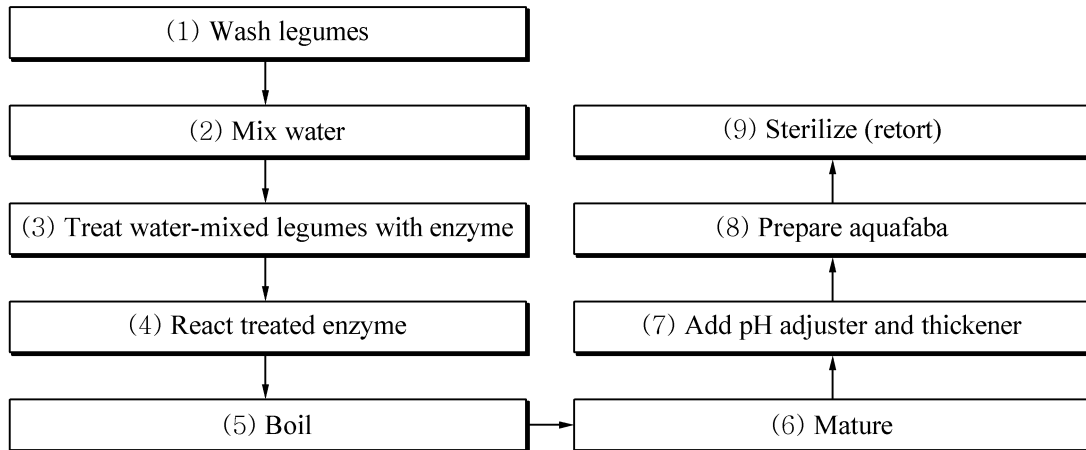
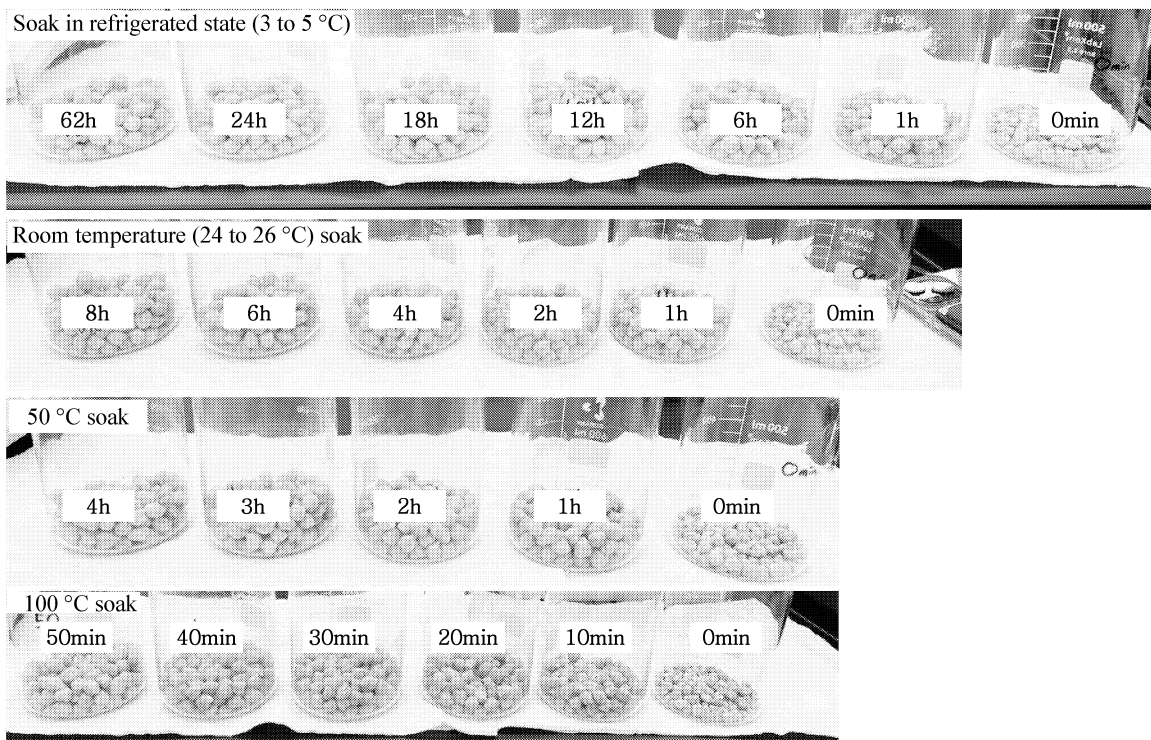


【DRAWINGS】

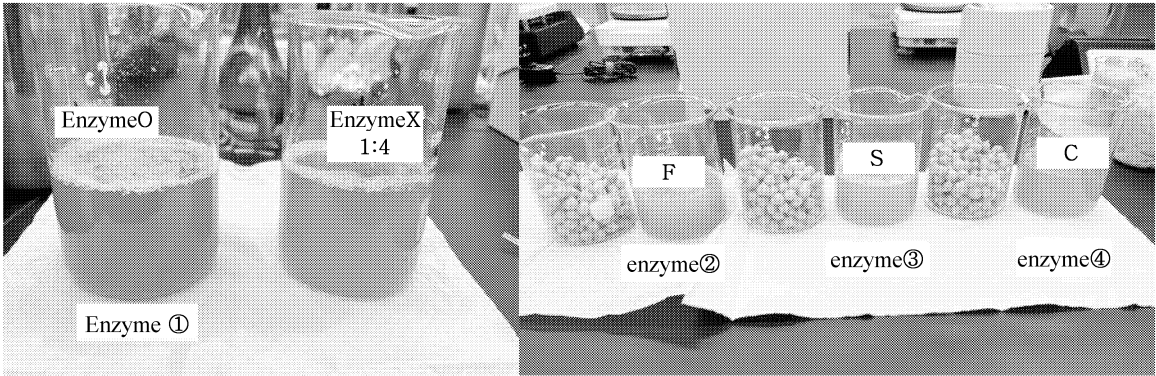
[FIG. 1]



