

**Humphries, Cathie**

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**From:** SLO  
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Monday, 12 September, 2005

- 1. Assessment Report Number:** P298
- 2. Assessment Report Title:** Benzoate and Sulphite permissions in Food
- 3. Organisation Name:** Angas Park Fruit Company - a Division of Sunbeam Foods Pty.Ltd
- 4. Organisation Type:** Food Manufacturer
- 5. Representing:** Dried Tree Fruit Suppliers and Processor/Marketers
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**12. Submission Text:** SUBMISSION PROPOSAL P298 BENZOATE AND SULPHITE PERMISSIONS IN FOOD ANGAS PARK FRUIT COMPANY PTY.LTD INDUSTRY SIZE  
 The Dried Tree Fruit Industry harvest intake figures and average grower payments per tonne delivered for the last two years are as below: - Tonnage Payment per tonne 2004 Apricot 744 \$ 7,865 Peach 230 \$ 4,230 Pear 147 \$ 4,380 2005 Apricot 879 \$ 7,506 Peach 130 \$ 4,170 Pear 136 \$ 4,417 Despite price increase of up to 5% for all varieties in 2005 returns were reduced as a result of seasonal size issues. The payment to growers was \$7.75M. The industry recorded retail sales of over \$18.5 M for the last 12 months and total sales including industrial sales for Australian product on domestic market was in excess of \$20M. Approximately 450 growers are currently supplying dried tree fruit or fresh fruit for the purpose of drying to the industry. Angas Park Fruit Company has been the major processor of dried tree fruit in Australia since 1911 and employs approximately 350 staff during the harvest period. BACKGROUND – SULPHUR USAGE Sulphur has been utilized as a natural preserving agent in dried fruit for hundreds of years. The determination of required levels of sulphur to ensure retention of colour and therefore marketability has been difficult due to differences in the varietal genomes and sulphur retention capabilities across producing areas. That is, dried apricots from Renmark have distinctly different sulphur retention characteristics when compared to dried apricots from Mypolonga. Processors and growers have experienced years where, due to seasonal conditions and brix/acid balance, sulphur retention in dried apricot with intake levels less than 3000 ppm. has been poor and resulted in quality downgrades and minimal shelf life for a high

percentage of products. Once an ungraded product has displayed diminished sulphur levels it is very difficult to restore original colour through re-sulphuring. The ability to absorb and retain sulphur for a variety can be generally uniform providing size, maturity, brix, brix-acid balance and storage conditions and periods are identical but it can vary with location, soil type, bud source, sulphuring apparatus and accompanying weather conditions. The dried fruit Industry, in recent years, has developed a sulphur-testing device aimed at recording sulphur levels of fresh fruit immediately after the sulphuring process. The objective was to determine times and levels that would produce dried product with required sulphur levels. Although this has assisted in determining varietal requirements in freshly sulphured fruit it can not be relied upon in accurately accessing resultant dried levels. Experience tells the Processor that in any given year only a minimal tonnage of fruit under 2500 ppm. can be purchased and confidently stored for later processing. Colour loss due to sulphur dissipation can reduce dried fruit value by 75% or up to \$6,000 per tonne. Angas Park has specifically aimed at attaining sulphur levels lower than 3000 ppm. in its own dry yard in a specific season with disastrous consequences. Due to inconsistencies in wind pressure, sugar levels and temperature a large percentage of that fruit darkened and exhibited no shelf life. A short list of variables, which directly affect grower's efforts to achieve, required sulphur levels are as follows -: Wind speed and continuity Varieties Maturity Brix level and brix/acid balance Temperature Rainfall and Dust Storms Tree location (Region) Soil type Rootstock and bud origins Farm management practices (fertilizer, irrigation) Type of sulphuring structure used (tent or solid box) Angas Park is initiating an awareness program ensuring all participants utilize available avenues, including Industry designed sulphur testing kits, to identify and meet required sulphur levels in all varieties.

