study, 596 F<sub>1</sub> individuals from five KNC lines were used to investigate shank color variation by using a spectrophotometer. Additionally, four SNPs genotyped from the strong candidate gene for pigmentation, MC1R, were genotyped using the Fluidigm Dynamic Array. The L* (lightness), a* (redness), and b* (yellowness) values showed normal distributions, and the heritabilities of these traits were estimated as 0.5, 0.37, and 0.63, respectively. The results also indicated strong line effects for b*, except for the G (gray) and L (black) lines. Two particular SNPs in the MC1R gene, c.212C&gt;T and c.427A&gt;G, were significantly associated with the b* values of the shank colors. The results suggested that the SNP markers in the study could be used for the selection of KNC individuals with desirable shank colors.</p>					
20.	Cahyadi M Jo C Lee JH	Department of Animal Science and Biotechnology, College of Agriculture and Life Sciences, Chungnam National University, Daejeon 305-764, South Korea  Seoul National University, Center for Food and Bioconvergence, and	2014	Quantitative trait loci and candidate genes for the economic traits in meat-type chicken	World's Poultry Science Journal  Volume 70, Issue 2, June 2014, Pages 329-342  ISSN: 00439339  DOI: 10.1017/S0043933914000348



		Research, Institute for and Life Science, Seoul 151-921, South Korea			
<p><b>Abstract</b> Recent progress has been achieved in the identification of quantitative trait loci (QTLs) and candidate genes, and they have been found to be very important for the production of chickens with more desirable meat characteristics. The major economic traits of chicken meat production were divided into two major categories, namely growth and carcass condition. In this paper, the QTL locations and candidate genes for the above mentioned traits are reviewed. The results presented here will provide guidelines for the selection of high quality and highly productive chickens through the marker assisted selection (MAS), which should be extensively used by poultry breeders and companies. © 2014 World's Poultry Science Association.</p>					
21.	Sudibya Purnomo SH	Department of Animal Science, Faculty of , Sebelas Maret University, Jln. Ir. Sutami 36 A, Surakarta, Indonesia	2013	Milk chemical composition of dairy cows fed rations containing protected omega-3 fatty acids and fermented rice bran	Media Peternakan Volume 36, Issue 3, 2013, Pages 224-229 ISSN: 01260472 DOI: 10.5398/medpet.2013.36.3.224
<p><b>Abstract</b> The research was conducted to investigate the effect of ration containing protected omega-3 and fermented rice bran on chemical composition of dairy milk. The research employed 10 female PFH dairy cows of 2-4 years old with body weight 300-375 kg. The research was assigned in randomized complete block design. The treatment consisted of P0= control ration, P1= P0 + 20% fermented rice bran, P2= P1 + 4% soya bean oil, P3= P1 + 4% protected tuna fish oil and P4= P1 + 4% protected lemuru fish oil. The results showed that the effects of fish oil supplementation in the rations significantly (P&lt;0.01) decreased feed consumption, cholesterol, low density lipoprotein, lipids, and saturated fatty acids. Meanwhile, it increased milk production, content of high density lipoprotein, omega-3, omega-6 and unsaturated fatty acids in the dairy cows milk. It is concluded that the inclusion of 4% protected fish oil in the rations can produce healthy milk by decreasing milk cholesterol and increasing omega-3 fatty acids content.</p>					

