Study on physicochemical characteristics of local colored rice varieties (black, red, brown, and white) fermented with lactic acid bacteria (SBM.4A)

First Author Last Author Wahyuni, S; Asnani, A; Khaeruni, A; Dewi, NDP; Sarinah, S; Faradilla, RHF; Publish Date JOURNAL OF FOOD SCIENCE AND TECHNOLOGY-MYSORE Citation In this study, the physicochemical properties of local colored rice flour were studied after modification through fermentation with lactic acid bacteria (LAB) SBM.4A. SBM.4A was LAB isolated from the rice washing water and was in the cladogram of the Pediococcus pentosaceus strain SRCM102739 CP028266.1 and Pediococcus pentosaceus strain SRCM102738 CP028266.1 and Pediococcus pentosaceus strain SRCM102738 CP028266.1 and Pediococcus pentosaceus strain SRCM102738 CP028266.1 The studied rice varieties were wakacinda (white rice), wakawondu (red rice), warumbia (brown rice), and wakaombe (black rice). Characterizations of both fermented and native rice flour included chemical composition FTIR profile, crystallinity, morphology, and pasting properties. Fermentation did not introduce new chemical functional groups to the flour and only slightly increased crystallinity from approximately 22.5% to 25.05%. In contrast, fermentation greatly affected the chemical composition and pasting properties of rice flour. Protein content of the fermented flour increased up to 214% relative to the native rice flour. Effect of fermentation on pasting properties varied between rice varieties. Increase		
Doi 10.1007/s13197-023-05813-0		(not set)
Title Study on physicochemical characteristics of local colored rice varieties (black, red, brown, and white fermented with lactic acid bacteria (SBM.4A) First Author Last Author Wahyuni, S; Asnani, A; Khaeruni, A; Dewi, NDP; Sarinah, S; Faradilla, RHF; Publish Date JOURNAL OF FOOD SCIENCE AND TECHNOLOGY-MYSORE Citation In this study, the physicochemical properties of local colored rice flour were studied after modificatic through fermentation with lactic acid bacteria (LAB) SBM.4A. SBM.4A was LAB isolated from the rice washing water and was in the cladogram of the Pediococcus pentosaceus strain SRCM102739 CP028266.1 and Pediococcus pentosaceus strain SRCM102738 CP028264.1. The studied rice varieties were wakacinda (white rice), wakawondu (red rice), warumbia (brown rice), and wakaombi (black rice). Characterizations of both fermented and native rice flour included chemical composition FTIR profile, crystallinity, morphology, and pasting properties. Fermentation did not introduce new chemical functional groups to the flour and only slightly increased crystallinity from apstrong properties of rice flour. Protein content of the fermented flour increased up to 214% relative to the native rice flour. Effect of fermentation on pasting properties varied between rice varieties. Increase peak and final viscosities was observed in red, brown, and black rice. The opposite effect was found in white rice. However, fermentation improved the stability of flour to retrogradation for all rice varieties. These showed that the fermentation improved the properties of the local-colored rice flour and may widen their application as food ingredients. Publish Type Publish Pyear Page Begin (not set) Issn 0022-1155 Eissn O975-8402	Wos ID	WOS:001061970000001
First Author Last Author Authors Wahyuni, S; Asnani, A; Khaeruni, A; Dewi, NDP; Sarinah, S; Faradilla, RHF; Publish Date JOURNAL OF FOOD SCIENCE AND TECHNOLOGY-MYSORE Citation In this study, the physicochemical properties of local colored rice flour were studied after modification through fermentation with lactic acid bacteria (LAB) SBM.4A. SBM.4A was LAB isolated from the ric washing water and was in the cladogram of the Pediococcus pentosaceus strain SRCM102739 CP028266.1 and Pediococcus pentosaceus strain SRCM102738 CP028264.1. The studied rice varieties were wakacinda (white rice), wakawondu (red rice), warumbia (brown rice), and wakaombi (black rice). Characterizations of both fermented and native rice flour included chemical composition FTIR profile, crystallinity, morphology, and pasting properties. Fermentation did not introduce new chemical functional groups to the flour and only slightly increased crystallinity from approximately 22.5% to 25.65%. In contrast, fermentation or pasting properties varied between rice varieties. Increase peak and final viscosities was observed in red, brown, and black rice. The opposite effect was found in white rice. However, fermentation improved the stability of flour to retrogradation for all rice varieties. These showed that the fermentation improved the properties of the local-colored rice flour and may widen their application as food ingredients. Publish Type Publish Year Page Begin (not set) Issn 0022-1155 Eissn 0975-8402	Doi	10.1007/s13197-023-05813-0
