

Test Date: 4/22/03

ref code: HCS00664

Healthy Choice Soup
Chicken Noodle - Salt Level Reduction

Background

ConAgra is investigating the effect of a reduction in sodium in its Healthy Choice Soups. As an initial step, a study to determine the effect of 120mg reduction in sodium (from 480 to 360) and reformulation of the salt enhancer ingredients on the acceptance of Healthy Choice Chicken Noodle Soup variety. The data from that testing is covered in this executive summary.

Methodology and Products

A 2-by-2 experimental design was used. Consumers were presented products in a balanced random order, in a sequential monadic design. Test Plan is attached on last worksheet.

Products

- Healthy Choice 480 mg with control salt enhancer (CURRENT)
- Healthy Choice 480 mg with reformulated salt enhancer
- Healthy Choice 360 mg with control salt enhancer
- Healthy Choice 360 mg with reformulated salt enhancer

Results and Conclusions

Reducing the Sodium by 120mg from 480 to 360, negatively affects the acceptance of Healthy Choice Chicken Noodle Soup, regardless of which salt enhancer is used.

The data indicate an interaction effect between salt level and salt enhancer formula for Overall Liking, Flavor and Broth Liking. There was no effect on appearance or texture.

For Overall Liking, Flavor and Broth Liking the Current Healthy Choice Chicken Noodle Soup was significantly more acceptable than all other products tested. Diagnostic data would suggest that a possible explanation for this difference in acceptance may be that the Current product was rated as "about right" for level of chicken broth flavor, level of saltiness and level of spice/seasoning; whereas, all the other products were rated as having "not enough chicken broth flavor", "not salty enough" and "not enough spice/seasoning flavor".

Recommendations

Based on these data, it is recommended to maintain the current level of sodium based on these data indicating that reducing the level of sodium by 120 mg would negatively effect the acceptance of Healthy Choice Chicken Noodle Soup.

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Diagnostics n= 77 TOTAL

8. The LEVEL of the CHICKEN BROTH FLAVOR is	Too Strong	About Right	²	Not Strong Enough
HC 360 mg Reformulated Salt Enhancer	1 [1%]	30 [39%]	ns	44 [57%]
HC 360 mg Salt Enhancer Control	2 [3%]	44 [57%]	ns	29 [38%]
HC 480 mg Control	3 [4%]	56 [73%]	***	16 [21%]
HC 480 mg Reformulated Salt Enhancer	1 [1%]	36 [47%]	ns	38 [49%]
9. The LEVEL of SALTINESS is	Too Salty	About Right	²	Not Salty Enough
HC 360 mg Reformulated Salt Enhancer	4 [5%]	34 [44%]	ns	37 [48%]
HC 360 mg Salt Enhancer Control	3 [4%]	43 [56%]	ns	29 [38%]
HC 480 mg Control	3 [4%]	60 [78%]	***	12 [16%]
HC 480 mg Reformulated Salt Enhancer	2 [3%]	40 [52%]	ns	30 [39%]
10. The LEVEL of SPICE/SEASONING FLAVOR is	Too Strong	About Right	²	Not Strong Enough
HC 360 mg Reformulated Salt Enhancer	1 [1%]	23 [30%]	ns	51 [66%]
HC 360 mg Salt Enhancer Control	0 [0%]	26 [34%]	ns	49 [64%]
HC 480 mg Control	1 [1%]	48 [62%]	*	26 [34%]
HC 480 mg Reformulated Salt Enhancer	1 [1%]	25 [32%]	ns	49 [64%]

² Significance on the About Right category is determined on an individual product basis

ns = Not Significant

* p = .05 indicate that the odds are 1 in 20 that this result is due to chance.

*** p = .001 indicate that the odds are 1 in 1000.

Healthy Choice Soup
Chicken Noodle - Salt Level Reduction

9 pt. Hedonic Scale

(n=75)¹
(Combined)

1. Hedonic scores for **Overall Liking**

Healthy Choice 480 mg with control salt enhancer (CURRENT)	7.1	}
Healthy Choice 360 mg with reformulated salt enhancer	6.6	
Healthy Choice 360 mg with control salt enhancer	6.6	
Healthy Choice 480 mg with reformulated salt enhancer	6.5	
Significance:		P = 0.001

2. Hedonic scores for **Overall Appearance**

Healthy Choice 480 mg with control salt enhancer (CURRENT)	7.0	}
Healthy Choice 360 mg with control salt enhancer	6.9	
Healthy Choice 360 mg with reformulated salt enhancer	6.9	
Healthy Choice 480 mg with reformulated salt enhancer	6.8	
Significance:		N.S.

