

News Letter

Foreign Student Service, Agriculture

野菜が取持つ国際交流

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最近、タイ産野菜から発癌予防効果が期待できる植物成分を見いだした。これらの成果は以下のような国際交流に基づいた共同研究の結果である。

発癌のリスクは緑黄色野菜や果物を多く摂取すると低減することが疫学調査研究によって明らかにされてきた。筆者らは野菜が潜在的に持つこのような効果を発癌プロモーション過程の抑制の観点から取り上げ、物質レベルでその抑制活性を野菜について広く探索し、発癌予防に適用できる有用な食品素材を見いだそうとした。まず、身近な日本産野菜をランダムに入手し、発癌プロモーション抑制活性を *in vitro* アッセイ系で評価していた。

その頃、国際協力事業団によるタイ・カセサート大学研究協力プロジェクトの専門家としてタイ国に1ヶ月間（1987年12月21日～1988年1月20日）滞在する機会を得た。バンコックやチェンマイの市場をカウンターパートの案内で調査したところ、野菜の種類は多様で、野草や薬草も野菜として食用に供されていることを知った。同時に日本産の野菜はタイ産と比較して外見的品质や流通性、輸送性、加工特性、生産性などに重点をおいて高度に育種選抜されていることを改めて痛感した。

翌年、同研究協力プロジェクトにおけるカウンターパート派遣研修員として、カセサート大学から Suratwadee Jiwajinda（京都大学大学院農学研究科修士課程食品工学専攻1991年3月修了、現在カセサート大学カンペンセン CLGC 勤務）を食品工学科農業分析学研究室に受入れることとなったので、タイ産野菜の発癌プロモーション抑制活性の評価を開始した。検定試料にはタイ国で食用、香辛料、薬用など多面的に利用されている特徴的な伝統食用植物（40種）を選び、CLGCにおいて調製した各粗抽出物の活性を農業分析学研究室で検定した。両国産野菜の発癌プロモーション抑制活性を比較したところ、活性を示した植物の出現頻度はタイ国の伝統食用植物では日本産の野菜よりも約3倍高いことが判明した。この「タイ産伝統野菜の発癌プロモーション抑制活性」についての成果は1993年11月16日～19日バンコックで開催された第11回アジア太平洋癌会議において共同研究者が発表し、タイ国の研究者らの注目を集めた。

さらにこの結果を確認するため、同癌会議に参加した機会を利用し、再び S. Jiwajinda の支援を得てチェンマイおよびバンコックの市場でタイ産野菜を今回はランダムに入手し（写真）、より幅広く抑制活性を検定（122種）した。その結果も同様な傾向を示し、日本産常食野菜類（121種）

の2倍以上高い出現頻度でタイ産野菜に発癌プロモーション抑制を検出した。

アフラトキシン汚染が憂慮されているにもかかわらず、タイ国における年齢補正癌死亡率（1987年）は米国および日本（1986年～1988年）の1/2以下と低く、今後の研究に待つべきところが多いが、タイ産野菜の強力な抑制効果が寄与している可能性を示唆している。

それらのうち強活性を示したタイ産特有の野菜から発癌プロモーション抑制活性物質8種を単離、同定できた。これらの研究成果については、ハワイで開催される第3回日米合同がん会議（1995年2月13日～18日）で発表する機会が得られた。

多種の特徴的な野菜を産する中国においても野菜の発癌抑制活性に関する研究は注目され、国際協力事業団の北京蔬菜研究センター研究協力プロジェクトによる研修員として薛穎が農業分析学研究室へ派遣され（1992年10月～1993年7月）、発癌プロモーション抑制活性 *in vitro* アッセイ法を習得した。薛穎は北京蔬菜研究センターに帰任後、同センター圃場で栽培されている中国産野菜（88種）について抑制活性を勢力的に精査し、強力な抑制活性を示す野菜（3種）を見いだしている。

なお、これら食用植物に含まれる発癌プロモーション抑制活性因子の分離精製に必要な技術をカウンターパートの薛穎に移転するため、筆者は1994年8月に約2週間、同プロジェクトの専門家として北京蔬菜研究センターに Outreach その指導にあたった。今後、有効な野菜から抑制活性物質の単離に成功し、構造や作用機構解析のために京大の研究室へ再度派遣されることを願っている。

国際交流においては留学生の受入れの推進とともに帰国留学生の活動に対する施策が極めて重要である。共同研究はその一つの方策と考え、留学生が帰国した後も研究の場を微力ながら支えつつ交流を深め、それぞれの母国で研究・教育の発展を担って活躍できるよう惜しまず支援を続けたい。

バンコックの市場におけるタイ産野菜の収集調査

（左手前 S. Jiwajinda、右隣大東肇教授）



Letters from Alumni



Men Propose God Disposes*

A. Pulkadang

(KND Toranokokai
Alumni 1951
Indonesia)

I came here together with 20 young students from Eastern Indonesia as *Tokubetsu Ryugakusei* not for special study but more for propaganda material for *Dai Toa Kyoeiken*. It was originally planned that we should be sent back home to their respective region after a blitz study for one year, but the situation at that time (1944) was the worst and we were stranded in Japan. Despite of the bitter years during and right after the war, what were remained in my mind were pleasant memories and an unforgettable taste of white riceball (*onigiri*) which I got from a neighbor leaving for the front.

