



The World Vegetable Center

# Newsletter

1 February 2008

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## Of Affluence and Scarcity: The Uneven Balance

Food prices are skyrocketing and arable land is limited. The world must decide between affordable food and biofuels, concludes last week's issue of the German news magazine "Der Spiegel."

Global trade flows are shifting, and scarcity is becoming apparent in some major agricultural commodities. Wheat supplies have reached a 30-year low and in only one year inventories in the European Union have plummeted from 14 million to one million tons. Although rising prices are an issue to consumers, the crucial question is: How can agriculture feed a world that grows by 80 million people each year? A world that is increasingly exposed to climatic extremes and one that doesn't just need food for people and livestock, but is increasingly consuming fuel derived from plants?

In conjunction with population growth, millions of people are also changing their lifestyles and eating habits. This is especially significant in China. In Mao's day, the Chinese diet was predominantly vegetarian. With growing affluence, the Chinese have expanded their menus considerably, adding large amounts of

meat to dishes like traditional noodle soup. China will not be able to even remotely satisfy this growing demand with domestic resources; it already lives well beyond its means today. With a quarter of the world's population to feed, it has only about 10 percent of its arable land. As a result, the country is steadily buying up the world's food resources. China now imports more than seven times as many soybeans as it did a decade ago. Corn imports increased fifteen-fold in 2006 alone.

Paradoxically, it wasn't too long ago that China was an important exporter of food products. But that was when crude oil was still affordable and climate change was a topic that only interested a handful of meteorologists. Nowadays, with the energy and climate crisis at the top of the political agenda, the Chinese, and the rest of the world, for that matter, see biofuels as a way out of the environmental trap - but at the price of agricultural commodities becoming scarcer and more costly.

Read more:

["Our Hungry Planet: The Choice Between Food and Fuel"](#), Spiegel Online International, 24 Jan 2008

### To Our Readers

The AVRDC Newsletter will not be published on 8 February. We apologize for any inconvenience this might cause and wish you a prosperous and healthy Year of the Rat. Headquarters will be closed from 6 to 11 February.

敬告親愛的讀者們：亞蔬周刊下次出刊日為2月15日，如有不便敬祈原諒！祝福大家萬事如意，身體健康，鼠年行大運！

- Source: Communications

## Latest Publication from the Center's Staff

Congratulations to Dr. Jaw-Fen Wang, for her latest publication, recently received by the library.

Labate, J.A., Grandillo, S., Fulton, T., Munos, S., Caicedo, A.L., Peralta, I., Storey, D.B., Stevens, M.R., Robbins, M.D., Wang, J.F., Liedl, B.E., O'Connell,

M.A. etc. (2007). Tomato. In: Genome mapping and molecular breeding in plants - volume 5: vegetables./ ed. by Kole, C.; Berlin: Springer. p.1-125.

## You Asked for It...

Recently we offered customized literature searches for anyone who wanted them for their research work. One of those completed was for Dr Zhanyong Sun who asked for publications on **breeding approaches for Downy mildew (*Pseudoperonospora cubensis*) control in cucumbers (*Cucumis sativus*)**. We found 10 references in the library, (a selection is shown below) as well as a further 46, many of which can be obtained through interlibrary loans.

If you need specialised literature searches to support your research work please contact Fang-chin Chen, Head librarian at [fcchen@avrdc.org](mailto:fcchen@avrdc.org)

Li, Y.H., Cheng, Z.H., Chen, P., Chen, X.G., (2006). Studies on induction resistance to *Pseudoperonospora cubensis* by BTH in cucumber seedlings. ACTA HORTICULTURAE SINICA. v.33(2):278-282.

Cao, Q.H., Chen, J.F., Qian, C.T., (2005). Identification and characterization of a cucumber alien translocation line CT-01 possessing resistance to downy mildew. ACTA HORTICULTURAE SINICA. v.32(6):1098-1101.

Badgujar, C.D., More, T.A., (2002). Tropical gynoecious cucumber hybrids: reaction to powdery mildew, downy mildew and viral diseases. VEGETABLE SCIENCE. v.29 (1):50-54

Shetty, N.V., Wehner, T.C., Thomas, C.E., Doruchowski, R.W., Shetty, K.P.V., (2002). Evidence for downy mildew races in cucumber tested in Asia, Europe, and North America. SCIENTIA HORTICULTURAE. v.94(3-4):231-239.

