

VOLUME 23 • NUMBER 3

MARCH 2017

www.aspbs.com/science

Advanced

SCIENCE

A Journal Dedicated to All Aspects
of Scientific Research

LETTERS

Editor-in-Chief: Dr. Hari Singh Nalwa, USA

Special Sections on

The International Workshop on Intelligent Information Technology (2WINTech 2016)

Cheonan, Korea, October 20–22, 2016

GUEST EDITOR: Sok Pal Cho

First International Conference on Healthcare and Technical Research (ICHTR 2015)

Manipal, India, 22–24 December, 2015

GUEST EDITORS: N. Udupa, B. Satish Shenoy, Raghu Radhakrishnan, Manthan D. Janodia,
Shilpee Chaudhary, Raviraj Anand Devkar, Prateek Jain, and Samvit Menon

**The 2016 International Conference on Cyber-Society and Smart Computing—Communication
(The CyberSoc 2016), Indonesia, 24–25 September 2016**

GUEST EDITORS: Ford Lumban Gaol, Benfano Soewito, and Fonny Hutagalung

**International Conference on Energy, Environment and Information System (ICENIS) 2016
October 11–12, 2016 in Semarang, Indonesia**

GUEST EDITORS: Purwanto, Sudarmadji, Rene Van Berkel, Wan Maznah Wan Omar,
and Ferry Jie



AMERICAN
SCIENTIFIC
PUBLISHERS



Application of Salted Egg Technology Based Local Environment in the Agroindustrial Center of Brebes, Central Java

W. Sumekar^{1,*}, A. N. Al-Baari¹, and E. Kurnianto²

¹Department of Agriculture, Faculty of Animal and Agricultural Sciences, Diponegoro University, Tembalang Campus, Semarang 50275, Indonesia

²Department of Animal Science, Faculty of Animal and Agricultural Sciences, Diponegoro University, Tembalang Campus, Semarang 50275, Indonesia

The aim of this study was to analyze the application of salted egg technology in the agro-industrial center Brebes, Central Java. The observational study to 40 respondents chosen using purposive random sampling was conducted from June 6 to August 6, 2016. The primary data were collected through interview, questioner, and field observation, and the data were analyzed descriptively using contingency tables with the X^2 test. The result showed that the agro-industry salted eggs using the method of curing with material from the local environment. The material components vary in gray, red bricks and soil except salt and water. The number of respondents who use three, two and one material of curing except salt and water, respectively were 15%, 65% and 20%. The business scale showed the dependence significantly ($P \leq 0.05$) with the application of technology in agro-industrial centers of salted eggs.

Keywords: Agro-Industry, Curing, Scale of Business, Technology, Salted Egg.

1. INTRODUCTION

Agricultural development has to deal with several problems that force the government to implement policies that consider environment important. For example, the deterioration of agriculture in the last decade has encouraged government to continue targeting self-sufficiency through the implementation of Green Revolution technologies on the condition of the land for food that continues to shrink.¹ Therefore, local wisdom of the rural population is utilized to empower people to manage natural resources in a sustainable and environmentally friendly approach. Local knowledge will be able to expand land resources for the production of materials or semi-finished ones, open up business opportunities and business processes in the rural areas, and improve the efficiency of marketing farm products in order to increase incomes and keep the environment safe because of the principle without waste.² The local knowledge in natural resource management fit in with the sustainable and the environmentally friendly society with regard to the socio capital.³ Associational membership and age, interpersonal trust, and marital gender are significant predictors of individual participation in both formal and informal civic event.⁴

Agro-industry growing from a salted egg processing of duck eggs as an economic activities conducted by house wife has

contributed to economic development in Brebes. In 2014, Brebes had 134 salted egg agro-industry producing 6,882,383 egg valuing IDR 12.0447.700.000 per year.⁵ Technology in agriculture is one factor that needs to be taken to reduce the risk of business.^{6,7} The salted eggs agroindustri scattering around districts in Brebes has been developing through traditional marketing system. The 'zero cost km' model is a particular type of business that allows consumers to buy food directly from producers, resulting in a shortening of the number of commercial intermediaries and lowering the final price.⁸ The objective of this study was to analyze the salted egg technology application in the agro-industrial center Brebes, Central Java.