22.	Kartikasari LR Hughes RJ Geier MS Makrides M Gibson RA	Universitas Sebelas Maret, Department of Animal Product Technology, Surakarta, Indonesia  FOODplus Research Centre, School of Agriculture, Food and Wine, University of Adelaide, Adelaide, SA, Australia  South Australian Research and Development Institute (SARDI), Pig and Poultry Production Institute, Roseworthy Campus, SA, Australia	2012	Dietary alpha- linolenic acid enhances omega- 3 long chain polyunsaturated fatty acid levels in chicken tissues	Prostaglandins Leukotrienes and Essential Fatty Acids  Volume 87, Issue 4-5, October 2012, Pages 103-109 ISSN: 09523278 DOI: 10.1016/j.plefa.2012.07.005
<p><b>Abstract</b> The effects of enriching broiler chicken diets with a vegetable source of n-3 fat in the form of alpha-linolenic acid (ALA, 18:3. n-3) on the accumulation of n-3 long chain polyunsaturated fatty acids (LCPUFA) in chicken meat were investigated. Sixty unsexed one-day-old broiler chickens (Cobb 500) were randomly allocated to one of six diets (n=10 birds/diet) for 4 weeks. The ALA levels varied from 1 to 8% energy (%en) while the level of the n-6 fatty acid linoleic acid (LA, 18:2. n-6) was held to less than 5%en in all diets. At harvest (day 28) the levels of n-3 LCPUFA including eicosapentaenoic acid (EPA), docosapentaenoic acid (DPA) and docosahexaenoic acid (DHA) in breast and thigh meat increased in a curvilinear manner as dietary ALA increased, reaching 4- to 9-fold above the levels seen in control birds. In contrast, arachidonic acid (AA) was reduced in response to increasing dietary ALA.</p>					
23.	Komariah Ito, K. Onishi, T. Senge, M.	Department of Soil Science, Faculty of Agriculture, of , Surakarta 57126, Indonesia	2011	Soil properties affected by combinations of soil solarization and organic amendment	Paddy and Water Environment Volume 9, Issue 3, September 2011, Pages 357-366 ISSN: 16112490 DOI: 10.1007/s10333-011-0253-7

	<p><b>Abstract</b>  A field experiment was conducted to investigate the effects on soil properties of solarization combined with rice bran additive. The treatments included control (bare soil), black polyethylene film mulch (BM), clear polyethylene film mulch (CM), rice bran mixture (RBMx), rice bran mulch (RBM), rice bran mixture and black polyethylene film mulch (RBMx + BM), rice bran and black polyethylene film mulch (RBM + BM), rice bran mixture and clear polyethylene film mulch (RBMx + CM), and rice bran and clear polyethylene film mulch (RBM + CM). Initially, 15 kg m<sup>-2</sup> of rice bran was applied to each treatment as the organic amendment. A cover of black or clear polyethylene film was then used to begin the soil solarization process. Approximately 49 days later, the polyethylene film was removed and five broccoli seedlings per replication were planted 6 weeks later. The combination of rice bran mixture with the clear/transparent polyethylene film mulch (RBMx + CM) raised both the mean and maximum soil temperatures over 0-30 cm of soil depth. Maximum soil temperature under the RBMx + CM treatment was the highest of all treatments (77°C) and were about 32°C greater than under the control, while it was only 52°C under RBM + BM treatment. Combining rice bran with clear/transparent polyethylene film mulch during the soil solarization process is recommended for raising soil temperatures. Further investigation over a longer period of soil solarization process with rice bran-organic amendment and polyethylene film mulch combinations is required to more accurately determine their effects on soil properties and crop production. © 2011 Springer-Verlag.</p>				
24.	Cahyani, V.R. Kimura, M.	Faculty of Agriculture, , Surakarta, Indonesia	2009	Succession and phylogenetic composition of microbial communities responsible for the composting process of rice straw	Composting: Processing, Materials and Approaches 2009, Pages 69-112 ISBN: 978-160741438-4
	<p><b>Abstract</b>  The application of organic fertilizers to paddy fields to increase rice yield has a long history in Asian countries. Historically, one of the most common organic fertilizers is rice straw (RS) compost. Although the importance of RS compost for sustainable rice production has been well documented, little attention had been paid to the composting process from the viewpoint of soil</p>				