After about 2 months voyage by a cargo boat, we arrived safely at Osaka on September 3, 1943 and then moved to Tokyo. After the welcome ceremony at Tokyo Station Hotel, we were driven by bus run by charcoal as fuel to the dormitory "*Dai Toa Ryo*" at Mejiro. Our real student life started from here: being given new student uniforms, ¥40 of pocket money, I.D. Card and other small items like chopsticks, soap, and wash-basin etc. We were called to the dining room and listened to the address of *Ryokan Sensei*, a retired Major General, which focussed on the *Nippon Seishin* and the do-it-yourself system. Instructions were given regarding harmonious living at the dormitory. We had to choose one Hanchō weekly among us and seven groups of 3 persons were obliged to do daily cleaning and other works like performing the Tenko, making up the dining table and distributing Bentoes. *Ryokan Sensei* always closed his address with "*Shokun*, I wish you all the best of luck, the best of health, to study hard and later become leaders in your respective field of the framework of *Dai Toa Kyoeiken*". Then *Ryobo* addressed us that as a mother she would take good care of us and disclosed that harder times were to come yet, especially foods. In the first few weeks, no one did not complain about food, although not enough. However, when the food situation turned to be worse, the hunger made us strongly request *Ryokan Sensei* to send us back home. It was tragic to see the old General to shed tears of sympathy. Even was so *Ryobo*. Our motto

became "*Tabemono Ichiban, Benkyo Niban*" and then we made every effort to look for food in our free time. After finishing the *Nihongo Gakko* I and other 4 fellows commuted every day to take trainings at Nishigahara and Konosu Nojishikenjo. During the training period we were assured of full stomach to the envy of the other students. When it was completed, at the noon we got extra rice-ball and *satsumaimo* and tomatoes as "*omiyage*".

During the summer of 1944 the sky over Tokyo was frequented by squadrons of B-29 bombers. We gave up a thought of being sent home in the near future and became afraid that Tokyo would be flattened in a matter of time. One day an announcement came from the Monbusho that for their safety foreign students residing in Tokyo were allowed to study further in other cities of Japan in accordance with their background education. I entered Kyoto Imperial University and the *Tokubetsu Ryugakusei*'s life ended.

Our dormitory was not far from *Nogakubu*, only a few minutes of walk. There was a completely freedom there, no roll-call, wake-up call and flag raising ceremony. The atmosphere was excellent and really we felt at home and made a pledge to study hard. My Japanese was only good for daily conversation and reading novels or newspapers. Fortunately my classmates near the dormitory were always pleased to give their helping hands. I thought that a few years were not enough to learn a difficult foreign language. My professors and fellow students were always much sympathetic to me, so my regular attendance to classes was like training opportunities.

After the termination of the war, we were given an option to register with the Dutch Embassy or to remain with the present status. For practical reasons I chose the former. As I made up my mind to stay and finish my study, with the assumption of going anywhere you like in peace time and feeling to return home without a University Diploma. I had to find a job with the Allied Forces as a translator until monetary help came from the Indonesian Association. I graduated in 1951 not successfully but luckily, thanks to the assistance of my fellow classmates of Toranokokai and the sympathetic professors.

I suffered from the war and the fight against hunger and cold in winter, but everyone did at that time. Here I learned to appreciate the "value" and the "real taste" of rice. Strange as it may sound was the fact, nobody of our group of 21 students got sick and all returned to Indonesia, except myself and one friend who chose to stay in Japan.

(*:A4 で6枚に及ぶ力作のオリジナル原稿を編集して短くしたものです。)

留学生の眼 (12)



Realization of a Dream (Memories of a Student's Life in Japan)

Nimfa K. Torreta

(Division of Forestry
Philippines)

Eversince I was a child, I have been fascinated by the art and culture of Japan. It has always been my childhood

dream to experience and see the beauty and grandeur of Japan which I got to see only in the pages of the *Pacific Friend Magazine*. Looking back, I remember the feeling of awe and happiness I felt everytime I had the chance to browse over and admire to my heart's content the colourful facets of the Japanese life and culture which were beautifully captured in every page of this magazine. Little did I know that this childhood dream will become a reality.