[FIG. 2]



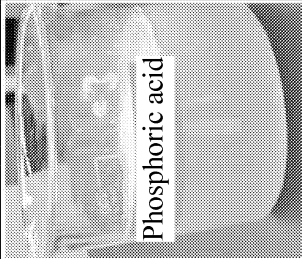
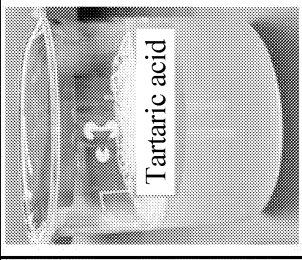
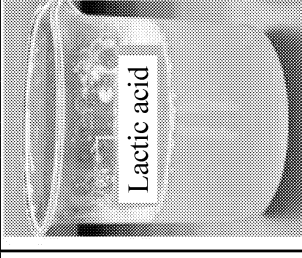
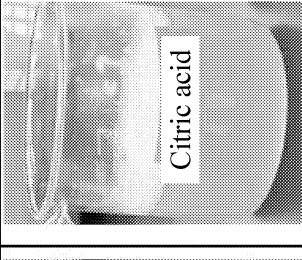
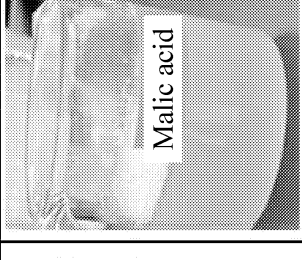
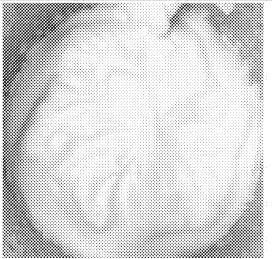
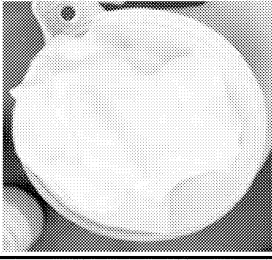
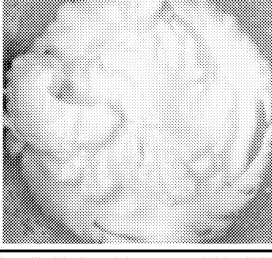
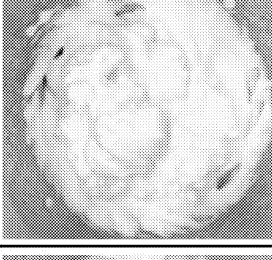
[FIG. 3]



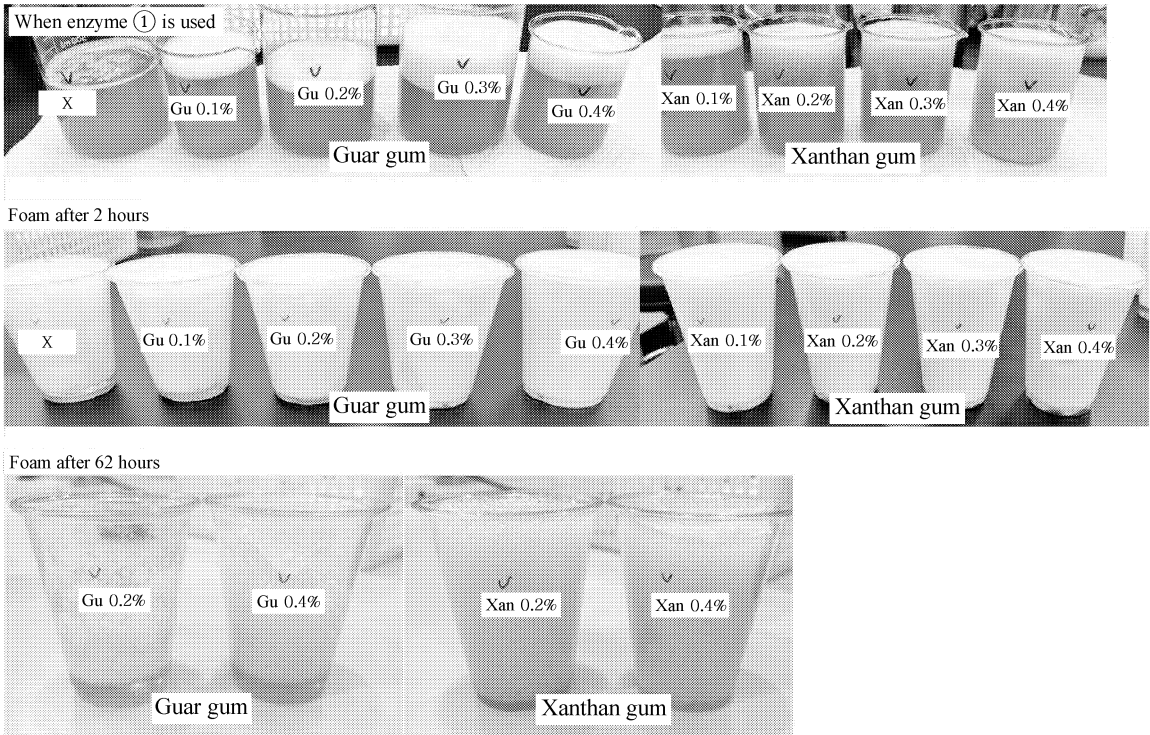
[FIG. 4]