	<p>microbiology. This chapter reports the succession and phylogenetic composition of microbial communities responsible for the composting process of RS, as evaluated by phospholipid fatty acid (PLFA) composition and DNA sequencing after denaturing gradient gel electrophoresis (DGGE) of PCR products of various microbial groups. The section topics in the chapter are as follows: © 2009 Nova Science Publishers, Inc. All rights reserved.</p>				
25.	<p>Cahyani, V.R. Murase, J. Asakawa, S. Kimura, M.</p>	<p>Graduate School of Bioagricultural Sciences, Nagoya University, Nagoya 464-8601, Japan</p> <p>Department of Soil Science, of , , Jalan Ir. Sutami No.36A Kertingan, Surakarta, Jawa Tengah 57126, Indonesia</p>	2009	<p>Change in T4-type bacteriophage communities during the composting process of rice straw: Estimation from the major capsid gene (g23) sequences</p>	<p>Soil Science and Plant Nutrition Volume 55, Issue 4, August 2009, Pages 468-477 ISSN: 00380768 DOI: 10.1111/j.1747-0765.2009.00391.x</p>
<p><b>Abstract</b> The present study examined T4-type phage communities in rice straw (RS) under the composting process by analyzing the composition of the major capsid gene (g23) of T4-type bacteriophages. The g23 clones were obtained from RS throughout the composting process from RS materials to composting RS in the curing stage (for 124 days). Most of the g23 clones were phylogenetically closely related to those in rice field soils and rice field floodwaters, and Paddy Groups II and III appeared to characterize the g23 genes in the composting RS. The diversity of g23 genes in the composting RS was highest in the RS material (day 0 after the onset of composting) and in the early thermophilic stage (day 7), and decreased markedly in the middle and curing stages. This change was in contrast to that of the bacterial community, which showed higher diversity in the middle and curing stages. There was no specific clone that characterized any stage during the composting process. These findings indicate that the phage community is not the major controlling agent in determining eubacterial succession and that the thermophilic stage in the composting process efficiently annihilated T4-type phages in the composting pile. © 2009 Japanese Society of Soil Science and Plant Nutrition.</p>					
26.	<p>Cahyani, V.R. Murase, J.</p>	<p>Department of Soil Science, Faculty of Agriculture, ,</p>	2009	<p>T4-type bacteriophage</p>	<p>Soil Science and Plant Nutrition Volume 55, Issue 2, April 2009, Pages 264-</p>

	Asakawa, S. Kimura, M.	Jalan Ir. Sutami No.36A Ketingan, Surakarta, Jawa Tengah 57126, Indonesia		communities estimated from the major capsid genes (g23) in manganese nodules in Japanese paddy fields	270 ISSN: 00380768 DOI: 10.1111/j.1747-0765.2009.00363.x
<p><b>Abstract</b> The present study compared the capsid gene (g23) of T4-type bacteriophages (phages) in Mn nodules with those in the plow layer soil and subsoils of two Japanese paddy fields by applying the primers MZIA1bis and MZIA6 to DNA extracts from the nodules and soils. The deduced amino acid sequences of the g23 genes in the Mn nodules were similar to those in the plow layer soil and in the subsoils. This result indicated that similar T4-type phage communities developed at these sites and that the diversity of T4-type phage communities was wide enough to cover those in the plow layer soil and in the subsoils. The majority of g23 clones formed several clusters with the clones and phages obtained from far-apart paddy fields, and the sequences of two clones were completely identical to a phage and a clone from other paddy fields at the nucleotide or amino acid level, indicating horizontal transfer of g23 genes between those paddy fields. A clone with a long nucleotide residue (686 bp) and a distribution remote from the other clones in the phylogenetic tree indicated that there were many uncharacterized, novel g23 genes in the paddy fields. © 2009 Japanese Society of Soil Science and Plant Nutrition.</p>					