**OPTIONS FOR SULPHUR LEVEL MANAGEMENT** Please find below comment directly related to dried tree fruit regarding the possible regulatory and non-regulatory options available for the proposed amendment to the Code. These comments are reflective of both Processor and Grower opinion.

**Option 1 Maintain the status quo by not altering permissions for sulphites-:** In regards to sulphites this would obviously be the preferred Grower/Processor option. This option would ensure retention of both grower numbers and markets and afford the Industry an opportunity to grow in future years and service expanding domestic and export markets. The consumer receives benefits through continued supply of an Australian product retaining colour, quality and shelf life capabilities and reduced exposure to imports. Australia currently imports 5,100 tonnes of apricots at a value of \$ 17.8M per annum. This product is in the main form Turkey and is seen as a different product due to its colour, shape, texture, sugar content and ultimately taste. Those consumers displaying preservative related health concerns continue to be protected and advised through labeling and increasing additive awareness driven by product education and medical advice. New awareness programs can be initiated to inform purchasers making decisions for those consumers now thought to be at some risk i.e. mothers of young children. The future of the stone fruit industry rests significantly on the adoption of this option.

**Option 2 Review and reduce permissions for sulphites for certain foods.-:** The manufacturing and production cost increases resulting from this option being adopted would be high with cost ramifications to the Processor flowing back to the producer by way of reduced returns for fruit. The current under supply situation dictates that the majority of fruit is sold domestically. Lower sulphur levels in fruit remains attractive to selected export markets but the risk and cost attached with achieving these levels coupled with current exchange rates renders exporting not viable. In an industry which is currently in a re-building phase and withstanding extreme pressure from imported product the added impost of a reduction of allowable sulphur levels would be very detrimental. A large percentage of dried apricot received by the processor with levels between 2000 and 2700 ppm. requires immediate processing attention. This generally necessitates washing and resulphuring in an attempt to return colour to a marketable level. A reduction in permissible sulphites levels would effectively eliminate this process as a salvage option and reduce this fruit to lower product grade and value. The long list of

variables listed earlier indicates the difficulties associated with a grower achieving a currently required level of sulphur in dried product of different varieties let alone a measurably reduced level. This proposed lower sulphites level may expose them to the very real possibility of producing a product that may not, for quality reasons, cover their production costs. Although a washing process can effectively remove a limited amount of sulphur from dried product any effort to remove substantial amounts results in loss of sugar and general fruit quality which minimizes market suitability. Total industry efforts over the past 12 months to, not only retain present growers, but to entice new growers to the industry would be severely jeopardized by the reduction of permissible sulphur levels. In contrast to the first option the majority of consumers would suffer through limited availability of Australian dried fruit which currently has no peers in terms of quality. Those consumers who are medically or otherwise advised to refrain from foodstuff containing sulphites, but prefer Australian Dried Fruit, will not benefit either due to associated difficulties of production and ultimate colour loss and minimal shelf life. The direct cost to Government and the general community would be the undoubted loss of another long standing, unique Australian Industry. Option 3 Review and partially replace the use of sulphites with alternative preservatives, or consideration of altering the methods of preventing microbial spoilage. No alternative to sulphur dioxide has been found for the production and preservation of dried apricots in the form they are currently marketed. Techniques that are used to produce dried apricots without the use of sulphur dioxide result in a product of different colour, appearance and flavour. In effect this is a different product. The inability to produce a product of the bright orange colour, edge defined shape and flavour expected by consumers remains a significant issue in the production of non sulphured fruit. Apricots dried without the addition of sulphur dioxide typically have a dull luster and are brown in colour. These products have found acceptability in the very limited organic market and to a degree with consumers who are sensitive to sulphur dioxide, but not in the conventional market. Osmotic dehydration in combination with air dehydration, particularly using heat pump technology, appears the most successful of the alternative treatments. Browning of apricots dried in this manner is not as significant but the product has a dull orange appearance. Changes in flavour and texture also result from the uptake of sugar by the product in the osmotic dehydration process. The apricot also loses all edge definition during the drying process and is generally run out or slabby in appearance. If graded under current dried apricot specifications, without considering colour as a requirement, the product would be considered a standard/manufacturing grade. The final product is distinct from sulphured dried apricots and cannot be considered as a direct replacement for the sulphured product. The function of sulphur dioxide in dried apricots is to retard the browning that results from a series of complex chemical reactions involving naturally occurring sugars, amino compounds and organic acids. As a general rule Sulphur levels decline during the storage of the fruit, some being converted to sulphate and some probably volatilizing. (CSIRO Quarterly, Volume 27, No. 2, June 1967) The studies of Trout and Hall and of Stadtman et al. demonstrated the marked influence of sulphur dioxide content on the storage life of dried apricots and confirmed that levels should be as close as possible to the 3000 ppm. permissible within Australia. Sulphur levels diminish in storage in direct relation with temperature. Product placed into store at the current maximum limit of 3000 ppm will effectively show a rate of decrease in sulphur level fourfold with each 10°C rise in temperature. In the absence of sufficient levels of sulphur dioxide other techniques must be used to prevent microbial spoilage. Reducing the water activity of the finished packed product by maintaining a moisture content of 13-15% instead of app. 28-30% may be technically possible, but in essence the packed product is distinctly different from that currently produced and the process would prove uneconomic. The current marketing and purchasing strategies for sulphured fruit are dependant on rehydration prior to retail sale to improve the eating texture of the dried fruit and increase the value of the product by increasing its weight. The non-sulphured fruit must normally be held at low moisture content (13%-15%) as it darkens and loses texture at higher moisture levels.