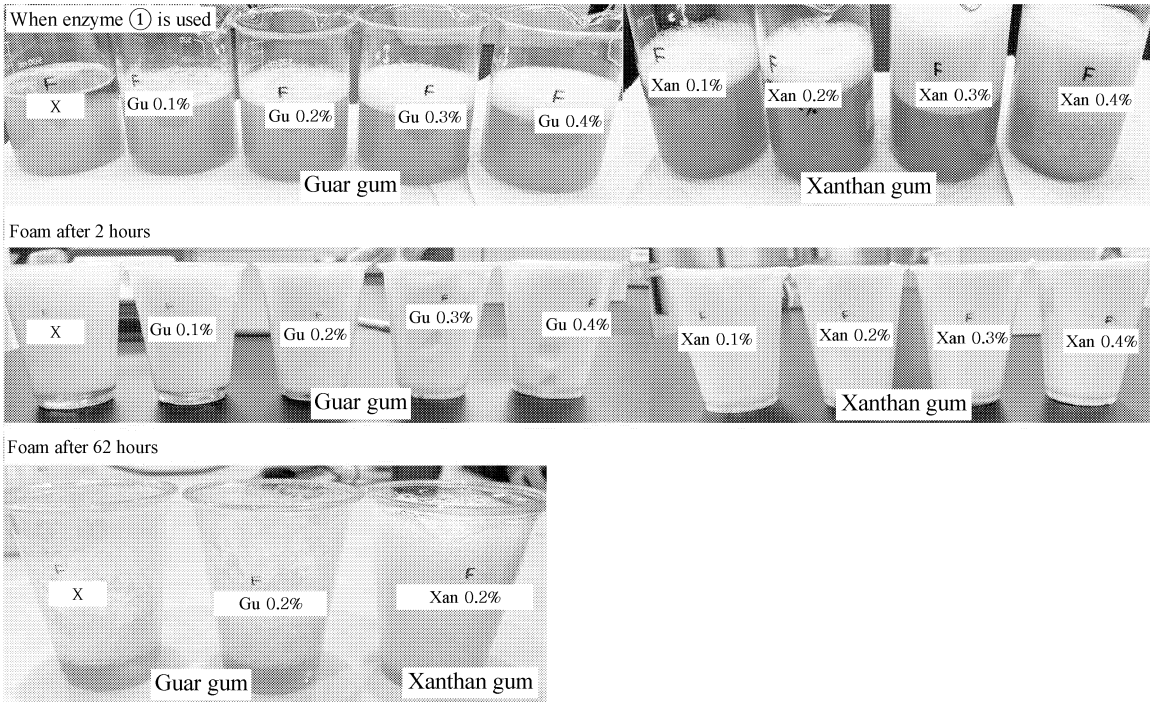
[FIG. 5]

Foam quality	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Before whipping	 Phosphoric acid	 Tartaric acid	 Lactic acid	 Citric acid	 Malic acid	
Just after whipping						
Taste	The sour taste came up last and was felt to be weaker than citric acid. The foam was weak and flowing.	The sour taste was felt stronger than phosphoric acid. The foam was weak and flowing.	The sour taste was felt to be the weakest. It was not felt where the sour taste is coming from.	The sour taste came up first and was felt to be the strongest. The foam quality was the best. It was the hardest and chewy, and had a meringue shape most similar to an egg.	The sour taste came up in the middle. It was felt stronger than lactic acid but weaker than citric acid.	

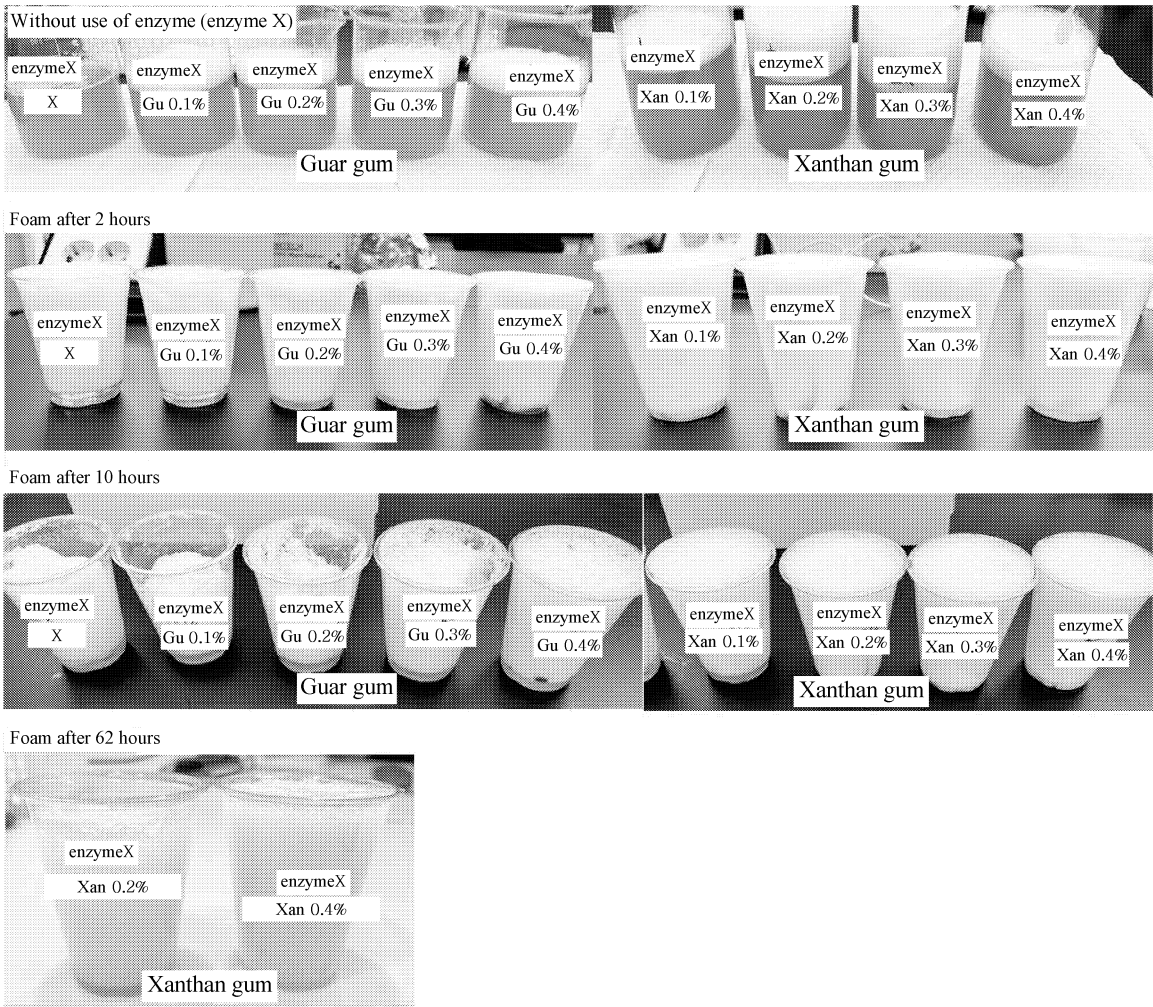
[FIG. 6a]



