



# CGPRT

# Flash



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## Welcome from The Editorial Committee

Dear Reader,

Congratulations! You have just received the first issue of the newborn **CGPRT Flash**, the monthly Bulletin from our CGPRT Centre. We hope that it will bring you, month after month, valuable economic information from all of Asia and the Pacific (and sometimes beyond) about so-called "secondary crops". As you probably know these crops help ease marginal and poor farmers hard living conditions, and make a livelihood from less fertile upland areas. Today they also show incredible potential as a source of feed for animal production, for diversification of human consumption and for non-nutritional uses. Yet, little is done to spread local knowledge as well as scientific breakthroughs on these crops to the community of scientists, analysts and decision makers. One key question is how is it possible for the marginal, poor farmers and the population living in upland areas to benefit from this incredible potential? How can we make CGPRT crops contribute more and more to poverty alleviation?

This is what the CGPRT Centre aims to achieve and the reason why we felt it necessary to develop an attractive media that could contribute to this objective. **CGPRT Flash** basically consists of five types of information. The first, called **Breaking News**, provides instant information regarding any important event that might have bearing on the future of CGPRT crops in Asia and the Pacific. The second, **Brief**, are short paragraphs relating to facts on specific CGPRT crops or specific issues concerning the crops. The third is **Short Article**, a one-page synthesis on a specific topic related to the situation and prospects of crops in Asia and the Pacific. The fourth is a **Book Review** related to the crops. Finally, **Information** on workshops, seminars, conferences and training related to the crops is also provided in **CGPRT Flash**.

We hope you will enjoy it and we appreciate any feedback and suggestions, as well as your kind contributions to make it trully YOURS ■

Warm Regards,  
Editorial Committee

## The Benefits of CGPRT Crops

Short Article

CGPRT crops have an important contribution to play, not only for traditional human consumption but also as industrial raw materials and feed to support the livestock sector.

The CGPRT Centre study titled "Prospects of Feed Crops in South Asia (FEED)" was conceived as a result of the concerns regarding the impact of the rapid growth in the consumption of meat and milk in the region on the availability of animal feedstuffs required to increase animal production. It had been noted that relatively slow growth in feed crop production has led to deficits of animal feeds resulting in increasing imports of the basic feed ingredients to South Asia.

Four countries namely: India, Nepal, Pakistan and Sri Lanka participated in the study.

All four countries studied have overall deficits of animal feedstuffs, both roughages and concentrates, since production has not been able to keep pace with the rapidly rising demand. The growth in the livestock sector is primarily in the poultry sector and much of the demand for feed arises for the two key ingredients, maize and soybean meal, needed to prepare broiler and layer rations. Growing demand from the dairy cow sector can also be expected through the demand for high quality feed ingredients.

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# Sweet Potato: A Versatile and Promising Crop

## Diversification of Sweet Potato Use

Toyota Motor Corporation (TMC), a leading Japanese automobile company and Mitsui & Co. Ltd. (Mitsui), a general trading company in Japan are implementing a pioneering endeavor to use high-yielding sweet potato to produce livestock feed and biodegradable plastic in Indonesia.

TMC and Mitsui established P.T. Toyota Bio Indonesia in Indonesia (in Lampung, a southern province on the island of Sumatra) in April 2001. The primary aim of Toyota Bio Indonesia is to use sweet potato to: 1) create livestock feed and 2) develop a low-cost and environmentally friendly biodegradable ingredient (lactic acid) for the production of non-petroleum-based plastics.

Sweet potato cultivation is to be commissioned to local farmers, who will be supplied with top-grade nurslings that feature an outstanding yield and dry content ratio. The total planned cultivation area is 6000 ha. Production of biodegradable plastic will start in 2004.

Utility of sweet potato is expanding also for table use. In Japan, sweet potato, especially purple-fleshed sweet potato, has been booming as a source of processed food. You can find sweet potato ice cream, sweet potato yokan (traditional sweet jelly) and sweet potato juice everywhere in Japan as well as in the Kyushu district (southern part of Japan), which is a central area of sweet potato production. The popularity comes from its good taste and richness in anthocyanin, known as an antioxidant, and recent studies reported its positive effect on human health such as the reduction of blood pressure ■



*Purple-fleshed sweet potato and its processed food; noodles, jam, juice and chips (by courtesy of National Agricultural Research Center for Kyushu Okinawa Region, Japan).*

*Data source:*

*<http://www.toyota.co.jp/en/index.html> and <http://konarc.naro.affrc.go.jp/>*

## Sweet Potato: A Leading Crop in Papua

Neglected in most areas of Indonesia, sweet potato has a surprisingly important role in Papua (formerly known as Irian Jaya). Firstly, sweet potato is of the utmost importance in the diet of local residents, accounting for 90% of their daily diet in many areas with annual per capita consumption of about 100 kg. Secondly, sweet potato can be used as an effective means to improve the health of local residents. Orange-fleshed sweet potato is important for reducing vitamin-A deficiency, which used to be prevalent in some areas of Indonesia such as Papua.

The government's attempts to eradicate this deficiency by distributing vitamin-A capsules have not been effective in the region. However, increasing orange-fleshed sweet potato consumption has been considered more effective because of its function as a staple food.