Horejsi, T., Staub, J.E., Thomas, C., (2000). Linkage of random amplified polymorphic DNA markers to downy mildew resistance in cucumber (*Cucumis sativus* L.). EUPHYTICA. v.115(2):105-113.

Dhillon, N.P.S., Singh, P.P, Ishiki, K., (1999). Evaluation of landraces of cucumber (*Cucumis sativus* L.) for resistance to downy mildew (*Pseudoperonospora cubensis*). PLANT GENETIC RESOURCES NEWSLETTER. no.119:59-61

Wehner, T.C., Shetty, N.V., (1997). Downy mildew resistance of the cucumber germplasm collection in North Carolina field tests. CROP SCIENCE. v.37 (4):1331-1340. ref. (Text in En) (En Abst) (A:PS)

Doruchowski, R.W., Rondonanski, W., Akowska-Ryk, E, (1994). Tolerance of the new Polish cucumber F1 hybrids of downy mildew (*Pseudoperonospora cubensis* Berk. & Curt.) and limitation or elimination of chemical disease control. ACTA HORTICULTURAE. no.371:129-133.

## New Popular Magazines Now Available in the Library

**Business Weekly (Chinese)** –  
28th January-3rd February 2008

**The Economist: It's rough out there** –  
26th January-1st February 2008

**Time: The Science of Romance** – 4 February 2008

- Source: Fang-chin Chen/Communications



## Completion of the 26th Regional Training Course (RTC) at Kamphaengsaen, Thailand



After three months of intensive class, field and laboratory studies, the 26th annual Regional Training Course at Kamphaengsaen was officially closed by Dr. Chawalit Hongprayoon, vice president of Kasetsart University on 30 January. A total of 17 scholars received certificates from the Vice-President. In all a total of 19 scholars from 10 countries in the region participated in the course.

In the evaluation of 33 resource persons, the scholars ranked most of them as excellent. As with most courses, food and accommodation were of more concern and the organizing committee will look into this for the next RTC. Most agreed that the course provided a better

understanding and appreciation for their work and will give them greater confidence to do a better job.

At the Graduation Ceremony, the scholars showed off 10 posters that they prepared based on their work. One is shown on the following page and the rest can be found on the ARC website [www.arc-avrdc.org](http://www.arc-avrdc.org).

- Source: Dr. Peter Ooi/AVRDC-ARC

## Results from the 26th Regional Training Course (RTC) Kamphaengsaen, Thailand



### COMPARISON OF MULCHING MATERIALS FOR EGGPLANT PRODUCTION

*Tran Thi Thank Thuy, Chulaporn Noksakul, Lim Koon Hup,  
Ri Myong Song, Tun Tun Khaing and Pernelyn Torrena*



**AVRDC** Asian Regional Center  
The World Vegetable Center



#### Introduction



Mulching techniques have been used for commercial vegetable production. In eggplant production, mulching can improve fruit quality and gives higher yields. It is known that mulching can retain moisture, reduce fertilizer leaching, help maintain soil temperature as well as promoting faster crop development due to better weed control. Examples of mulches are compost, stones, grass clippings, rice straws and plastic sheets.

#### Objective

To compare the growth and fruit yield of eggplants under plastic and rice straw mulches.

#### Materials and Methods

Eggplant Variety : **Jaojom**  
Mulching : **Plastic sheets**  
Materials : **Rice straw**  
Bed size : **1.2 m x 6.7 m**  
No. of plants/bed : **8 plants**  
No. of beds/rep : **2 beds**  
Sowing date : **17 October 2007**  
Transplanting date : **4 November 2007**  
Data collection (day) : **32, 40, 52, 62 & 72**  
(Days after transplanting)  
Data collected : **Plant height**  
**Number of fruits**  
Experimental : **RCBD with 3 replications**  
Design **and 3 treatments**

#### Acknowledgement

The authors would like to express their gratitude to the ARC-AVRDC staff for the successful conduct of this experiment.