On 6 April 1994, my childhood dream of seeing Japan had come true. Together with the other Filipino awardees of the Monbusho scholarship, I boarded the Thai Airways in going to Japan. I was a bit excited and at the same time

so apprehensive of the world ahead of me. However, my feeling of excitement was totally engulfed by my feeling of apprehension especially when each one of us was sent to our specific destinations in Japan (i.e. to the University where we would learn our Nihongo lessons for six months). For me, it meant being alone and creating my own niche in a totally new world.

Just like any other foreign student, I lived my first two months in Kyoto with loneliness and homesickness. It was during this period that I really felt so all alone and helpless. Everything around me seemed to be so strange and different. Although I can hear, see and speak, I felt otherwise. My almost two months of Nihongo lessons did not make any difference at all to what I felt at that time. I was so disappointed and frustrated because I could not even speak simple Japanese, much more read any simple Kanji character. I felt like going back to my country and terminating my studies and scholarship.

However, as days, weeks, and months passed by, I realized that getting a scholarship to study abroad is once-in-a-lifetime experience and too good an opportunity to lose. So, I thought I might as well make the most of my stay in Japan. I started meeting new friends and living a fully independent life. I cooked my own food, budgetted my finances, and made my own decisions. Slowly, I learned to

speaking little Nihongo. I also learned how to bike that brought me to nearby Japanese stores. I have broken the shell or my life that has sheltered me for many years.

Japan is truly a beautiful country and totally unique in its own way. I will always admire the well-kept Japanese inspired gardens found in the midst of the temple, the display of Japanese arts in the form of bonsai, ikebana and origami, and colourful celebrations of various festivals with the change of the seasons. I will never forget the "Japanese ways" that I had the opportunity to learn for the past eight months. These ways are totally different or sometimes the opposite of what we have back home. Nonetheless, I have learned to appreciate and make some of these "ways" a part of me. I will always remember also that it is here in Japan that I have learned and experienced a lot of things that I would not have known had I been in my own country. Living in Japan had taught me how to be more independent and appreciative of the things around me. Much more, staying here had instilled in me a strong sense of honesty and discipline—the most outstanding qualities the Japanese people are saluted for!

These are just a few of the many memories of my life in Japan. I know that as I go along with my life here, more interesting and worth remembering experiences will continue to spice up my stay.

交流の歩み (8)



Experiences as a foreign student in Indonesia

Yosei Oikawa

(Division of Tropical Agriculture)

Since September 1992 I have been a research student at Bogor Agricultural University. The aim is to collect data on Javanese homegarden as an agroforestry system. All of the permission for my field research has been dealt with so far by the same procedures as those which Indonesian scholar passes through. Foreigner is not an exception. So is the Indonesian, too.

Being different from Japanese universities, the laboratory is not well accommodated. I as well as Indonesian students am not given any desk at which we can sit for reading and writing in the laboratory. They used to write the thesis at home. In particular, they ask typing services and rent a computer at the nearby shops by own expenses. Everyday, lecture begins at 7:00 or 8:00 in the morning. After 14:00 it is already quiet since most of staffs and students have gone home, though, of course, there are some lectures in the evening. If the teaching staffs are too busy to tutor, Indonesian students would visit the staff's home to consult with from necessity. Though they live near the university, due to my experiences so far in Japan I still hesitate to put it into practice. My anxiety might work in my mind that my visit to get tutored at their home disturbs their private time. In the recent, from time to time, I can not adopt my personal thinking, which has been

cultivated in Japan, to their thinking of Indonesians. I feel some invisible and unexpressible worries about research.

Before leaving for Indonesia, some of my Japanese seniors, who had ever experienced field researches, advised me how difficult it is to conduct researches in Indonesia. Their worries were enough realized by the troublesome procedures at the Department of Education and Culture and at Immigration Office in Jakarta soon after arriving Indonesia. If we are too lazy to visit the concerned offices or we follow honestly the immigration rule, we could not help waiting for a long time. It needs a half year or one year to complete the procedures. For instance, when I visited the Department of Education and Culture to push the procedure to get a certain visa, the officer in charge could not find my documents sent by way of the Indonesian Embassy in Tokyo, Japan before one month. His answer was "not reach yet or lost". It was much fortunate that he accepted photocopies of the documents which I brought for the purpose of using in an emergency. If not visit and no photocopy, how long should I have waited for without knowing that the procedure never take a step? Similarly, until now I have often been confronted unexpected hardships in managing procedures. Unnecessary payment to quick services at the Immigration Office in the case of having lost the registration card. Of course, I have been helped by their kind dealing. Now, to some extent I have got accustomed to identify their services.

I sometimes say to myself as follows: "It is taboo to complain of how hard to research in Indonesia. Everyone who has similar circumstances and experiences in Indonesia make efforts to get over those difficulties." I love Indonesia much, especially their smile that have disappeared and been forgotten in Japan, and beauties of rural landscapes.

