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(54) **Title:** NOODLES METHOD OF PREPARING NOODLES

(57) **Abstract:** A method of preparing noodles, particularly ramen noodles, comprising the blending of kansui with wheat flour and water to form a dough and shaping the resultant dough, the proportion of kansui being reduced to 33-50% of the usual proportion used, and there being additionally added to the mixture from 0.00085 to 0.0085 % by weight of 2,5-dihydroxy-1,4-dithiane. The noodles thus prepared have the desirable "eggy" flavour with the desirable yellow colour.



NOODLES METHOD OF PREPARING NOODLES

This disclosure relates to noodles and to obtaining a desirable flavour therein.

- 5 Certain noodles, particularly Japanese ramen noodles (Chinese-style wheat noodles), have traditionally been made using *kansui*, an alkaline material containing sodium carbonate and potassium carbonate, and available as a powder or as a mineral water. This is mixed with water and wheat flour, and the noodles are then shaped and dried. The presence of kansui gives the noodles a firm texture and a desirable “eggy” final flavour. The problem with the use of kansui is
- 10 that, during the drying process, the noodles can darken from a desirable yellow colour to a less desirable dark brown. This colour change can be avoided by reducing the proportion of kansui and adding an “eggy” *kansui* flavour. However, the final noodles, while possessing a desirable bright yellow colour, lack the desirable flavour conferred by higher proportions of kansui.
- 15 It has now been found that it is possible to provide noodles having both the desired flavour and the desired colour. There is therefore provided a method of preparing noodles, comprising the blending of kansui with wheat flour and water to form a dough and shaping the resultant dough, the proportion of kansui being reduced to 33-50% of the usual weight proportion used, and there being additionally added to the mixture from 0.00085 to 0.0085 % by weight of 2,5-dihydroxy-1,4-dithiane.
- 20 There are additionally provided noodles of desirable colour and flavour, comprising wheat flour, kansui and from 0.00085 to 0.0085% by weight of 2,5-dihydroxy-1,4-dithiane.

In a particular embodiment, the noodles are ramen noodles

- 25 Kansui may be used either in powder or in mineral water form. Both types are commercially available. In a particular embodiment, the kansui is used in the form of mineral water.

- 2,5-dihydroxy-1,4-dithiane is a known and commercially-available flavourant. Its taste description
- 30 has been described as “metallic, meaty savoury chicken and beef, sulphurous, egg yolk-like”. It is present in tiny proportions in commercially-available flavours. These proportions are of the order of 600-700ppm, i.e. from 0.06-0.07% by weight in flavours, and 0.02-7.5ppm, i.e. 0.000002-0.00075% by weight in food products. (See FEMA “GRAS Flavoring Substances 18”, Vol.52, No.9 (September 1998), pp.79 & 83). It was entirely unexpected that the use of much higher
- 35 concentrations of 2,5-dihydroxy-1,4-dithiane could produce the desired kansui flavour while allowing the reduction of the proportion of kansui. The desirable flavour and enduring desirable yellow colour are thus obtained.

It is possible and permissible to use commercially-available egg flavours and/or kansui flavours. However, the proportion of egg flavour to 2,5-dihydroxy-1,4-dithiane should not exceed 2.3:1, otherwise the desirable kansui flavour is undesirably reduced or even lost completely.

- 5 In practice, the noodles are prepared by first blending salt, kansui, water, 2,5-dihydroxy-1,4-dithiane and, if desired, egg flavour, then mixing this blend with wheat flour, shaping the noodles, steaming them and drying them.

- 10 The weight ratio of kansui to flour in normal usage ranges from 1:100 to 1.5:100. The process hereinabove described permits a 33-50% reduction of this, meaning that, if 2,5-dihydroxy-1,4-dithiane is used, the kansui:flour ratio may be from 0.33:100-0.75:100. The weight of the kansui is the weight of the solid material. In the case of the mineral water, the weight referred to is the weight of the solids content of the mineral water.

- 15 This disclosure is further described with reference to the following non-limiting examples.

