



RESPONSE TO FSA CONSULTATION ON REVISED SALT REDUCTION TARGETS October 2008

The Salt Association represents all major United Kingdom producers of salt. The Association welcomes the opportunity to comment on the FSA's consultation on revised salt reduction targets. We consider that the basis for the Government's salt reduction policy remains fundamentally unsound and is potentially dangerous.

Salt reduction against a random and scientifically unsupportable target figure is a meaningless measure. The only relevant measure is the improvement in the health of the general population that policy produces over time. This requires long-term, large-scale trials of health outcomes, supported by short-term risk assessments of potentially vulnerable population groups. We respectfully ask that these should be implemented without delay and that the following key points are considered in relation to the revised salt reduction targets. These have been elaborated on below:

- There is growing evidence that FSA's salt reduction strategy is scientifically unsound;
- Major population groups may be at risk from the FSA's salt reduction policy;
- Evidence suggests that population-wide salt reduction strategies do not work;
- The safety of some foods could be compromised by pursuing the new targets;
- Customers are already resisting low-salt foods on the grounds of taste.

1 There is growing evidence that FSA's salt reduction strategy is scientifically unsound

The Salt Association recognises that this submission may be treated with some cynicism by the FSA on the basis that the views expressed are those it would expect from the industry that manufactures salt. There is, however, now growing independent expert opinion to suggest that the FSA SACN (Scientific Advisory Committee on Nutrition) Review may have "got it wrong on salt". Given that the conclusion must inevitably be that public health is potentially being put at risk due to scientifically unsound advice to the population from a Government agency, such views are not so easily dismissed and warrant serious and urgent review. They include:

- A review of medical evidence on salt, by Dr Joel Dunning, a specialist registrar at James Cook University Hospital in Middlesbrough and a member of the European Association of Cardiothoracic Surgeons Audit & Guidelines Committee¹. His team studied no fewer than 462 research papers from around the world and found no conclusive proof of a link between salt and heart attacks and strokes. Interviewed in

the [Mail on Sunday](#), Dr Dunning was quoted as saying there was “a lack of adequately powered randomised trials or observational studies conducted with sufficient rigour”. His report supports the view that eating less salt may benefit people with abnormally high blood pressure. It dismisses, however, the theory that salt can cause strokes and heart attacks as “an argument of hope over reason”. In his view, organisations such as the Food Standards Agency have simply accepted “received wisdom” on the subject without checking the evidence.

- A recently published study from the Wolfson Medical Centre in Tel Aviv says that reducing salt intake significantly may trigger premature ageing of arteries as well as damaging the heart and kidneys². The study shows that above average levels of aldosterone in the blood in healthy young adults can cause fibrosis and stiffening of the walls of large arteries along with inflammation and muscle enlargement, changes usually associated with high blood pressure. Aldosterone is released into the blood when salt intake is reduced and its main function is to conserve salt by preventing its excretion via the kidneys in the urine. Recently published reports from researchers at Glasgow University have shown that, in older people, higher levels of aldosterone in the blood are associated with high blood pressure; while in young adults, high aldosterone levels indicate an increased likelihood of developing hypertension in later life which then increases the risk of suffering a heart attack or a stroke³.
- The 2008 update of the 2003 Cochrane Review confirmed the finding that “intensive interventions, unsuited to primary care or population programmes, provide only minimal reductions in blood pressure during long-term trials⁴.”
- The 2008 NHANES III Survey concluded: “Observed associations of lower sodium with higher mortality were modest and mostly not statistically significant. However, these findings also suggest that for the general US population, higher sodium is unlikely to be independently associated with higher CVD or all-cause mortality⁵.”
- In another recent study, researchers in Japan demonstrated that serum triglycerides, chylomicron-cholesterol, tumour necrosis factors, renin activity, aldosterone and insulin values all increased when people were moved from a normal diet of 160 mmoles (3,700 mg Na/day) down to a low-salt diet of 60 mmoles (1400 mg Na/day)⁶. The scientists concluded that reduced salt intakes induced alterations in the plasma lipoproteins and in inflammatory markers that are common features of the metabolic syndrome.