Author Last Authors Wahyuni, S; Asnani, A; Khaeruni, A; Dewi, NDP; Sarinah, S; Faradilla, RHF; Publish Date Journal Name Citation In this study, the physicochemical properties of local colored rice flour were studied after modification through fermentation with lactic acid bacteria (LAB) SBM.4A. SBM.4A was LAB isolated from the rice washing water and was in the cladogram of the Pediococcus pentosaceus strain SRCM102739 CP028266.1 and Pediococcus pentosaceus strain SRCM102738 CP028264.1. The studied rice varieties were wakacinda (white rice), wakawondu (red rice), warumbia (brown rice), and wakaombi (black rice). Characterizations of both fermented and native rice flour included chemical composition FTIR profile, crystallinity, morphology, and pasting properties. Fermentation did not introduce new chemical functional groups to the flour and only slightly increased crystallinity from approximately 22.5% to 25.05%. In contrast, fermentation greatly affected the chemical composition and pasting properties of rice flour. Protein content of the fermented flour increased up to 214% relative to the native rice flour. Effect of fermentation on pasting properties varied between rice varieties. Increase peak and final viscosities was observed in red, brown, and black rice. The opposite effect was found in white rice. However, fermentation improved the stability of flour to retrogradation for all rice varieties. These showed that the fermentation improved the properties of the local-colored rice flour and may widen their application as food ingredients. Publish Type Publish Year Page Begin In tot set) Base O022-1155 Eissn O075-8402	I ITIA	Study on physicochemical characteristics of local colored rice varieties (black, red, brown, and white) fermented with lactic acid bacteria (SBM.4A)
Authors Authors Wahyuni, S; Asnani, A; Khaeruni, A; Dewi, NDP; Sarinah, S; Faradilla, RHF; Publish Date AUG 31 2023 Journal Name Citation In this study, the physicochemical properties of local colored rice flour were studied after modificatic through fermentation with lactic acid bacteria (LAB) SBM.4A. SBM.4A was LAB isolated from the ric washing water and was in the cladogram of the Pediococcus pentosaceus strain SRCM102739 CP028266.1 and Pediococcus pentosaceus strain SRCM102738 CP028264.1. The studied rice varieties were wakacinda (white rice), wakawondu (red rice), warumbia (brown rice), and wakaombi (black rice). Characterizations of both fermented and native rice flour included chemical composition FTIR profile, crystallinity, morphology, and pasting properties. Fermentation did not introduce new chemical functional groups to the flour and only slightly increased crystallinity from approximately 22.5% to 25.05%. In contrast, fermentation greatly affected the chemical composition and pasting properties of rice flour. Protein content of the fermented flour increased up to 214% relative to the native rice flour. Effect of fermentation on pasting properties varied between rice varieties. Increase peak and final viscosities was observed in red, brown, and black rice. The opposite effect was found in white rice. However, fermentation improved the stability of flour to retrogradation for all rice varieties. These showed that the fermentation improved the properties of the local-colored rice flour and may widen their application as food ingredients. Publish Type Publish Page End (not set) Isan 0022-1155 Eissn 0975-8402		
Publish Date		
Date Journal Name JOURNAL OF FOOD SCIENCE AND TECHNOLOGY-MYSORE In this study, the physicochemical properties of local colored rice flour were studied after modification through fermentation with lactic acid bacteria (LAB) SBM.4A. SBM.4A was LAB isolated from the rice washing water and was in the cladogram of the Pediococcus pentosaceus strain SRCM102739 CP028266.1 and Pediococcus pentosaceus strain SRCM102738 CP028264.1. The studied rice varieties were wakacinda (white rice), wakawondu (red rice), warundu (black rice). Characterizations of both fermented and native rice flour included chemical composition FTIR profile, crystallinity, morphology, and pasting properties. Fermentation did not introduce new chemical functional groups to the flour and only slightly increased crystallinity from approximately 22.5% to 25.05%. In contrast, fermentation greatly affected the chemical composition and pasting properties of rice flour. Protein content of the fermented flour increased up to 214% relative to the native rice flour. Effect of fermentation on pasting properties varied between rice varieties. Increase peak and final viscosities was observed in red, brown, and black rice. The opposite effect was found in white rice. However, fermentation improved the stability of flour to retrogradation for all rice varieties. These showed that the fermentation improved the properties of the local-colored rice flour and may widen their application as food ingredients. Publish Type Publish Year Page Begin (not set) Page End (not set) Issn 0022-1155 Eissn 0975-8402	Authors	Wahyuni, S; Asnani, A; Khaeruni, A; Dewi, NDP; Sarinah, S; Faradilla, RHF;
