Formulation of Spices mixture for preparation of Chicken Curry

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Abstract

Considering the scope of utilization of processed chicken in convenient form, a study was undertaken to optimize the levels of spice mixture salt and commercial chicken masala in a spice formulation to be used for preparation of chicken curry. The sensory quality of ready to eat chicken curry added with hot spice mixture containing salt and chicken masala, revealed that the flavour, juiciness, texture and overall palatability scores of chicken curry improved significantly with addition of 3.0 % salt level as compared to that of 2.5, 3.5 and 4.0 %. Spice mixture containing 1.0 % commercial chicken masala exhibited significantly higher scores for all the sensory attributes over 0.5 and 1.5%.It is thus concluded added that spice mixture added 3.0 % salt and 1.0 % commercial chicken masala was more suitable to enhance the sensory quality of ready to eat chicken curry.

Keywords: Spice mixture, Commercial chicken masala, Chicken curry, Sensory quality

Introduction

The demand for processed meat product is increasing continuously with growing consumer's response and awareness about the nutrition and quality. Poultry meat is comparatively more acceptable than other meat because of its flavour, ease of digestion, low fat content, high ratio of unsaturated fatty acids and also due to excellent source of protein (Narayankhedkar, 2004). At present processed meat products are the part of non-vegetarian menu and meat curry is one of them which is consumed all over the country. Spices and condiments are being added not only to impart aroma, taste and colour to the curry but also to preserve the product of having antimicrobial and antioxidant properties. Earlier natural plant and spice extracts were used to prevent spoilage and preserve the food products (Watts,1962; Pratt and Watts, 1964; MacNeil et al.,1973). In addition, sodium chloride a common humectant is added in varying quantities to act as preservative (Kim and Park, 1981) as well as to enhance the palatability of meat products without adversely affecting its proximate composition (Sofos 1985). The present study was planned to standardize the spice formulation with addition of common salt and chicken masala for preparation of acceptable quality chicken curry.

Materials and Methods

Fresh chicken meat was washed with clean water, dipped in 2% acetic acid solution for 3 minute to reduce surface contamination and again washed with clean water. Boneless chicken pieces of approximately 2cm x 1cm x 1cm size were kept in a marinating mixture for 20 hours at 4+ 10C.

Spices ingredients used by Rathod (2005) for chicken curry were tried with certain modifications for formulation of self-stable spice mixture (Table 1). Chicken curry was prepared as shown in flow chart.

Table 1 Spice mixture (curry ingredients) for preparation of chicken curry.

Sr.	Ingredients	Percent (On fresh meat weight)
1	Dalda	5.60
2	Sunflower oil	10.00
3	Chilli powder	1.10
4	Turmeric powder	0.45
5	Coriander powder	0.55
6	Cumin powder	0.55
7	Black pepper powder	0.12
8	Cinnamon powder	0.17
9	Clove powder	0.11
10	Large cardamom powder	0.17
11	Small cardamom powder	0.17
12	Common salt	Variable
13	Butylated Hydroxyanisole	0.01
14	Commercial chicken masala	Variable
15	Onion	28.00
16	Ginger	4.20
17	Garlic	4.30

Flow diagram for preparation of Chicken curry

Fresh chicken carcass

Washing

Dipping in 2% acetic acid solution for 3 minute

Washing with potable water

Deboning and cutting into small pieces

Marination at 4+1°C for 20 hrs.

Cooking (under steam for 10 min.)

Dehydration at 60°C for 2 hours

Addition of hot spice mixture

Curry preparation

Ready to eat chicken curry was immediately served to panellist member for sensory evaluation to asses the acceptability of product on the basis of sensory attributes viz. appearance, flavour, texture, juiciness and overall palatability using 8 point descriptive scale (Keeton,1983), where '8' denoted extremely desirable and '1' denoted extremely undesirable. The data obtained during the study ware subjected to statistical analysis using Completely Randomized Design (Snedecor and Cochran, 1989).