2. EXPERIMENTAL DETAILS

The population of the research of agro industry of the salted egg that owned PIRT (Produksi Industri Rumah Tangga) was 50 located in 12 sub districts out of 17 sub districts of Brebes (5), from which 40 samples were chosen using purposive random sampling located in the sub districts of Brebes, Bulakamba, and Warnasari; where most of the salted egg agro industry exist. The respondents chosen were the owners of the agro industry of the salted egg. The activities were conducted from June 6 to August 6, 2016. The primary data were gathered using guided-questions interview, while the secondary ones were collected

*Author to whom correspondence should be addressed.

from the available documents provided by related institutions, and all data were analyzed descriptively using contingency tables with the X^2 test.⁹

3. RESULTS AND DISCUSSION

The product of salted eggs agro-industry in Brebes was known as duck eggs processed products with curing techniques. There were varieties of salted egg agro-industry, among which were the scale of production per day and the material component of making salted eggs on agro-industry. The production scale of salted egg is as shown in Table I.

Based on the technology application of salted egg, the salted egg process by respondents was conducted using curing technology. Ripening method is still traditional (hereditary), so that all respondents did not have a standard curing. The curing of the material consisted of a mixture of brick that has been mashed, rice husk ash, clay, salt, and water. The ripening material was available in abundance along with the completion of the rice harvest and the process of making bricks. Brebes had 202 brick craftsman that was able to absorb 457 workers.⁵ The raw materials of brick kilns in Brebes were rice husk and rice straw. The waste of the brick kiln was in the form of ash that was used as a curing material of egg mixture. The dough components of ripening varied among respondents. The curing variety of the materials is shown in Table II.

Table II shows that 65% of respondents use two kinds of curing material (clay and ash), and all respondents use ash as the major

Table I. Number of respondents based on production capability.

Scale of production (egg/day)	Number of respondent	
	<i>n</i>	%
≤1000	28	70,00
>1000–3000	9	22,50
>3000	3	7,50

Table II. Number of respondent based on application of curing technology.

Variety of curing material, besides salt and water	Number of respondent	
	<i>n</i>	%
T1 = 1 kind of curing (ash)	8	20
T2 = 2 kind of curing (clay and ash)	26	65
T3 = 3 kind of curing (brick, clay, ash)	6	15

Table III. The state of respondents by number material curing as application technology.

Scale of production (egg/day)	Number respondent (%)			
	T1	T2	T3	Total
≤1000	1 (2,50)	22 (55,00)	5 (12,50)	28 (70,00)
>1000–3000	1 (2,50)	7 (17,50)	1 (2,50)	9 (22,50)
>3000	1 (2,50)	2 (5,00)	0 (0,00)	3 (7,50)
Total	3 (7,50)	31 (77,50)	6 (15,00)	40 (100,00)

Notes: The results of X^2 test showed significant ($P < 0.05$), X^2 count = 12.86 > X^2 table (0,05) = 9.45.

ingredient of the curing material. These materials were easily to find as Brebes had paddy field of 627.03 km² (37.70%) and 202 brick craftsman.⁵ The use of specific location based materials indicated that the salted egg of Brebes had locally specific characteristics. Meanwhile, the implementation of the salted eggs production related technology is exhibited in Table III. Table III shows that 77.50% of the respondents apply curing technology using 2 types (clay and ash). The results of X^2 test proved its significance ($P < 0.05$), which meant that the application of the technology in the agro-industry affected salted egg production scale.

4. CONCLUSIONS

The agro-industry of salted eggs by using curing method of local material varied from gray, red bricks to soil except salt and water were effective and efficient. The respondents using three, two, and one curing material except salt and water were 15%, 65% and 20% respectively. The scale of the salted eggs business was affected by the application of technology.

References and Notes

- S. Baharsyah, F. Kasryno, and E. Pasandaran, Yapari, Yayasan Pertanian Mandiri, Jakarta (2014).
- W. Sumekar, I. Isbandi, U. Atmomarsono, and I. Susilowati, *J. Indonesian Trop. Anim. Agric.* 38, 171 (2013).
- J. A. Crowe, *Rural Soc. J.* 71, 573 (2006).
- K. A. Jicha, G. H. Thompson, G. M. Fulkerson, and J. E. May, *Rural Soc. J.* 76, 229 (2011).
- Statistik Brebes Dalam Angka, Badan Pusat Statistik, Kabupaten Brebes (2016).
- A. B. Stefan and I. Anneberg, *J. Agric. Environ. Ethics* 27, 103 (2014).
- W. Sumekar, W. Roessali, and D. Mardiningsih, Prosiding Seminar Strategi Pemanfaatan Lahan Rawa Dalam Mendukung Keadaulatan Pangan Nasional, Fakultas Pertanian, Universitas Islam Kalimantan, Banjarmasin, Maret (2015).
- M. Lanfranchi and C. Giannetto, *Ital. J. Food Sci.* 26, 335 (2014).
- R. G. D. Steel and J. H. Torrie, 2nd edn., International Student Edition, McGraw-Hill, Kogakusha (1980).

Received: 12 October 2016. Accepted: 2 November 2016.