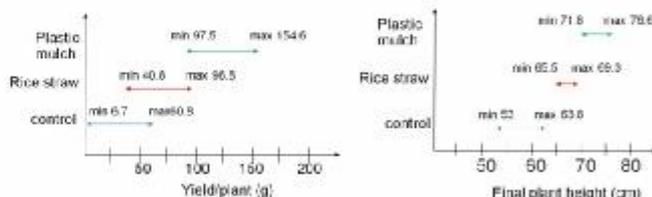


#### Results and Discussion

Table 1 gives the mean plant height (final) and the weight of marketable yield per plant. The overlap test (Figure 1) shows that there were significant differences for both the final height and marketable yield per plant under the different mulches.

**Table 1. Plant Height and Marketable Yield of Eggplant**

Treatment	Mean per plant	
	Final height (cm)	Marketable Yield (g)
Plastic mulch	74.1 a	131.8 a
Rice straw	67.8 b	74.3 ab
Control	59.7 c	35.8 b



**Figure 1. Comparison of Yield and final plant height using the overlap test<sup>1</sup>**

Plastic mulching shows better yield differentials of marketable fruits over rice straw mulching. Final plant height is also better under plastic mulch.

Although no costing was taken into account for this experiment, plastic mulching will definitely incur an added cost to the farmers. However, the added cost may be recovered by higher crop yield.



#### Conclusion and Recommendation

Mulching is highly recommended for eggplant production and plastic mulch gives a better edge over the rice straw mulch even though straw mulching may be a cheaper alternative.

#### References

- Chhangani S. 2000. Effect of mulches (synthetic and non-synthetic) on water conservation bulb yield of irrigated onion (*Allium cepa* L.) cultivated in semi arid zone of Borno State, Nigeria. *J. Ecophysiology*. Vol.3 pp.5-9.
- Rahman MS, Khan, MAH. 2001. Mulching – induced alteration of microclimatic parameters on the morpho-physiological attributes in onion (*Allium cepa* L.). *Plant Prod. Sci. Bangladesh* 4: 241-248.

<sup>1</sup> Van den berg, H., P.A.C. Coi, A.L. Hakim, H. Ariawan and W. Cahyana. 2004. Farmer Field Research: An Analysis of Experiences in Indonesia. FAO-EU IFM Cotton Programme for Cotton in Asia. FAO Regional Office for Asia and the Pacific. p 73.

## News from Africa

### Two-week Training Course Currently Underway

RCA is conducting a two week training of trainers course (January 28 – February 10) on “Indigenous Vegetable, Sweet Potato Production and Seed Production” for progressive farmers and extensionists from Kenya and Tanzania who are engaged in Indigenous Vegetable and

Sweet Potato production using a commercial village approach. The trainees will go back and train others in their localities.

### Workshop Participation in Madagascar

Mr. Benjamin Rakotoarisoa, LO Madagascar, will attend the National Agricultural Research System Analysis to understand the status of the Agricultural Research

System and its Regional Integration in Madagascar from 31 January to 1 February.

### An Enumerator Training on Organic Vegetables

Dr Shilpi Saxena held an enumerator training at AVRDC-RCA for her project activities in Tanzania on “Organic vegetables: Domestic and regional marketing constraints and income generation opportunities for

small-scale farmers in Sub-Saharan Africa” from 29 to 31 January.

### Visitors

Dr. Regina N. Gata, Principal Director, Agricultural Research for Development, Ministry of Agriculture, Zimbabwe visited RCA on 23 January to learn about AVRDC-RCA activities and initiate collaboration with the Center.

Dr. Steven Kimani, Programme Manager for Kilimo Trust visited RCA on 24 January to learn about the Center and follow-up on the progress of the ongoing TF-Project funded by the Trust.

Several assistant ministers, permanent secretaries, and research officers from Tanzania, Mozambique and Malawi visited AVRDC-RCA on 29 January to develop collaboration and learn more about RCA activities.

The delegation consisted of Eng. Christopher K. Chiza, (Member of Parliament and Deputy Minister, Agriculture, Food Security and Cooperatives, Tanzania); Mr. J. M. Gatimu (DLCo-EA/Kenya), Gray S.V.K

Phiri (Ministry of Agriculture and Food Security, Malawi), S. Mangana (Ministry of Agriculture, Mozambique), B. Nuvunga (Ministry of Agriculture, Mozambique), P.H. Nyaga (Ministry of Agriculture, Kenya), Samuel Turay (ADB-Tanzania field office, Tanzania), Serge Mutahiwa (Ministry of Agriculture, Tanzania), Kaihura Donatian (Plant Health Services, Tanzania), Mkondo C. Fabian (Plant Health Services, Tanzania), Y. B. Nyarenge (Ministry of Agriculture and Food Security), Dr. Roger Day (Regional Director, CABI Africa, Kenya), Caterina Pajume, (Member of Parliament and Deputy Minister, Ministry of Agriculture, Mozambique) and Mr. Patrick Kabambe, (Permanent Secretary, Ministry of Agriculture and Irrigation, Malawi).