3. Hedonic scores for **Overall Flavor**

Healthy Choice 480 mg with control salt enhancer (CURRENT)	7.1	}
Healthy Choice 360 mg with control salt enhancer	6.5	
Healthy Choice 480 mg with reformulated salt enhancer	6.4	
Healthy Choice 360 mg with reformulated salt enhancer	6.4	
Significance:		P = 0.001

4. Hedonic scores for **Overall Texture**

Healthy Choice 480 mg with control salt enhancer (CURRENT)	6.7	}
Healthy Choice 360 mg with control salt enhancer	6.7	
Healthy Choice 360 mg with reformulated salt enhancer	6.7	
Healthy Choice 480 mg with reformulated salt enhancer	6.5	
Significance:		N.S.

5. Hedonic scores for **Broth**

Healthy Choice 480 mg with control salt enhancer (CURRENT)	7.1	}
Healthy Choice 360 mg with control salt enhancer	6.5	
Healthy Choice 360 mg with reformulated salt enhancer	6.4	
Healthy Choice 480 mg with reformulated salt enhancer	6.4	
Significance:		P = 0.001

¹ Scores in solid brackets are not significantly different

NS = Not Significant

P= .001 Indicates that the odds are 1 in 1,000 that this result is due to chance

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Healthy Request Soup
Chicken Noodle

9 pt. Hedonic Scale

(n=77)¹

1. Hedonic scores for **Overall Liking**
Campbell's Healthy Request 5.8

2. Hedonic scores for **Overall Appearance**
Campbell's Healthy Request 6.4

3. Hedonic scores for **Overall Flavor**
Campbell's Healthy Request 5.5

4. Hedonic scores for **Overall Texture**
Campbell's Healthy Request 6.1

5. Hedonic scores for **Broth**
Campbell's Healthy Request 5.4

What is the 9-point hedonic scale and how is it used?

It is the most commonly used scale in the world for measuring differences in liking between 2 or more products, e.g., soups, cars, hand cream, etc.

The absolute score or mean is not as meaningful as the size of the difference between the products tested. However, scores under 7.0 are generally regarded as too low for food products to be successful in the market place.

In this test the difference between our current (480mg/serving) and the lower sodium (360mg/serving) soup with everything else being held constant or identical was 0.5 points. This is a highly significant difference (statistically) and would indicate consumers would be much less likely to repurchase the product after eating it. Two other products were tested simultaneously to evaluate a new salt enhancer/replacement system. Both of those products scored lower than the current product.

Additional information obtained in the same test showed more consumers perceived the control (480 mg/serving) product to be just about right in key flavor attributes of chicken broth flavor, saltiness and spice/seasoning flavor than the 360 mg/serving product which skewed not strong enough for those same flavor attributes.

The significantly lower overall liking scores and the skew to not strong enough in flavor would indicate a very high risk to the franchise if we converted to the lower sodium formula.

Healthy Choice Chicken Noodle Soup was chosen has the test product because it is our top selling product. Below is an example of the 9-point hedonic scale used in this test.

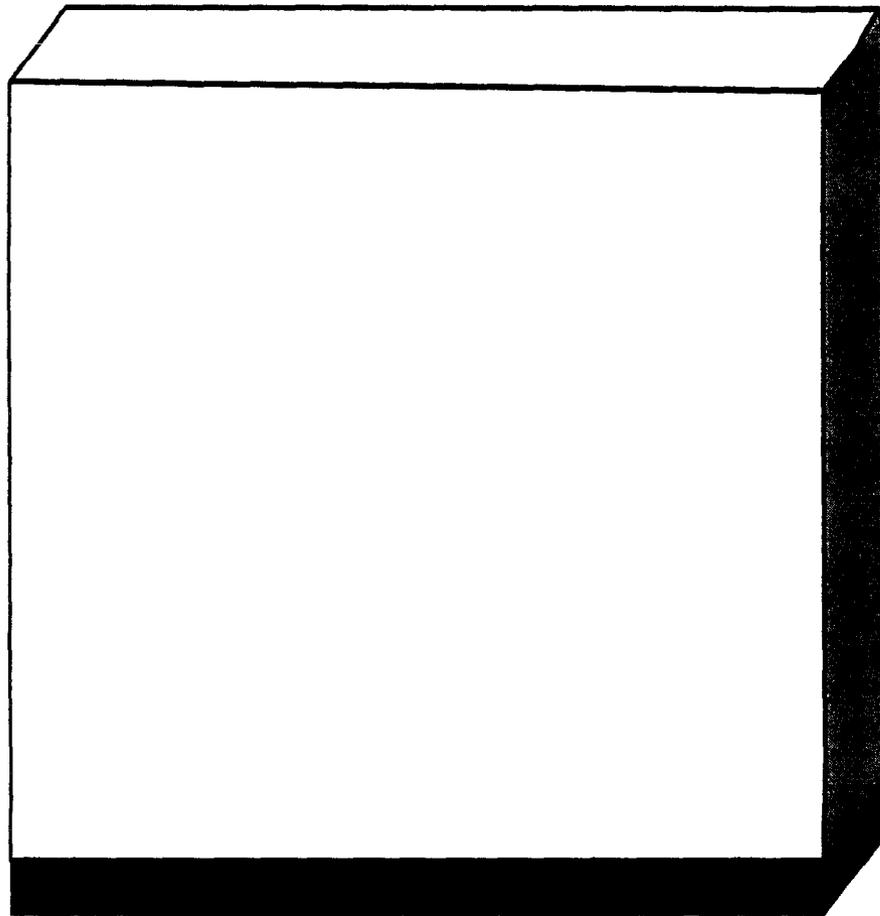
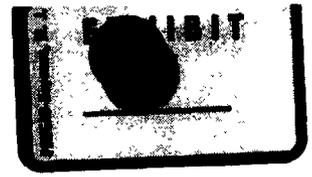
For each product being evaluated, please **MARK** the box above the phrase that best describes your opinion.

