

**Proposal of the Global Network
for the Study of Green Tobacco Sickness**
Proposta da Rede Global
para o Estudo da Doença do Tabaco Verde

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To the editor:

Recently, I made contact with three research papers for Green Tobacco Sickness (GTS) in Brazil, including yours¹. I, as a researcher studying GTS, am very happy and also feel lucky that there are many researchers taking care of the health of farmers in South America, particularly for GTS. I am delighted and grateful to meet many researchers of GTS on the other side of the earth, Brazil – a country with one of the largest productions of tobacco leaf, following China, throughout the world. With utmost gratitude to the researchers in Brazil, I would like to discuss my experience of studying GTS as well as to propose the establishment of an international network of research for GTS.

GTS is acute nicotine poisoning, which occurs during tobacco leaf harvesting, in which the skin absorbs the nicotine. Moreover, GTS is one of the occupational diseases arising with tobacco harvesters. GTS occurs primarily during a condition when the tobacco leaves or clothes are wet due to sweat or rain. Major symptoms of this disease are dizziness, headache, nausea and vomiting. There are reports of cases with further syncope. Weizenecker and Deal² reported the first case in 1970. Since then, GTS researches were conducted in various countries around the world; first, it was mainly carried out in the United States and India, but has recently been studied in Asia, Europe and South America.

Although little is known internationally, South Korea has also been steadily studying GTS for more than 10 years after my teacher and I reported the first case in Korea in 2001³. Although our initial research had been conducted to understand the prevalence of GTS and metabolite (cotinine), I have recently been conducting research on nicotine concentration at the workplace and at the tobacco field⁴. In particular, through the confirmation of nicotine in the air at the workplace or tobacco field, I knew that nico-

tine intoxication was possible through the respiratory tract, not only through skin contact.

Air nicotine concentration in the tobacco field was 41.4 to 49.2 mg/m³, which is about 90 times higher than the level of 0.5 mg/m³ exposure limit at the workplace⁵. In addition, the workplace, where the process of drying tobacco leaves was conducted, was measured with high concentrations, corresponding to 400 times the standard limit of 200 mg/m³ on average. This confirmed the fact that it was possible to be exposed high concentrations of nicotine while processing, drying and harvesting tobacco. These results have been presented at the 2012 ICOH, held in Cancun, Mexico in 2012.

Currently, there are about 6,000 households harvesting tobacco leaf in Korea. This figure was reduced to 20% compared to 10 years ago. Further, tobacco harvesters have been relatively marginalized from the policy for farmers. Nevertheless, Korean researchers have constantly performed GTS study. According to the results of our studies, the prevalence of GTS was 39.2 to 67.0%. Some of the tobacco harvesters quit their job due to GTS.

If you observe the global trends in the consumption of tobacco, there has been a continuous increase; further, developed countries are maintaining a constant level of tobacco consumption. Because the supply cannot be naturally decreased if consumption increases, the production of tobacco leaf must be increased. Simultaneously, GTS must be considered to be an important health problem among tobacco harvesters.

As long as tobacco does not disappear, the presence of GTS among tobacco harvesters is will persist; it is certain that many tobacco harvesters will suffer from GTS. In Korea, GTS has been misdiagnosed and treated as heat stroke or dizziness over the past 30 years. Similarly, in many parts of the world today, GTS has not even been recognized.

However, it is still not too late. We must make efforts in order to understand the prevalence of GTS among tobacco harvesters, and come together to engender a disease surveillance system up and running in order to prevent this outcome. Furthermore, we should minimize the exposure through proper education and public relations for the prevention GTS with accurate treatment. I hope such a day comes soon — the day when researchers interested in GTS come together and discuss GTS.

References

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