The quantities (parts by weight) are shown in the following table:

	Example 1-a	Example 1-b	Example 2	Example 3	Example 4	Example 5	Example 6
kansui	3	1	1	1	1	1	1
salt	2	2	2	2	2	2	2
2,5-dihydroxy- 1,4-dithiane.	-		0.007	0.007	0.007	0.0035	0.014
water	110	110	110	110	110	110	110
Commercial egg flavour (dithiane-free)	-	0.1	-	0.0023	0.016		
Wheat flour	300	300	300	300	300	300	300

(g)

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Kansui used in the examples is commercially-available kansui in the form of powder ("Powder Kansui", Foodeest-Japan, Inc.).

- 25 The relative proportions of 2,5-dihydroxy-1,4-dithiane in the overall kansui flavourant (pure 2,5-dihydroxy-1,4-dithiane plus commercial flavourant) are respectively for Examples 2-4. 100%, 75% and 30%.

All examples were used to prepare noodles in the same way, as follows:

1. The kansui, salt, water and, where applicable, the 2,5-dihydroxy-1,4-dithiane and the egg flavour were blended;
2. The wheat flour was added and thoroughly mixed in;
- 5 3. The noodles were formed from the mixture, steamed at 100°C for 3 minutes and then dried for 2 hours at 80°C.

The noodles thus prepared were assessed for colour and flavour by a panel of 3 experts, and the results were as follows:

10

Example No.	Comments by test panel
1-a	Traditional method. Good kansui flavour, but noodles darkened considerably during drying
1-b	Existing method. kansui flavour not so good as Examples 1-a, 2 and 3, excellent colour stability
2	Good kansui flavour, excellent colour stability
3	Performance in both flavour and colour equal to Example 2
4	kansui flavour not so good as Examples 1-a, 2 and 3; excellent colour stability
5	kansui flavour not so good as Examples 1-a, 2 and 3, excellent colour stability
6	Performance in both flavour and colour equal to Example 2

Claims:

1. A method of preparing noodles, comprising the blending of *kansui* with wheat flour and water to form a dough and shaping the resultant dough, the proportion of *kansui* being
5 reduced to 33-50% of the usual proportion used, and there being additionally added to the mixture from 0.00085 to 0.0085 % by weight of 2,5-dihydroxy-1,4-dithiane.
2. A method according to claim 1, in which the noodles are ramen noodles.
- 10 3. A method according to claim 1 or claim 2, in which the kansui is used in the form of mineral water.
4. Method according to claim 1, in which the noodles additionally contain egg flavour.
- 15 5. Method according to claim 2, in which the weight proportion of egg flavour to 2,5-dihydroxy-1,4-dithiane is a maximum of 2.3:1.
6. Method according to claim 1, in which the kansui:flour weight ratio is from 0.33:100-0.75:100.
- 20 7. Noodles of desirable colour and flavour, comprising wheat flour, kansui and from 0.00085 to 0.0085% by weight of 2,5-dihydroxy-1,4-dithiane.

INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2016/058500

A. CLASSIFICATION OF SUBJECT MATTER

INV. A23L7/109

ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A23L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal, BIOSIS, EMBASE, FSTA, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4 230 735 A (YOSHIDA KIYOTAKA ET AL) 28 October 1980 (1980-10-28)	1-4,6,7
A	column 1, line 65 - column 3, line 13 example 13	5
Y	US 2002/009532 A1 (HANCHETT DOUGLAS J [US] ET AL) 24 January 2002 (2002-01-24)	1-4,6,7
A	example 14	5
Y	US 2 955 041 A (BRODERICK JAMES J ET AL) 4 October 1960 (1960-10-04)	1-4,6,7
A	column 2, lines 12-32 claims 1, 4; table II	5
Y	US 3 959 509 A (EVERS WILLIAM JOHN ET AL) 25 May 1976 (1976-05-25)	1-4,6,7
A	claims 1, 4	5



Further documents are listed in the continuation of Box C.



See patent family annex.

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"A" document defining the general state of the art which is not considered to be of particular relevance

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"P" document published prior to the international filing date but later than the priority date claimed

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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