27.	Cahyani, V.R. Murase, J. Ishibashi, E. Asakawa, S. Kimura, M.	Graduate School of Bioagricultural Sciences, Nagoya University, Nagoya 464-8601, Japan  Agricultural Experiment Station, Okayama Prefectural General Agricultural Center, Okayama 709- 0801, Japan	2009	Phylogenetic positions of Mn <sup>2+</sup> - oxidizing bacteria and fungi isolated from Mn nodules in rice field subsoils	Biology and Fertility of Soils Volume 45, Issue 4, March 2009, Pages 337- 346 ISSN: 01782762 DOI: 10.1007/s00374-008-0337-8
<p><b>Abstract</b></p>					

	<p>We isolated manganous ion (Mn<sup>2+</sup>) oxidizing bacteria and fungi from Mn nodules collected from two Japanese rice fields. The phylogenetic position of the Mn-oxidizing bacteria and fungi was determined based on their 16S rDNA and 18S rDNA sequences, respectively. Among 39 bacterial and 25 fungal isolates, Burkholderia and Acremonium strains were the most common and dominant Mn<sup>2+</sup>-oxidizing bacteria and fungi, respectively. Majority of the Mn-oxidizing bacteria and fungi isolated from the Mn nodules belonged to the genera that had been isolated earlier from various environments. Manganese oxide depositions on Mn<sup>2+</sup>-containing agar media by these microorganisms proceeded after their colony developments, indicating that the energy produced from Mn<sup>2+</sup> oxidation is poorly used for microbial growth. © 2008 Springer-Verlag.</p>				
28.	<p>Watanabe, T. Cahyani, V.R. Murase, J. Ishibashi, E. Kimura, M. Asakawa, S.</p>	<p>Laboratory of Soil Biology and Chemistry, Graduate School of Bioagricultural Sciences, Nagoya University, Chikusa, Nagoya 464-8601, Japan</p> <p>Laboratory of Soil Biology and Chemistry, Graduate School of Bioagricultural Sciences, Nagoya , Nagoya 464-8601, Japan</p>	2009	<p>Methanogenic archaeal communities developed in paddy fields in the Kojima Bay polder, estimated by denaturing gradient gel electrophoresis, real-time PCR and sequencing analyses</p>	<p>Soil Science and Plant Nutrition Volume 55, Issue 1, February 2009, Pages 73-79 ISSN: 00380768 DOI: 10.1111/j.1747-0765.2008.00334.x</p>
<p><b>Abstract</b> Methanogenic archaeal communities inhabiting the paddy field soils in the Kojima Bay polder were investigated using polymerase chain reaction-denaturing gradient gel electrophoresis (PCR-DGGE), real-time PCR and sequencing analyses. Soil samples of the plow and subsoil layers were collected in 2006 from four paddy fields that were reclaimed between 1692 and 1954. The DGGE band patterns of the targeted 16S rRNA genes amplified from the extracted DNA from the samples were different from the patterns from the paddy field soils in diluvial and alluvial areas. The numbers of targeted 16S rRNA genes, which were involved with methanogenic archaeal and other archaeal sequences, were approximately 10<sup>7</sup>-10<sup>8</sup> and 10<sup>6</sup> g<sup>-1</sup> dry soil in the plow and subsoil layers, respectively. Sequences of methanogenic archaeal 16S rRNA genes belonging to Methanocellales (Rice cluster I), Methanosarcinales and Methanobacteriales were obtained from the major DGGE bands. Whereas sequences in Methanomicrobiales, which were predominant methanogens in the diluvial and alluvial paddy fields, were not recovered. Known halophilic and methylotrophic methanogens, which are characteristic of saline and marine environments, were not detected. These results indicate that distinctive methanogenic archaeal communities have developed in the paddy field soils in the Kojima</p>					

	Bay polder. © 2009 Japanese Society of Soil Science and Plant Nutrition.				