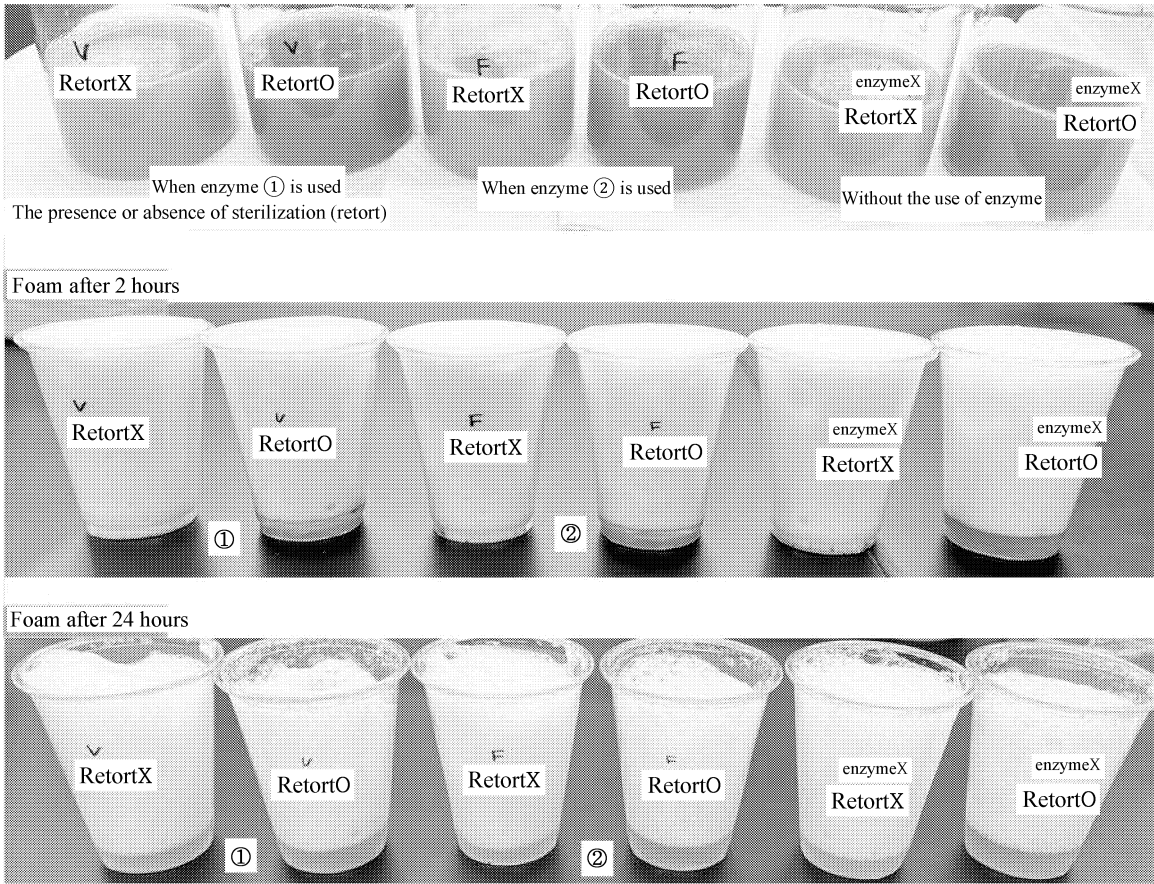
[FIG. 6b]



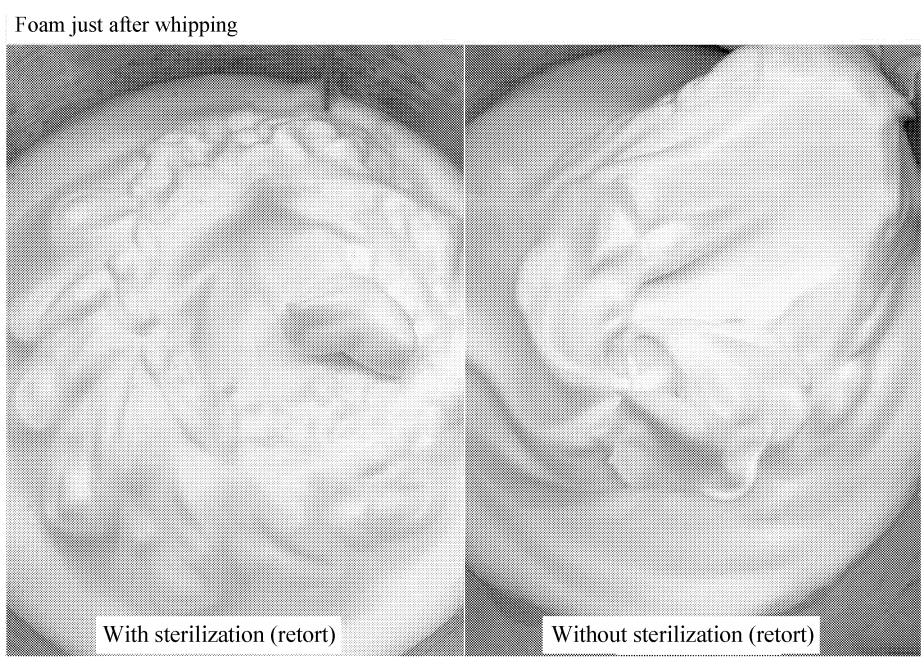
[FIG. 6c]