Results and Discussion

Optimization of salt:The average scores for sensory attributes of chicken curry incorporated with different salt levels are presented in Table 2. Significant enhancement in the scores of all the sensory attributes except appearance was observed at 3.0% salt. Further increase in salt levels to 3.5 and 4.0% downward trend was noticed in flavour, juiciness, texture and overall palatability scores. Maximum scores for all the attributes were recorded for chicken curry prepared with 3.0% salt followed by 2.5%. Both the treatments were at par for appearance but for flavour, texture and overall palatability scores, 3.0 % salt level was significantly superior over 2.5%. Subsequent increase in salt from 3.0 to 4.0% the sensory score declined significantly for all the attributes. It is further observed that 3.0 % salt in chicken curry recorded optimum sensory scores of 7.78, 7.75, 7.62, 7.62 and 7.62 for appearance, flavour, juiciness, texture and overall palatability which were significantly superior over other salt levels viz, 3.5 and 4.0 per cent. Wide variations in use of salt levels during preparation of chicken curry were reported by several workers. Sumithra (1999) reported 2.0% salt as optimum in the formulation of instant mutton curry, while Das and Radhakrishna (2001) and Rathod (2005) recommended optimum level of 2.2% salt for preparation of ready to eat mutton and chicken curry respectively with further addition of 2.0 % salt during marination. The variations in use of salt during preparation of product might be due to processing conditions and/or personal preference (Pearson and Tauber, 1984).

Use of commercial chicken masala:The data on the effect of commercial chicken masala levels on sensory quality of processed chicken curry are presented in Table 3. It is observed that the sensory scores for all the sensory attributes of chicken curry prepared with addition of 1.0% commercial chicken masala were maximum as compared to that of 0.5 and 1.5%. The scores increased significantly with increase in commercial chicken masala from 0.5 to 1.0% but, thereafter it showed a decling trend for all the attributes which might be due to excess concentration of spices. The chicken curry made with addition of 1% chicken masala recorded optimum sensory scores of 7.87, 7.71, 7.75, 7.66 and 7.83 for appearance, flavour, juiciness, texture and overall palatability respectively which were superior over 0.5 and 1.5 salt. Das and Radhakrishna (2001) and Rathod (2005) also recommended optimum level of commercial chicken masala for ready to eat mutton and chicken curry respectively.

On the basis of observations on the sensory quality, it can be concluded that, 3.0% salt and 1.0% commercial chicken masala could be conveniently used for preparation of desired quality ready to eat chicken curry.

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New Delhi world conference on avian influenza prevention and control: OIE strategies prove relevant and efficient

Paris, December 3 2007 - As the international community prepares for a third international conference on highly pathogenic influenza (HPAI) H5N1 to take place in New Delhi , India the OIE reiterates its strategic approach for tackling the crisis.

60 countries already reported an H5N1 infection in the period 2003-2007 . Up to December 2006 more than 200 million birds were culled or died of the disease and according to the World Health Organisation, so far the human deaths toll is of 206 worldwide. OIE maintains its same strategies prepared and published with the Food and Agriculture Organisation (FAO) and, announced at the first international conference on HPAI H5N1 held in Geneva in 2005:

- tackle the disease at animal source,
- strengthen governance of national Veterinary Services (VS) worldwide,
- develop early warning and rapid response capacity of VS, among other key actions, in face of outbreaks
- a strategy applicable to any major animal disease including zoonoses, not solely HPAI H5N1,
- develop close collaboration between animal and human health national and international authorities,
- develop an HPAI H5N1 vaccine bank for developing countries.

2003-2007 , four years of worldwide action

Four years into the HPAI H5N1 international crisis, applied OIE strategies bear fruit and the international community has recognized their relevance. Today, the OIE is accountable for the following actions:

- A worldwide plan for evaluating the performance of VS is in progress and so far, 42 national missions were conducted using the OIE PVS tool. A total of 105 PVS missions will be finalised by the end of 2009 if adequate funding is available. Outcomes of the evaluations are used to develop a gap analysis that will identify priority investments for countries concerned.
- Bamako, Mali and Bangkok, Thailand now host the first integrated OIE/FAO Regional Animal Health Centres. These centres coordinate and harmonize capacity building activities and strategies for monitoring and evaluation of avian influenza control at regional level.
- Increasingly, countries develop compensation schemes. This facilitates the reporting of disease occurrences at grassroots level, i.e. farmers, and outbreaks are swiftly brought under control at their initial source.
- A number of African countries have received over 23,500,000 vaccines through the OIE H5N1 vaccine bank with the support of partners such as African Union, the European Commission, and the Canadian International Development Agency (CIDA).

Additionally, a twinning initiative between OIE Reference Laboratories and laboratories in developing and in transition countries is underway, with already 12 applications in process.

"All OIE activities focus on developing and securing governance of national animal health mechanisms", said Dr Bernard Vallat, OIE Director General. "HPAI H5N1 is a paradox in that it poses a global threat but also provides an opportunity to develop and improve governance of national Veterinary Services worldwide for facing any future sanitary crises," he further explained.