29.	Cahyani, V.R. Murase, J. Ikeda, A. Taki, K. Asakawa, S. Kimura, M.	Graduate School of Bioagricultural Sciences, Nagoya University, Nagoya 464-8601, Japan  Aichi-ken Agricultural Research Center, Aichigun 480-1193, Japan	2008	Bacterial communities in iron mottles in the plow pan layer in a Japanese rice field: Estimation using PCR-DGGE and sequencing analyses	Soil Science and Plant Nutrition Volume 54, Issue 5, October 2008, Pages 711-717 ISSN: 00380768 DOI: 10.1111/j.1747-0765.2008.00291.x
<p><b>Abstract</b> Bacterial communities in iron (Fe) mottles in the plow pan layer in a Japanese rice field were estimated using polymerase chain reaction-denaturing gradient gel electrophoresis (PCR-DGGE) analysis targeting 16S rDNA genes. The DGGE band patterns indicate that distinct bacterial communities with lower diversity inhabit Fe mottles compared with the reference soil matrix. Many of the DGGE bands of the Fe mottles that were sequenced (12 of 29 DGGE bands) were closely related to bacteria involved with Fe oxidation and reduction: Siderooxidans ghiorisii, Azoarcus sp., Azovibrio sp., Dechloromonas sp., Acidimicrobium ferrooxidans, Geobacter psychrophilus, Clostridium sp., Desulfovibrio sp. and Desulfonatronum cooperativum. The results suggest that specific bacteria inhabit Fe mottles and may play a role in the Fe cycle. © 2008 Japanese Society of Soil Science and Plant Nutrition.</p>					
30.	Cahyani, V.R. Murase, J. Ishibashi, E. Asakawa, S. Kimura, M.	Laboratory of Soil Biology and Chemistry, Graduate School of Bioagricultural Sciences, Nagoya University, Chikusa, Nagoya 464-8601, Japan  Graduate School of Bioagricultural Sciences, Nagoya, Nagoya 464-8601, Japan	2007	Bacterial communities in manganese nodules in rice field subsoils: Estimation using PCR-DGGE and sequencing analyses	Soil Science and Plant Nutrition Volume 53, Issue 5, October 2007, Pages 575-584 ISSN: 00380768 DOI: 10.1111/j.1747-0765.2007.00176.x
<p><b>Abstract</b> The phylogenetic positions of bacterial communities in manganese (Mn) nodules from subsoils of two Japanese rice fields were estimated using polymerase chain reaction-denaturing gradient gel electrophoresis (PCR-DGGE) analysis followed by sequencing</p>					



	<p>of 16S rDNA. The DGGE band patterns and sequencing analysis of characteristic DGGE bands revealed that the bacterial communities in Mn nodules were markedly different from those in the plow layer and subsoils. Three out of four common bands found in Mn nodules from two sites corresponded to Deltaproteobacteria and were characterized as sulfate-reducing and iron-reducing bacteria. The other DGGE bands of Mn nodules corresponded to sulfate and iron reducers (Deltaproteobacteria), methane-oxidizing bacteria (Gamma and Alphaproteobacteria), nitrite-oxidizing bacteria (Nitrospirae) and Actinobacteria. In addition, some DGGE bands of Mn nodules showed no clear affiliation to any known bacteria. The present study indicates that members involved in the reduction of Mn nodules dominate the bacterial communities in Mn nodules in rice field subsoils. © 2007 Japanese Society of Soil Science and Plant Nutrition.</p>				
31.	Chaidamsari, T. Samanhudi Sugiharti, H. Santoso, D. Anгент, G. C. De Maagd, R. A.	Business Unit Bioscience, Plant Research International B.V., P.O. Box 16, 6700 AA Wageningen, Netherlands  Faculty of , , Jl. Ir. Sutami 36A, Surakarta 57126, Indonesia	2006	Isolation and characterization of an AGAMOUS homologue from cocoa	Plant Science Volume 170, Issue 5, May 2006, Pages 968-975 ISSN: 01689452 DOI: 10.1016/j.plantsci.2006.01.006
	<p><b>Abstract</b> We report the cloning of a cDNA from TcAG, an AG (<i>Arabidopsis thaliana</i> MADS-box C-type transcription factor gene AGAMOUS) homologue from cocoa (<i>Theobroma cacao</i> L.). TcAG was in the cocoa flower expressed primarily in stamens and ovaries, comparable to AG in <i>Arabidopsis</i>. Additionally, we found that TcAG is also expressed in the fruit (pod) wall and during its entire development, as well as in the fruit pulp. Ectopic expression of TcAG in transgenic <i>A. thaliana</i> plants resulted in a range of weak to strong <i>apetala2</i> (<i>ap2</i>) mutant-like phenotypes as well as early flowering and curly leaves, as observed in other studies of plants overexpressing a functional AG homologue. The severity of the phenotypes correlated positively with the TcAG transcript level in the transgenic plants. © 2006 Elsevier Ireland Ltd. All rights reserved.</p>				