[FIG. 7a]



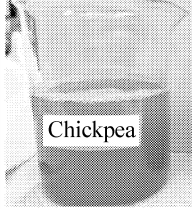
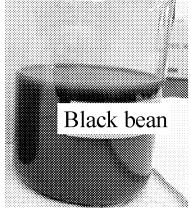
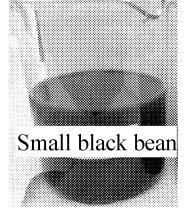
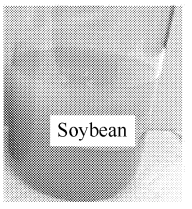
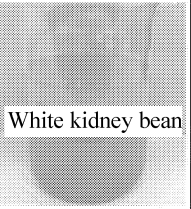
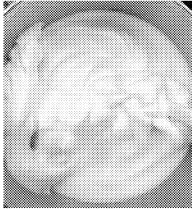
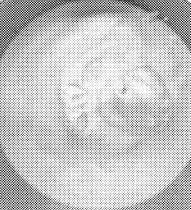
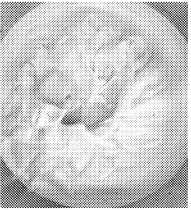
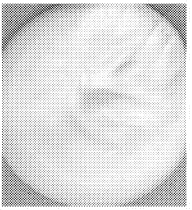
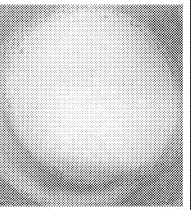
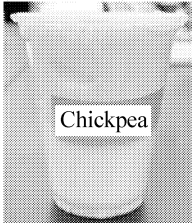
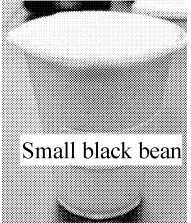
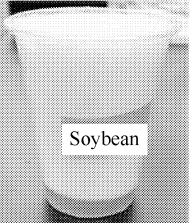
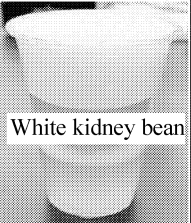
[FIG. 7b]



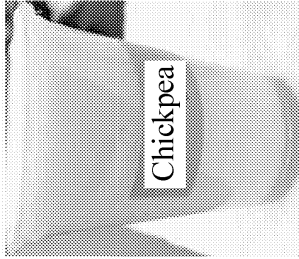
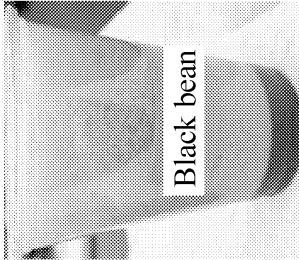
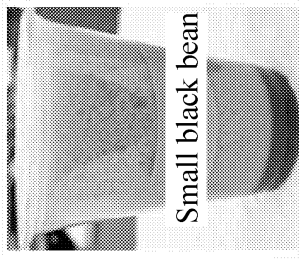
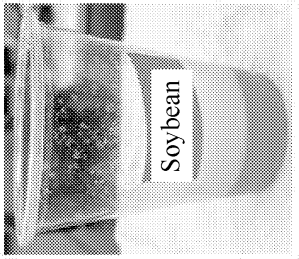
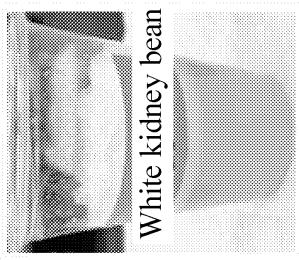
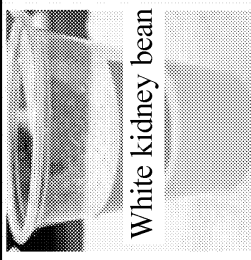
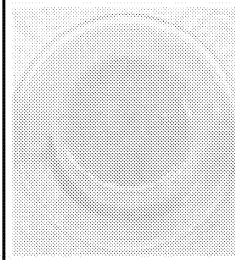
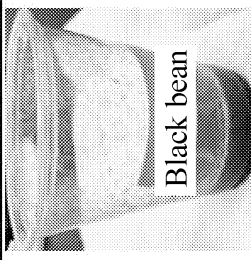
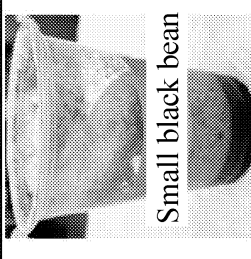
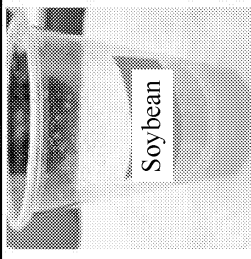
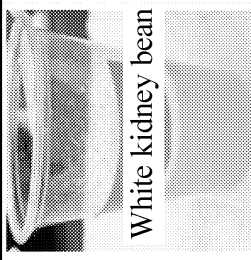
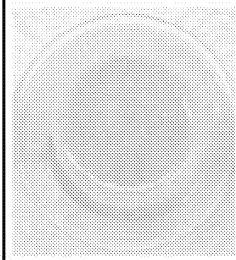
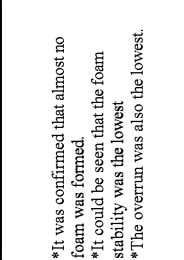
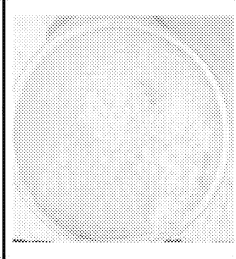
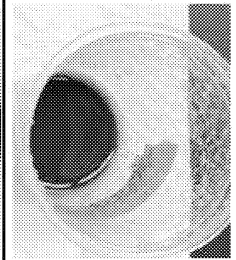
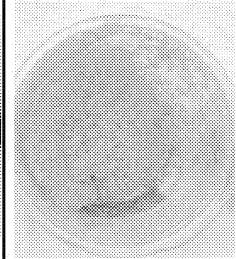
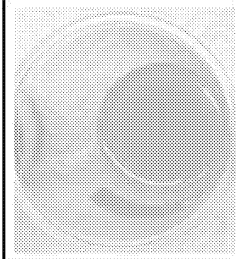
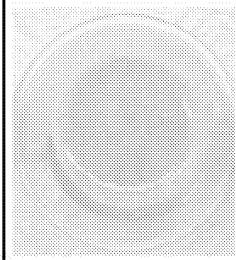
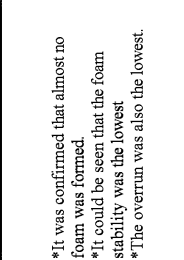
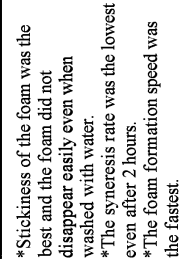
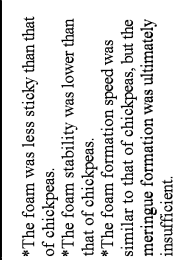
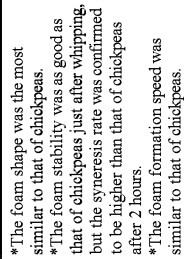
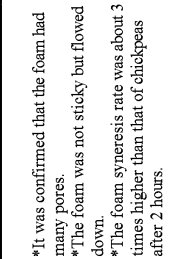
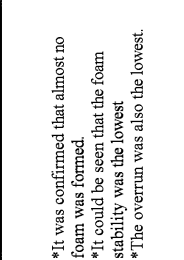
[FIG. 8]



