EDITORIAL

The International Journal of Tea Science was faced with ethical dilemmas on two occasions in the final stages of publishing this issue IJTS 6(1). One of the research contributions appeared to break new grounds and received highly laudatory comments from three referees. At the last moment, one of the five referees responded after a long delay to point out that almost identical parameters have been reported by another group of researchers in another country who worked on the same microbial species, obtained from another source. Our dilemma in publishing this Original Research Report without referring to the earlier publication, and be accused of plagiarizing, made us take a safer course. We are happy that the contributor accepted our decision gracefully. This incident does point to the need of early response from all the referees who are chosen for the honorary task of a referee because of their very special knowledge in that area of research.

On another occasion, researchers in a young tea research institute worked intensively for three years in field and laboratory to report what appeared to be a valid finding. The referees worked hard on the manuscript. However, a closer examination revealed to the editors at the last moment, serious flaws in choice of experimental treatments and the statistical analysis of the data, leading to invalid results and waste of a lot of research resources due to lack of guidance in statistical design and analysis of agronomic experiments. With blind application of high-sounding modern soft ware for analyses of experimental data, the researchers often lose sight of deciding their own statistical analysis, which was an essential part of the training of the past researchers. Your editor had the difficult task of explaining the fundamental error, hoping that the young researchers will not suffer the trauma of a "rejected paper", which has led to accusation of "bias" against editors of well known scientific journals in the past.

In view of the above two last minute dropouts, this issue of IJTS 6(1) comes to you with a truncated list of three papers only, which are summarized below.

I: **Sustainability of stallholder growers in Kenya**: In the country report Owuor traces the history of tea in Kenya since its introduction in 1903. The African farmers were not allowed to cultivate tea, until 1963, when the country became free. Since tea growing was an attractive proposition providing employment in the rural areas and injecting cash flow in the communities with few options for alternative development facilities, the smallholder tea grower sector grew rapidly under Kenya Tea Development Authority Ltd (KTDA). In 2004, the KTDA serviced 447,617 members with an average tea holding of 0.27 acres, and operated 45 factories producing 192 million kilograms tea. The smallholder farmers planted some of the highest yielding clones and were provided incentives to pluck fine, which made it possible for the KTDA to produce quality tea in their most modern large factories. While the major problems were rightly anticipated and solved successfully by the KTDA, the programme seems to have stumbled on a few cardinal errors like low initial plant population and delayed frame-forming prune. It also did not take into account the low level of education of the farmers and the extension staff, which caused poor transfer of technology and resulted in inappropriate application of agronomic practices at the farm level. In the experience of this editor, social get-togethers are more successful in involving all members of the family, particularly when the strength of extension staff is low. They deliver the results if combined with visits to demonstration plots and tight monitoring of the programme implementation by a third party, as was done

in Himachal Pradesh (India) in the eighties. However, a very unusual sociological problem pointed out by the author is the need for a proper reward system for sharing the smallholder income by the females and adolescent children in the family, who work on the farm.

The well-planned KTDA system, which anticipated and provided for major problems, is a model to be adapted wherever smallholder growers cluster in large numbers. However, three suggestions come to mind, which could be considered by the KTDA authorities. To cut down the cost of energy (and manage the rising cost of production), small wood gassifiers feeding on biomass produced on farm under agro-forestry system, is worth exploring, emulating nearby tea estates who use biomass gasifiers with their own tree plantations, and collaboration with the International Agro-forestry Research Center, located in Nairobi. Secondly, where the smallholder farmer is situated away from good roads and is unable to reach green leaf to the KTDA factory, the concept of computer controlled small factories that process 50-100 kilo green leaf per day, may be explored with the scientists of CSIR in India who are currently developing this option. This will take the bad roads out of reckoning. Third is the need to rethink the concept of "competing" enterprises that divert the farmers' resources and attention from tea. Dairy is one such enterprise where the manure produced by dairy animals can be applied in tea to cut down the cost of manuring. I know of a green field smallholder tea project where keeping one cow per acre of organic tea plantation is recommended for utilizing farm residues to feed the cows that provide milk for the working children and produce manure for excellent nutrients to tea crop. Sharing of ideas with smallholder farmer communities from other parts of the world is strongly recommended to improve the sustainability of smallholder tea growers even in Kenya.

II. Doubling Tea production in South India: The second country report is presented by Govindrajulu relating the success story of doubling South Indian tea production in less than three decades. He has provided an in-depth review of technical support and information made available from UPASI Tea Research Institute to achieve this end. Govindrajulu also profiles the tea producer, extension worker and details the extension strategies adopted for reaching the current yield levels. The first part of this article largely reviews the specific transfer-technologies adopted in the past and then lists the newer types of extension services, which are considered to be fast and cost effective. However, the editors express reservation about the continuation of extension policies that led to the present day quality scenario of South India teas. They have commended an adjustment in extension strategy in this time of falling prices, which requires quality product to fetch remunerative returns.

III: Fragrance profile of tea flowers: The original research report by Han explores a virgin territory. That Chinery bushes flower profusely is a fact. Most of these flowers wither away, without any commercial purpose, is also well known. The author informs that some Chinese companies are proposing to make beverage quality tea from tea flowers, rich in fragrance, that can be blended with leaf tea to upgrade the flavor profile of the latter. In this context, the volatiles in flowers of twenty-three elite tea cultivars were obtained by simultaneous distillation extraction, from which seventy-nine aromatic constituents were identified using gas chromatography coupled with mass spectrometry. The major detected constituents found were acetophenone, linalool, 1-hexanol, 2-pentanol, methyl salicylate, 4-methyl-2-hexanone, alpha-methyl-benzene methanol, cis-linaloloxide, acetic acid, *Z*-3-Hexen-1-ol, *S*-2-heptanol, and hexenal. Both acetophenone and linalool were determined from every cultivar, and

each volatile accounted for more than 20 % of the total. Several of the cultivars contained some special constituents, which were not detected from other cultivars. The International Journal of Tea Science hopes that this paper will be a path breaking report and record a major step forward for upgrading the flavor quality of beverage tea in future.

Tea Science Abstracts: The International Journal of Tea Science has once again received contribution of tea research abstracts from a " Link Institution" which has been focused by placing in a separate subsection in the beginning of the chapter on classified Tea Science Abstracts. Interestingly none of these papers were reported in the literature gleaned by other abstract compilers. We repeat the request to our link Institutions to share with IJTS the abstracts of their scientific publications and come more prominently in the main stream of known tea research.

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(N.K. Jain)

Resident Editor.

P.S: Along with this issue of the IJTS 6(1) is enclosed a 20-page"Author Index" for the abstracts appearing in volume V of the IJTS during the year 2006.