32.	Cahyani, V.R. Matsuya, K. Asakawa, S. Kimura, M.	Dept./Study Program of Soil Science, Faculty of Agriculture, , Jl. Ir. Sutami No. 36A Kentingan, Surakarta, Jawa Tengah 57126, Indonesia	2004	Succession and phylogenetic profile of eukaryotic communities in the composting process of rice straw estimated by	Biology and Fertility of Soils Volume 40, Issue 5, October 2004, Pages 334-344 ISSN: 01782762 DOI: 10.1007/s00374-004-0783-x

				PCR-DGGE analysis	
<p><b>Abstract</b>  The succession and phylogenetic profile of eukaryotic communities during the composting process of rice straw (RS) were studied by applying polymerase chain reaction-denaturing gradient gel electrophoresis (PCR-DGGE) analysis followed by sequencing of 18S rDNA. Principal component analysis and cluster analysis of the DGGE band patterns of eukaryotic communities resulted in exactly the same grouping as found with phospholipid fatty acid (PLFA) analysis (Cahyani et al. in Soil Sci Plant Nutr 48:735, 2002) and by the DGGE pattern analysis of the bacterial communities (Cahyani et al. in Soil Sci Plant Nutr 49:619, 2003) for the same samples, namely the communities characterizing the pre-composting stage (initial RS materials), and thermophilic, middle, and curing stages of the compost. Different eukaryotic members characterized the respective stages as follows: fungi (Ascomycota) for the initial RS materials, protozoans (Apicomplexa) as well as the fungi (Ascomycota) of the initial RS materials for the thermophilic stage, fungi (Ascomycota and Basidiomycota), protozoans (Opalozoa, Ciliophora and Leptomyxida), nematodes and stramenopiles for the middle stage, and fungi (Ascomycota, Zygomycota and Oomycota), algae (Haptophyceae and Chrysophyceae), and nematodes for the curing stage, respectively. Temperature, moisture content, and substrates available seemed to play a key role in determining the composition of eukaryotic members present at the respective stages of the composting process of RS. © Springer-Verlag 2004.</p>					
33.	Cahyani, V.R. Matsuya, K. Asakawa, S. Kimura, M.	Grad. Sch. of Bioagricultural Sci., Nagoya University, Nagoya, 464- 8601, Japan  Aichi-ken Anjo Res. and Exten. Ctr., Anjo, 446-0073, Japan	2004	Succession and phylogenetic profile of methanogenic archaeal communities during the composting process of rice straw estimated by PCR- DGGE analysis	Soil Science and Plant Nutrition Volume 50, Issue 4, August 2004, Pages 555-563 ISSN: 00380768
<p><b>Abstract</b>  The succession and phylogenetic profile of methanogenic archaeal communities for rice straw (RS) in the composting process were studied by polymerase-chain reaction (PCR)-denaturing gradient gel electrophoresis (DGGE) analysis followed by sequencing. Three groups of DGGE bands of methanogenic archaeal communities appeared successively in the present composting process. The first group of DGGE bands characterized the communities that were probably associated with soil contamination and survived during the early stage of composting. The second and the third groups of DGGE bands characterized</p>					

the communities that proliferated and played a role in the anaerobic decomposition of RS during the middle and curing stages. Methanogenic archaeal communities were detected at every stage of rice straw composting except for one sampling time on day 14 at the end of the thermophilic stage. Among the 12 sequenced DGGE bands, 7 bands corresponded to Methanomicrobiales, 4 bands to novel uncultured euryarchaeota belonging to "Rice Cluster I," and one band to Methanosarcinales. Two DGGE bands which appeared from day 28 of the second temperature peak (48°C) to the end of composting corresponded to the thermophilic strain of *Methanoculleus thermophilus* CR-1. Six bands corresponded to the methanogens that originated from paddy field soils, which indicated that methanogens in RS compost were derived mainly from rice fields.