It is supposed, thus, many foreign students are also in difficulties for a variety of aspects in both living and study in Japan? How many days/months could be spent to master a foreign language? How do you feel about being taken the fingerprints at the city hall? After becoming a foreign student by myself once, I learned to understand part of their

anxiety and emotion of foreign students studying in Japan. It is not to say that my experiences have taught those lessons. I hope each foreign student can understand not only Japanese weak points but also good points during their stay in Japan. Similarly, I wish to understand more Indonesia through my experiences and communications.

留学生室ニュース

農学研究科博士後期課程編入学考査

平成7年度農学研究科博士後期課程編入学考査は、1月25日、26日に行われ、28名が合格しました。このうち私費外国人留学生は農学専攻1名(中国)、農芸化学専攻1名(中国)、水産学専攻1名(韓国)、林産工学専攻1名(韓国)、食品工学専攻2名(韓国)の合計6名でした。

農学部私費外国人特別選考試験

平成7年度私費外国人留学生特別選考試験には本年度は応募者がありませんでした。

外国人留学生(研究者)の博士号取得状況 (平成6年1月~12月)

当該1年間に京都大学農学研究科に博士論文を提出して、京大博(農)の学位を授与された外国人留学生(研究者)は14名で、このうち同博士課程修了者は12名でした。取得者とテーマは以下の通りです。

蘇 淳 烈(農林経済学専攻)

植民地後期朝鮮地主制の研究—全羅南道を中心に—

SAEREE JAREONKITMONGKOL(農芸化学専攻)

Fatty Acid Desaturation-Defective Mutants of an Arachidonic Acid-Producing Fungus, *Mortierella alpina* 1S-4 (アラキドン酸生産性糸状菌 *Mortierella alpina* 1S-4 の脂肪酸不飽和酸素欠損変異株に関する研究)

Joseph Leina Masawe(農林経済学専攻)

The Role of Formal and Informal Credit in Agriculture and Rural Development: The Case of Tanzania (農業・農村発展における制度金融および非制度金融の役割: タンザニアを事例として)

尹 大 珍(農芸化学専攻)

Metabolic Engineering of *Atropa Belladonna* Plant for Scopolamine and its Analysis (代謝制御工学によるベラドンナ植物のスコポラミン産生と解析)

姜 信 龍(林学専攻)

韓国における近代都市公園の受容と展開

黄 星 九(畜産学専攻)

Studies on the Control of Fat Accumulation and Lipid Metabolism by Exogenous Medium- and Long-Chain Triglycerides in Rats (中鎖及び長鎖脂肪酸トリグリセリド給与がラットの体脂肪蓄積及び脂質代謝の調節に及ぼす影響に関する研究)

R. SUNSUN SAEFULHAKIM(熱帯農学専攻)

A Land Availability Mapping Model for Sustainable Land Use Management —An Empirical Analysis of Samarinda Municipality, East Kalimantan Province, Indonesia— (持続的土地利用管理のための土地利用適性評価モデルに関する研究—インドネシア・

東カリマンタン州サマリダ市の事例—)

Nguyen Huu Chiem(熱帯農学専攻)

Studies on Agro-Ecological Environment and Land Use in the Mekong Delta, Vietnam (ベトナム・メコンデルタの農業生態的環境と土地利用の研究)

米 華 玲(農芸化学専攻)

NAD (P) H Dehydrogenase-Mediated Cyclic Electron Flow Around Photosystem I in Cyanobacteria (藍藻での NAD (P) H デヒドロゲナーゼ依存の光化学系 I 循環的電子伝達系)

鄭 鎮 炫(農芸化学専攻)

韓国森林土壌の特性に関する研究

Andrew Barde Gidamis(食品工学専攻)

Studies on Functional Properties and X-ray Crystallographic Analysis of Soybean Proglycinins Modified by Protein Engineering (タンパク質工学的に改造した大豆プログリンシンの機能特性とX線結晶解析学的解析に関する研究)

李 成 鎬(農林経済学専攻)

韓国農業における技術進歩と経営構造の変化に関する研究

金 東 運(農芸化学専攻)

Thermostable Aspartate Aminotransferase of *Bacillus* sp. YM-2 (*Bacillus* sp. YM-2 の耐熱性アスパラギン酸トランスアミナーゼ)

Noel S. Perpetua(農林生物学専攻)

Molecular genetic analysis of genes involved in appressorial of penetration *Colletotrichum lagenarium* (ウリ類炭そ病菌の付着器侵入に關与する遺伝子の分子遺伝学的研究)



明治学院大学からの留学生の来訪
本学部留学生と交流する明治学院大学留学生の皆さん、平成6年11月初旬

発行所 京都市左京区北白川追分町
京都大学農学部留学生室
電話 (075)753-6298, 6299

印刷所 京都市上京区下立売通小川東入
中西印刷株式会社
電話 (075)441-3155~8