Name Citation In this study, the physicochemical properties of local colored rice flour were studied after modification through fermentation with lactic acid bacteria (LAB) SBM.4A. SBM.4A was LAB isolated from the ric washing water and was in the cladogram of the Pediococcus pentosaceus strain SRCM102739 CP028266.1 and Pediococcus pentosaceus strain SRCM102738 CP028266.1 and Pediococcus pentosaceus strain SRCM102738 CP028266.1. The studied rice varieties were wakacinda (white rice), wakawondu (red rice), warumbia (brown rice), and wakaombe (black rice). Characterizations of both fermented and native rice flour included chemical composition FTIR profile, crystallinity, morphology, and pasting properties. Fermentation did not introduce new chemical functional groups to the flour and only slightly increased crystallinity from approximately 22.5% to 25.05%. In contrast, fermentation greatly affected the chemical composition and pasting properties of rice flour. Protein content of the fermented flour increased up to 214% relative to the native rice flour. Effect of fermentation on pasting properties varied between rice varieties. Increase peak and final viscosities was observed in red, brown, and black rice. The opposite effect was found in white rice. However, fermentation improved the stability of flour to retrogradation for all rice varieties. These showed that the fermentation improved the properties of the local-colored rice flour and may widen their application as food ingredients. Publish Type Publish Year Page Begin (not set) Page End (not set) Issn 0022-1155 Eissn 0975-8402		AUG 31 2023
In this study, the physicochemical properties of local colored rice flour were studied after modification through fermentation with lactic acid bacteria (LAB) SBM.4A. SBM.4A was LAB isolated from the rice washing water and was in the cladogram of the Pediococcus pentosaceus strain SRCM102739 CP028266.1 and Pediococcus pentosaceus strain SRCM102739 CP028264.1. The studied rice varieties were wakacinda (white rice), wakawondu (red rice), warumbia (brown rice), and wakaombi (black rice). Characterizations of both fermented and native rice flour included chemical composition FTIR profile, crystallinity, morphology, and pasting properties. Fermentation did not introduce new chemical functional groups to the flour and only slightly increased crystallinity from approximately 22.5% to 25.05%. In contrast, fermentation greatly affected the chemical composition and pasting properties of rice flour. Effect of fermentation on pasting properties varied between rice varieties. Increase peak and final viscosities was observed in red, brown, and black rice. The opposite effect was found in white rice. However, fermentation improved the stability of flour to retrogradation for all rice varieties. These showed that the fermentation improved the properties of the local-colored rice flour and may widen their application as food ingredients. Publish Type Publish Year Page Begin Page End (not set) Issn 0022-1155 Eissn 0975-8402		JOURNAL OF FOOD SCIENCE AND TECHNOLOGY-MYSORE
through fermentation with lactic acid bacteria (LAB) SBM.4A. SBM.4A was LAB isolated from the ric washing water and was in the cladogram of the Pediococcus pentosaceus strain SRCM102739 CP028266.1 and Pediococcus pentosaceus strain SRCM102738 CP028264.1. The studied rice varieties were wakacinda (white rice), wakawondu (red rice), warumbia (brown rice), and wakaombe (black rice). Characterizations of both fermented and native rice flour included chemical composition FTIR profile, crystallinity, morphology, and pasting properties. Fermentation did not introduce new chemical functional groups to the flour and only slightly increased crystallinity from approximately 22.5% to 25.05%. In contrast, fermentation greatly affected the chemical composition and pasting properties of rice flour. Protein content of the fermented flour increased up to 214% relative to the native rice flour. Effect of fermentation on pasting properties varied between rice varieties. Increase peak and final viscosities was observed in red, brown, and black rice. The opposite effect was found in white rice. However, fermentation improved the stability of flour to retrogradation for all rice varieties. These showed that the fermentation improved the properties of the local-colored rice flour and may widen their application as food ingredients. Publish Type Publish Year Page Begin (not set) Issn 0022-1155 Eissn 0975-8402	Citation	
Type Publish Year Page Begin Page End (not set) Issn 0022-1155 Eissn 0975-8402	Abstract	CP028266.1 and Pediococcus pentosaceus strain SRCM102738 CP028264.1. The studied rice varieties were wakacinda (white rice), wakawondu (red rice), warumbia (brown rice), and wakaombe (black rice). Characterizations of both fermented and native rice flour included chemical composition, FTIR profile, crystallinity, morphology, and pasting properties. Fermentation did not introduce new chemical functional groups to the flour and only slightly increased crystallinity from approximately 22.5% to 25.05%. In contrast, fermentation greatly affected the chemical composition and pasting properties of rice flour. Protein content of the fermented flour increased up to 214% relative to the native rice flour. Effect of fermentation on pasting properties varied between rice varieties. Increase in peak and final viscosities was observed in red, brown, and black rice. The opposite effect was found in white rice. However, fermentation improved the stability of flour to retrogradation for all rice varieties. These showed that the fermentation improved the properties of the local-colored rice flour
Year 2023 Page (not set) Page End (not set) Issn 0022-1155 Eissn 0975-8402		Journal
Begin (not set) Page End (not set) Issn 0022-1155 Eissn 0975-8402		2023
Issn 0022-1155 Eissn 0975-8402	_	(not set)
Eissn 0975-8402	Page End	(not set)
	Issn	0022-1155
Url https://www.webofscience.com/wos/woscc/full-record/WOS:001061970000001	Eissn	0975-8402
	Url	https://www.webofscience.com/wos/woscc/full-record/WOS:001061970000001
Author ARI ASNANI, S.Si, M.Sc., Ph.D	Author	ARI ASNANI, S.Si, M.Sc., Ph.D