Option 4 Encourage consumers to eat a balanced diet and not over-consume foods with high levels of sulphites. Advancement in medicine and associated technology has identified allergy sources and health risks attributed to foods that were previously unknown. The medical and health professions are constantly advising consumers of food additives that may have an effect on their health. The responsibility, provided the applicable additive information is displayed on the item, lies with the consumer to be aware of sulphites and possible health issues when purchasing the product. The need for a balanced diet and awareness of food suitability should be conveyed to consumers at all times. Comparable Permissible Sulphites Levels – Permissible sulphur levels vary between countries. Those countries with lower domestic levels than Australia are dealing with varieties and production environments that are totally different to those here. The brix levels are generally higher and the fruit displays different sulphur intake and retention capabilities. The majority of this fruit can be stored under far higher temperature and humidity conditions than its Australian counterpart. It is generally accepted that varieties successfully grown in a particular country can not be successfully grown elsewhere. Further, Angas Park and its owner Sunbeam Foods have conducted various consumer research projects with the objective of understanding and strengthening our product marketing. These projects did not show that consumers, namely mothers, were purchasing dried Australian apricots as snacks to their young children. This is in the context that the Australian product has a sharper tart flavour due to its sugar acid ratio when compared to the readily available Turkish apricot. Children favour the sweeter Turkish product. Angas Park questions as to how the calculation for Average Daily Intake of young children within the FSANZ study was computed. If as we believe that a very small intake, if any, of dried apricots was due to consumption of Australian dried apricots then lowering the permission on Australian product would have little or no benefit in mitigating the suggested health risk.

**CONCLUSION** The dried apricot Industry, due to wine Industry expansion and unavailability of new tree varieties, has declined steadily from an intake figure of 2500 tonne in 1995 to the 879 tonne delivered in 2005. The predicted decline of the wine Industry and the significant research within the Tree Fruit Industry which will result in the release of exciting, new varieties during 2006 and 2007 presents a wonderful opportunity to reinvigorate this Industry in its' current form. Angas Park Fruit Company believes that its' interests and those of its' stakeholders, especially its' suppliers and consumers, are best served by maintaining the status quo. Angas Park has, for some years, operated a consumer feedback toll free number. In our investigations we have not seen any complaints registered in relation to the Sulphur content of the product. Risks associated with sulphur should be addressed by product labeling and as required , targeted education for those purchasers who can impact on the consumption of those at risk e.g. mothers of young children. .

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