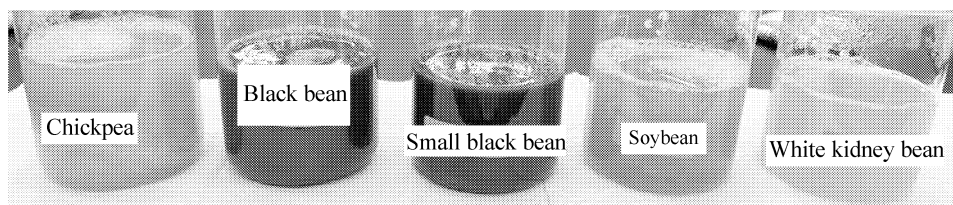
[FIG. 9a]

Foam quality	★★★★★	★★★★☆	★★★☆☆	★★☆☆☆	★☆☆☆☆
After filtering	 Chickpea	 Black bean	 Small black bean	 Soybean	 White kidney bean
Just after whipping					
	 Chickpea	 Black bean	 Small black bean	 Soybean	 White kidney bean

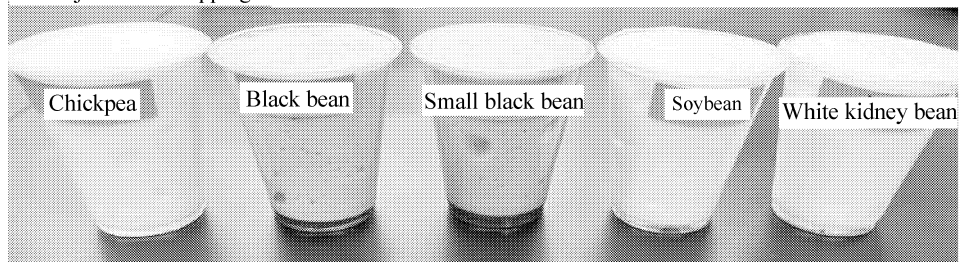
[FIG. 9b]

Foam after 2 hours	 Chickpea	 Black bean	 Small black bean	 Soybean	 White kidney bean	 White kidney bean		*It was confirmed that almost no foam was formed. *It could be seen that the foam stability was the lowest *The overrun was also the lowest.
Foam after 24 hours	 Chickpea	 Black bean	 Small black bean	 Soybean	 White kidney bean			*It was confirmed that the foam had many pores. *The foam was not sticky but flowed down. *The foam syneresis rate was about 3 times higher than that of chickpeas after 2 hours.
	 Chickpea	 Black bean	 Small black bean	 Soybean	 White kidney bean			*The foam shape was the most similar to that of chickpeas. *The foam stability was as good as that of chickpeas just after whipping, but the syneresis rate was confirmed to be higher than that of chickpeas after 2 hours. *The foam formation speed was similar to that of chickpeas.
	 Chickpea	 Black bean	 Small black bean	 Soybean	 White kidney bean			*Stickiness of the foam was the best and the foam did not disappear easily even when washed with water. *The syneresis rate was the lowest even after 2 hours. *The foam formation speed was the fastest.