How do you feel about this product, **OVERALL?** (check one)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Like Extremely	Like Very Much	Like Moderately	Like Slightly	Neither Like Nor Dislike	Dislike Slightly	Dislike Moderately	Dislike Very Much	Dislike Extremely
9				5				1

The numbers are not part of the scale. I put them there simply as reference points for you.

Soups



 **\$2.7 Billion** Total Sales Retail

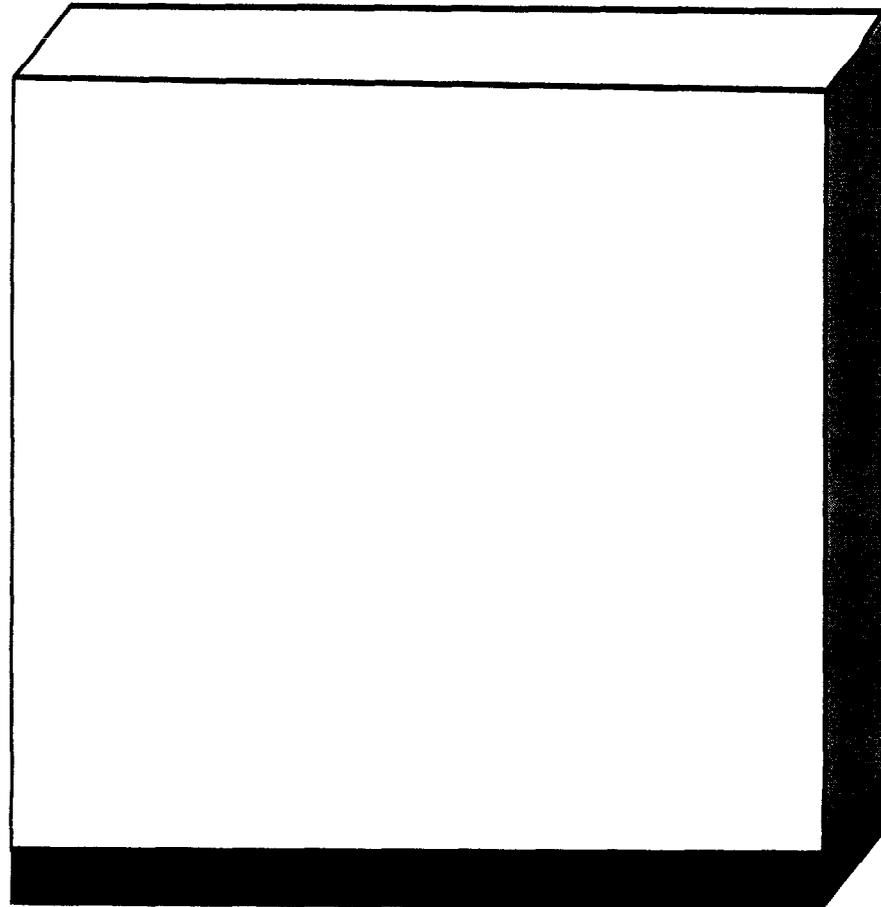
 **\$167 Million** Total Sales Retail
(480mg Sodium or less)

 **\$19 Million** Total Sales Retail
(360mg Sodium or less)

2 Product Lines < **\$11 Million (Organic)**
\$7.6 Million *

* Since January 3, 1999, sales of this product have declined 83 percent.

Soups



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