- Source: Dr. Shilpi Saxena/AVRDC-RCA

## Dr. Dae-Geun Oh Becomes A Real DG!



Dr. Dae-Geun Oh, the Center's former Olericulturist from the Rural Development Administration, Korea from 1995 to 1999, has been promoted to Director General of the National Institute of Subtropical Agriculture, Korea effective 1 January 2008. The institute is located on Jeju

island, the southernmost island of Korea. It has 77 staff members and an annual budget of around 9 million dollars.

Congratulations! Dr. DG Oh!

### Dr. Oh's contact address:

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Phone: +82-64-741-2524, 742-0155

Fax: +82-64-749-2066

Mobile: +82-11-691-1696, +82-11-9957-5079

E-mail: [daegeun@rda.go.kr](mailto:daegeun@rda.go.kr) or [www.nisa.go.kr](http://www.nisa.go.kr)

Homepage: <http://www.nisa.go.kr>

- Source: Communications

## Travel

Mr. Oliver Hanschke, 7 February-2 March, on annual leave.

Dr. R. Srinivasan, 9-16 February, to Aleppo, Syria, to attend a Systemwide Program on Integrated Pest Management Steering Committee meeting at ICARDA.

Drs. Paul Gniffke and Peter Hanson, 10-16 February, to Cambodia, to participate in farmer field days featuring AVRDC tomato and chili varieties as part of the ACIAR-Cambodia project.

- Source: Yvonne Ting/ASU

## Sweet Potato for Sale at Headquarters

The sweet potato planted by Farm Operation is on sale now. The price is NT\$300 for one package (30 kgs), wholesale only. Interested people may register with Ms. Mary Chen, Farm Office (ext. 505).

亞蔬農場栽種的地瓜於即日起開始販售，一袋30公斤300元（恕不零售），有興趣同仁可向農場陳美蓉小姐登記〈分機505〉。

- Source: Janice Chou/TSO

## 2007 Annual Party Photos Available

Over 180 photos taken by Mr. MC Chen of the 2007 annual party are available on AVRDC ftp site. You may download the photos at <FTP://ftp.avrdc.org.tw>.

2007年聯歡晚會的照片可從<FTP://ftp.avrdc.org.tw>下載。

- Source: Communications

## Welcome



The Center extends a warm welcome to Ms. Tsai Hsin-chun 蔡欣君, Greenhouse Aide, Crop and Ecosystem Management Unit.

Ms. Wang obtained her B.S. degree in Agronomy from National Chiayi University in 2007. She reports for duty on 1 February 2008, and can be contacted at ext. 413.

- Source: Felisa Wang/HR

## Tulip Flower Show at Hou-Li, Taichung County

活動快訊

中社觀光花市

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全票100元 - 半票60元

04-25576926

http://www.flowerjs.com.tw

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 預約專線：04-2557-6926 電子郵件：flower.js@msa.hinet.net

花海景觀沙龍、花卉園藝器材、自助式烤肉  
 營業時間：AM9:00-PM6:00 (非假日) AM9:00-PM9:00 (例假日)

Design by Tegoya

The Recreational and Social Committee would like to introduce a flower exhibition at Hou-Li, Taichung County which is now open. Address: No. 469-13, San-feng Road, Hou-Li, Taichung County; phone: (04) 2557-6926. Entrance admission: adult (NT\$100), children (NT\$60). Open hours: 0900-1800 hours (weekday); 0900-2100 hours (holidays).

For more information: <http://www.flowerjs.com.tw/>

康委會介紹一個過年的好去處— 位於后里的中社觀光花市。地址：台中縣后里鄉三豐路469-13號；電話：(04) 2557-6926；入門票：全票100元、半票60元；營業時間：上午9點至下午6點（非假日）、上午9點至下午9點（例假日）。更多資訊可上網查詢：

<http://www.flowerjs.com.tw/>。

- Source: Lilia Tan-Habacon/Chair/R&S Committee