The papers quoted above are just a sample of the raft of studies since the publication of the FSA's SACN review on salt which have concluded that the Government's population sodium reduction policy is unsound. We would suggest that the weight of emerging evidence is now such that it cannot safely be ignored and that recourse to the 'precautionary principle' as a basis for reducing population sodium intake is not a justifiable public health policy. A comprehensive large-scale independent review is essential.

2 Major population groups may be at risk from the FSA's salt reduction policy

The FSA's new targets would further exacerbate the danger that some population groups are actually at risk from cutting back on salt. To date, its blanket advice to the public lamentably fails to acknowledge that there are those for whom low salt levels could be dangerous and even life-threatening. These groups include:

- Older people, for whom it is important in hot weather to improve fluid intake and not to restrict salt intake. This advice comes from Help the Aged⁷.
- Those who sweat heavily when they exercise or work could also be vulnerable to severe sodium depletion, heat exhaustion and collapse (known as hyponatraemia), with potentially fatal consequences. One of the UK's leading sports scientists, Professor Ron Maughan, and a team at Loughborough University have undertaken extensive research on sodium losses amongst professional footballers and established that they can lose up to 20 grams of salt in two 1.5 hour training sessions⁸. He has gone on record as follows: 'The Food Standards Agency says that the loss of salt in sweat is small and that we don't need to increase our intake when we sweat heavily. This is demonstrably false'.
- Restricting the sodium intake in early pregnancy in the hope that it will prevent rising blood pressure of pregnant women actually increases the risk of pre-eclampsia. The expansion of maternal blood volume associated with growth of the placenta is prevented by sodium restriction, resulting in placental hypoperfusion with adverse effects on both mother and foetus.

The groups cited here add up to a sizeable percentage of the population. The risk that they may be receiving unsound advice is, therefore, a serious one. The risks will become even greater if the proposed targets further reduce salt in basic foods.

3 Evidence suggests that population-wide salt reduction strategies do not work

Several of the papers quoted above amplify the conclusion that salt reduction does not work.

However, proof that population sodium restriction is ineffective comes from Finland, the one country that has already gone down the road the UK Government is following. Its aggressive 25-year anti-salt campaign resulted in a reduction in average daily consumption from 14g to 8g a day by 2000. Yet the increase in life expectancy and the reduction in heart disease and population blood pressure were substantially less than that achieved in the US, where average salt consumption had actually risen. The story is similar in the UK, Canada, Italy, Denmark, the Netherlands and Sweden. All reduced their cardiovascular mortality rates over 30 years as much as, or greater than, Finland but none claim any reduction in salt intake.

4 The safety of some foods could be compromised by pursuing the new targets

The consultation submission from the Food and Drink Federation (FDF) is expected to raise the issue of food safety and we would urge that the points raised there are given serious consideration. These concerns have also been made direct to Salt Association members by a number of customers who are genuinely concerned about the potential risk to public health. The safety of food must obviously be paramount - ignoring such warnings could have devastating consequences. The FDF quotes from a review undertaken by the Institute of Food Research (IFR) which investigated the safety of salt reduction in non-cereal foods⁹. The review concluded that:

- Reducing salt in certain foods will have consequences for food safety that must be considered. Any change in formulation, processing or storage conditions means product safety and shelf life must be re-evaluated and action must be taken if new hazards are identified.
- The inhibitory effect of salt on microbiological growth varies. It is, therefore, not possible to make overall recommendations on safe levels of salt. Each food must be considered separately.
- The inherent variability of a product should be considered when salt levels are reduced. Safety margins must take this variability into account.
- Additional pressures to alter food formulations, such as the desires to reduce nitrites, lower fat and sugar content and reduce additives must be considered along with salt reduction as they do interact to effect product safety.
- Product safety cannot be considered in isolation. The organoleptic and technological properties of reduced salt products must also be acceptable to consumers.