[FIG.10a]

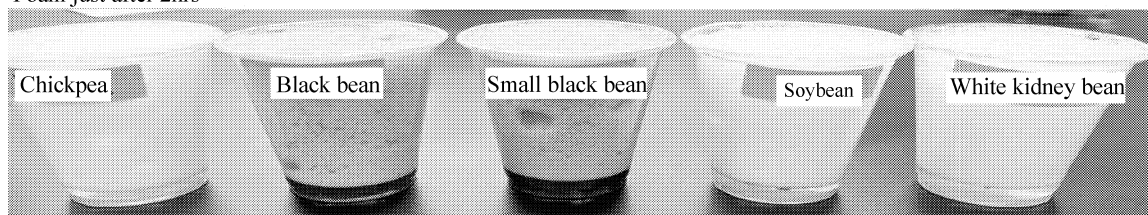


Foam just after whipping

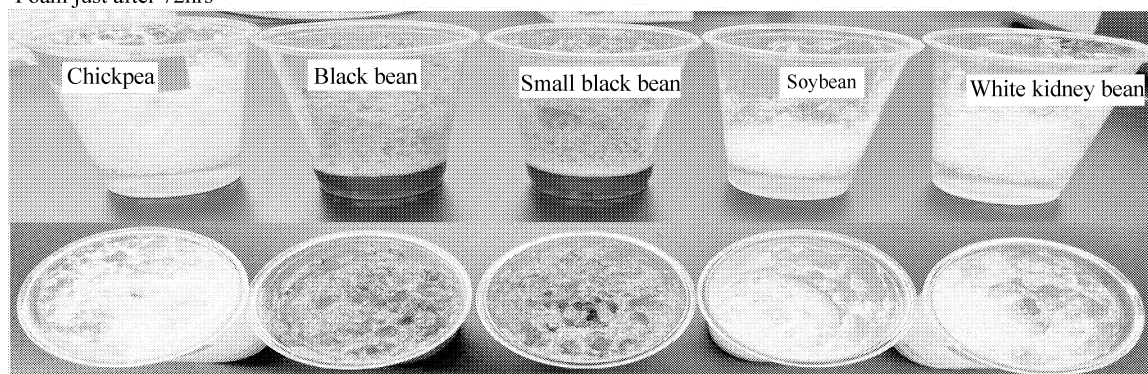


[FIG.10b]

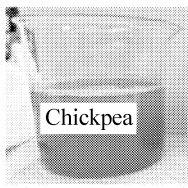
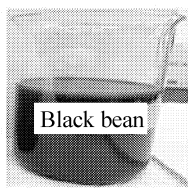
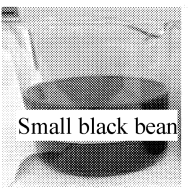
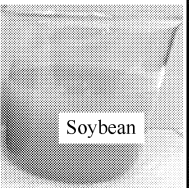
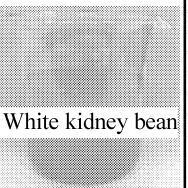
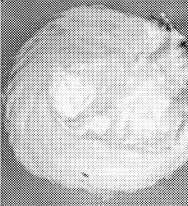
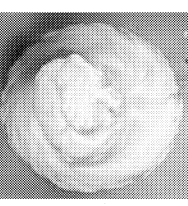
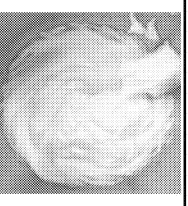
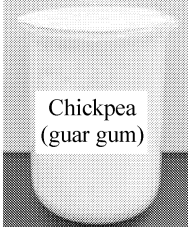
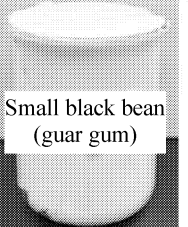
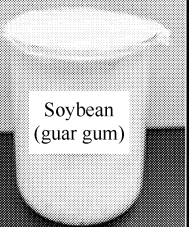
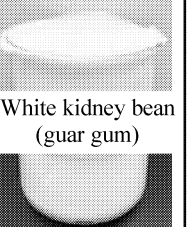
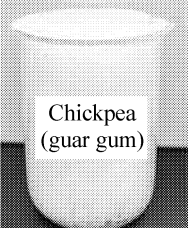
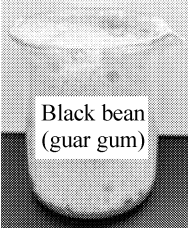
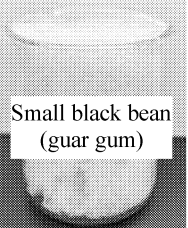
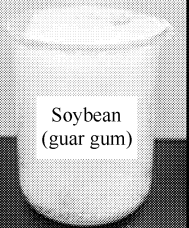
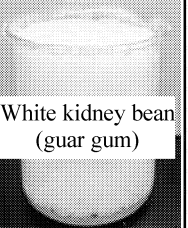
Foam just after 2hrs