Moreover, sweet potato also accounts for up to 100% of pig feed, and pork is an important

source of protein. Finally, sweet potato also plays an important role in income generation and poverty alleviation, either directly through income generated from sweet potato farming or integrating farming systems, including sweet potato and swine production. For example, the revenue gained from a mature pig is around Rp. 7-8 million (Dai Peters, 2002). This situation implies that the development of sweet potato in Papua could be an effective policy instrument to improve food security, poverty alleviation and health standards in the region. In other words, the crop could be used as a leading crop in the region ■

*This article is summarized from Dai Peters, 2002, "Poverty Alleviation and Food Security through Improving Human-Pig-Sweetpotato System in Papua, Indonesia"*

# The Changing Role of Soybean in China's Food System: a Study of its Production, Processing, Consumption and Trade

*Aubert and Zhu (Eds). China Agriculture Press. Beijing. 2002*

This book presents the results of a research project jointly undertaken in 1998 by the Chinese Academy of Agricultural Sciences (CAAS), the French "Institut National pour la Recherche Agronomique" (INRA) and "Centre de Cooperation Internationale en Recherche Agronomique pour le Développement" (CIRAD), the University of London and Heilongjiang Academy of Agricultural Sciences (HAAS).

In its three chapters the book focuses successively on a global approach to the Chinese soybean economy, a regional approach in Heilongjiang and Henan provinces, and on the exploration of the recent changes affecting China's processing capacities and international soybean trade.

The book highlights the salient features of the soybean economy in China. In the primary sector, it observes that soybean is a drought-prone production stagnating at 14-15 million tons since 1994, mainly located in non-irrigated areas. Soybean cultivation has yields 20% below world averages and faces competition for land with wheat, rice and corn. Although domestic prices are 20% above world prices, farm level income is lower compared to other competing crops.

The processing sector is also well characterized. The small cottage tofu industry is very active, experiencing a rise in consumption in urban areas. Its challenge for further development lies in the packaging industry and refrigerated lines for greater distribution. The crushing sector faces many problems: obsolescence of equipment, heavy charges and competition from cakes imports. However, a new private crushing sector seems to be rapidly developing along with the rising demand for oil and cakes. The demand for cake is one of the main change factors in the structure of the soybean complex in China, as a result of the recent development of large-scale animal husbandry units (hogs, broilers, egg production). This demand cannot be satisfied by domestic production alone and thus imports of soybean grains increased tremendously in 2000. The issue of GMO soybean is also discussed in relation to these growing imports.

Imports may adversely impact the situation of farmers in some producing provinces where soybean cannot always be easily substituted, and where the current protection schemes (quotas and price protection) are threatened by China's entry to WTO.

In the book's conclusion, the authors emphasize the development of the food sector, the natural genetic resources of the country as a source of higher quality products, and the need to improve the relationship in the trading system as the key issues to ensure a significant place for domestic soybean in China's economy.

This book is a remarkable collective effort compiling various sources of information, - the often failing national statistics, field surveys, secondary data -, in order to perform a comprehensive multi-level analysis of the soybean commodity chain, using numerous tools; revealed comparative advantage, production function, demand function, domestic resource cost, projection scenarios, comparative analysis and household economic analysis. The authors honestly acknowledge the difficulty they faced in acquiring reliable secondary data and statistical sources and warn the reader about the uncertainty of some figures.

One (relative) weakness is that the conclusion stresses the "necessary reform of the management of the whole commodity chain", however, this topic only appears as a "watermark" throughout the book. It could have deserved a more specific section focusing on the links between the stakeholders and the current regulation mode in the soybean complex.

Nevertheless, this book will give you all it seems possible to know about the soybean economy in China, with plenty of data, figures and highlights of the key issues for the future of China's soybean ■

*By Dr. Robin Bourgeois, IS/DB Programme Leader, UN ESCAP CGPRT Centre*

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## The Benefits ...

Much of the feed supply for ruminants, in contrast, still originates from natural forages and crop residues. As available grazing lands have dwindled and the genetic potential of animals has improved, farmers need to use nutrient dense manufactured feeds to supplement their dairy cattle.

Maize, soybean and most of the other coarse cereals in the South Asian region have traditionally been cultivated by small hold farmers, on marginal lands under rainfed conditions.

All countries are likely to experience positive growth rates in coarse grain production in the coming decade. Maize production is also expected to increase as is soybean and wheat.

The studies show that these countries will be able to overcome some of the shortages in animal products and feedstuffs through cooperation in trade not only for coarse grains and their by-products but even for animal products.

Such trade will help each of these countries focus on the commodity in which it has comparative advantage. Sri Lanka is hoping to benefit from trade cooperation and liberalization that has been adopted as policy but Nepal, Pakistan and India may face difficulties in adjusting to the liberalizing and globalization of trade. India will be confronted by competition from other countries that produce coarse grains. Sri Lanka and Nepal will gain from the regional preferential trade agreement (SAPTA).

Collaboration in research and development among the countries studied also has great potential to increase production of feed crops for mutual benefit. Such a programme could deal with technological aspects of developing new varieties using genetic material available in the region and then sharing these with more productive strains.

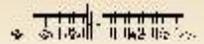
The demand for CGPRT crops as feed ingredients in each participating country will increase faster than its domestic supply. The gap between demand and supply will be more significant in Sri Lanka and Nepal and less in India and Pakistan. However, the expansion of CGPRT feed crops, is constrained by factors such as undeveloped markets, slow output from research, and the lack of support for farmers, price incentives and transparent policies ■

*Adapted from B. Hutabarat and S. Ranawana, 2003, "Prospects of Feed crops in South Asia: An Integrated Report", CGPRT Centre Working Paper No. 68.*

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## Flash EVENT



A seminar entitled "Green Revolution in Asia and Its Transferability to Africa" held in Durban Africa, August 5 - 8, 2003. Organized by the Foundation for Advanced Studies on International Development (FASID).

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