5 Customers are already resisting low-salt foods on the grounds of taste

There is also now growing evidence to suggest that some reduced-salt foods have gone beyond the limits of consumer acceptability in terms of their taste. As reported in [The Times](#), the British Sandwich Association says that retailers are complaining that sandwiches have become “bland” and consumers may soon prefer to make them at home where they can add their own salt.

Manufacturers of soups and other products are similarly finding that their reduced-salt offerings fail to meet customers’ taste demands and there are indications that consumers are now adding extra salt at the table to compensate for the lack of flavour.

Conclusion

Over the past five years, the FSA has placed UK food manufacturers under unprecedented pressure to reduce salt in processed foods. Throughout this time, questions over the reliability of the science upon which this policy is based have been ignored.

There is now general agreement that the revised targets go too far and put food safety at risk. Sadly, they also render food increasingly bland and have taken away some of the basic enjoyment of food. There have also been widely reported examples of parents ‘cheating’ to provide ‘through-the-railings’ food that school children will actually consume.

The proposed new targets are a key element of the anti-salt campaign. The unresolved question is whether they are based on sound science or whether they may actually be harmful to substantial sectors of the population. There is a growing weight of independent evidence which suggests the latter. We submit that it is now time for the FSA to end its reliance on the increasingly discredited SACN report and call for new and impartial research.

There is an urgent need for large-scale, long-term trials to end this debate. In the meantime, we need to understand the risks associated with the Government's blanket advice to reduce salt. The health of a nation is at stake; before imposing new salt reduction targets, the FSA has a duty to prove that its policy is not risking the lives of some, or all, of the population. All work on salt reduction and targets should be abandoned until this is complete.

References

- ¹ Walker J, MacKenzie AD & Dunning J. Does reducing your salt intake make you live longer? *Interactive Cardiovascular and Thoracic Surgery* 2007
- ² Shapiro Y, Boaz M, Fux A & Shargorodsky M. The association between the renin-angiotensin-aldosterone system and arterial stiffness in young healthy subjects. *Clin Endocrinol* 2008; **68**: 510-2.
- ³ Connell JMC, MacKenzie SM, Freel M, Fraser R & Davies E. A lifetime of aldosterone excess: long-term consequences of altered regulation of aldosterone production for cardiovascular function. *Endocrine Revised* 2008; **29**: 133-54
- ⁴ Advice to reduce dietary salt for prevention of cardiovascular disease. L Hooper, C Bartlett, G Davey Smith, S Ebrahim. Cochrane Database of Systematic Reviews.
- ⁵ Sodium intake and mortality follow-up in the Third National Health and Nutrition Examination Survey (NHANES III). Hillel W Cohen, Susan M Halpern, Michael H Alderman. Department of Epidemiology and Population Health, Albert Einstein College of Medicine, Bronx, NY, USA.
- ⁶ Edna R. Nakandakarea, Ana M. Charfa1, Flávia C. Santosa1, Valéria S. Nunesa, Katia Ortegab, Ana M.P. Lottenberga, Décio Mion Jr.b, Takamitsu Nakanoc, Katsuyuki Nakajimac, Elbio A. D'Amicod, Sergio Catanozia, Marisa Passarellia, Eder C.R. Quintãoa, "Dietary salt restriction increases plasma lipoprotein and inflammatory marker concentrations in hypertensive patients," *Atherosclerosis*, Volume 200, Issue 2, Pages 410-416 (October 2008)
- ⁷ <http://www.helptheaged.org.uk/en-gb/AdviceSupport/HealthAdvice/HealthyAgeing/StayCoolinSummer/>
- ⁸ Shirreffs SM et al Sweating Response of Elite Soccer Players *Int J Sports Med* 2005 26; 90-95
- ⁹ Institute of Food Research (2005). Microbial risks associated with salt reduction in certain foods and alternative options for preservation. Technical Report.