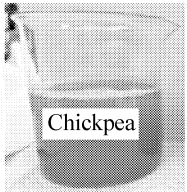
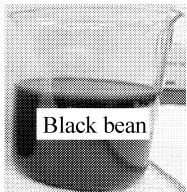
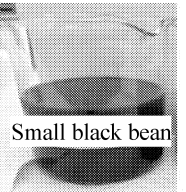
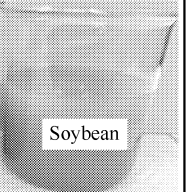
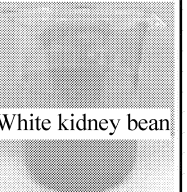
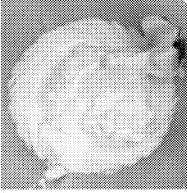
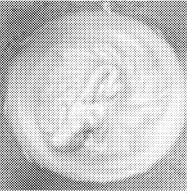
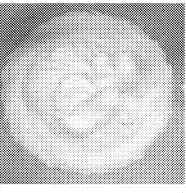
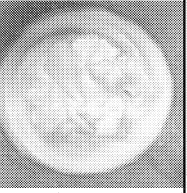
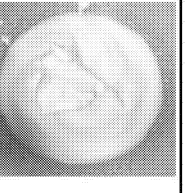
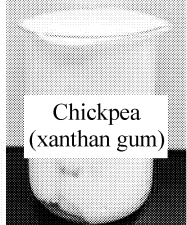
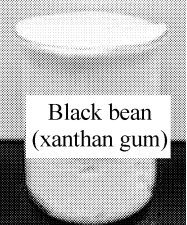
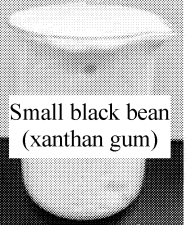
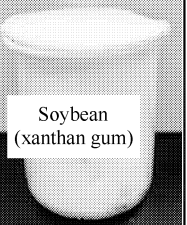
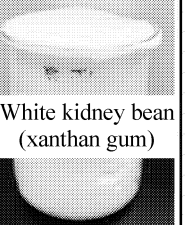
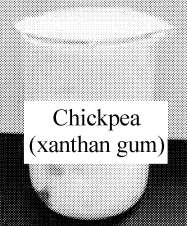
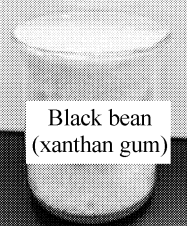
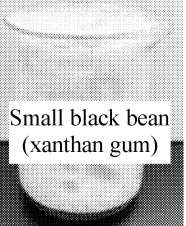
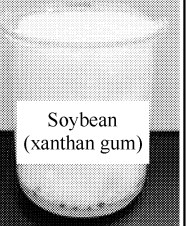
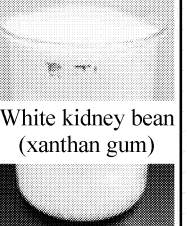
Foam just after 72hrs



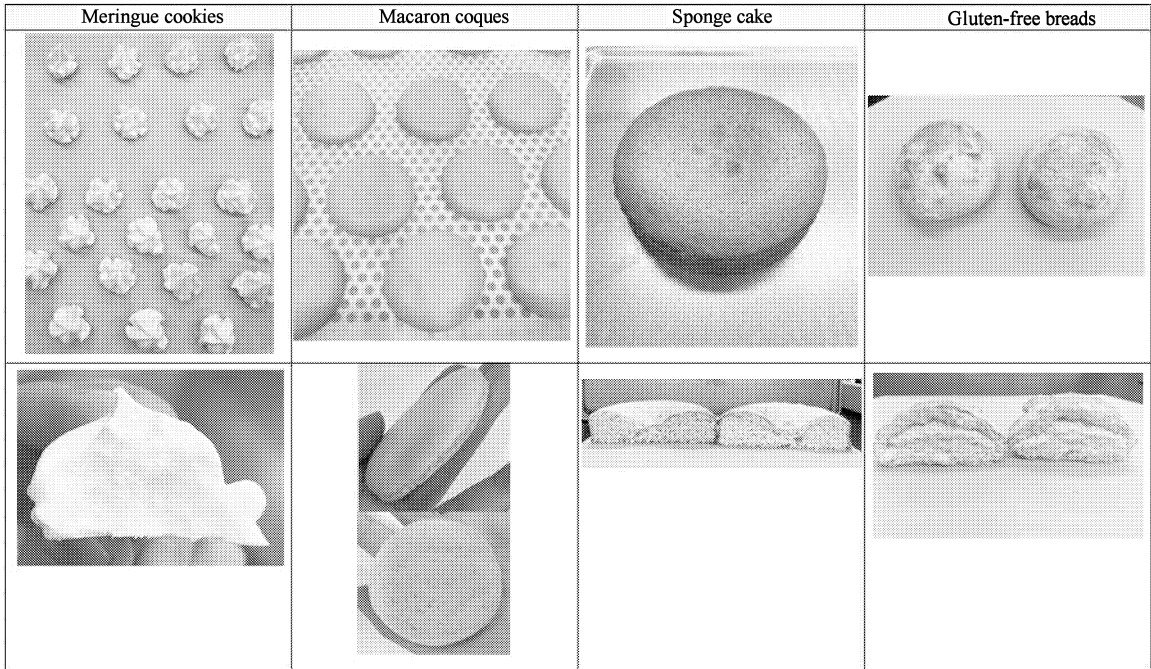
[FIG. 11a]

Foam quality	Chickpea	Black bean	Small black bean	Soybean	White kidney bean
After filtering	 Chickpea	 Black bean	 Small black bean	 Soybean	 White kidney bean
Just after whipping					
	 Chickpea (guar gum)	 Black bean (guar gum)	 Small black bean (guar gum)	 Soybean (guar gum)	 White kidney bean (guar gum)
Foam after 2 hours	 Chickpea (guar gum)	 Black bean (guar gum)	 Small black bean (guar gum)	 Soybean (guar gum)	 White kidney bean (guar gum)

[FIG. 11b]

Foam quality	Chickpea	Black bean	Small black bean	Soybean	White kidney bean
After filtering	 Chickpea	 Black bean	 Small black bean	 Soybean	 White kidney bean
Just after whipping					
	 Chickpea (xanthan gum)	 Black bean (xanthan gum)	 Small black bean (xanthan gum)	 Soybean (xanthan gum)	 White kidney bean (xanthan gum)
Foam after 2 hours	 Chickpea (xanthan gum)	 Black bean (xanthan gum)	 Small black bean (xanthan gum)	 Soybean (xanthan gum)	 White kidney bean (xanthan gum)

[FIG. 12]



[FIG. 13]

