

**Vegetarian diets promote health, protect the environment, and save money**

## Taking a bite out of the carnivorous lifestyle

If there is one common belief about nutrition, it's that vegetables are healthy because they provide essential micronutrients and help balance diets. While the debate on the recommended share and composition of vegetables and fruits in a person's diet continues in the North, consuming enough micronutrients on a daily basis is a question of survival for 2 to 3 billion people in the developing world. However, there is also an ecological aspect to nutrition: Studies show replacing meat-dominated diets with those composed of legumes or vegetables helps save the environment.

Vegetarian diets leave the lowest environmental footprint among all forms of nutrition. In a world with limited and diminishing natural resources, water is a precious commodity, but the passion for meat in developed countries or among the emerging middle and upper classes in developing nations is dwindling away its supply. As a report recently released in Australia states, a traditional meat diet sucks up a huge 24,000 liters of water during production per adult each week. This draining demand costs the environment 50% more in water than a vegetarian diet. Producing one kilogram of meat



alone takes more than the amount of water used to produce a week's worth of food on a vegetarian diet.

It's not only about water. Meat production releases more than six times the amount of greenhouse emissions into the atmosphere than foods grown for vegetarian diets. Producing half a kilo of beef is estimated to create more than four times the amount of greenhouse emissions produced by a week's worth of vegetarian meals. And if that's not enough to send you running for the broccoli, the report concludes a traditional meat-based

diet results in 12 times more land clearing than is required to support a vegetarian diet.

Basing human nutrition more on legumes and vegetables has the potential to pay off in several ways. Improved health and less strain on the environment harm are the obvious benefits, but there is also an economic upside: On average, vegetarian diets are cheaper than those based on meat.

Further reading:

[www.waterfootprint.org](http://www.waterfootprint.org)

[www.vegetarianweek.au](http://www.vegetarianweek.au)

## The LIBRARY



### New publications

#### ...recent articles received by the Library

John, K.J., Antony, V.T. (2008). Collection and preliminary evaluation of small bitter gourds (*Momordica charantia* L.) a relict vegetable of Southern Peninsular India. GENETIC RESOURCES AND CROP EVOLUTION. online.

Stagel, A., Portis, E., Toppino, L., Rotino, G.L., Lanteri, S. (2008). Gene-based microsatellite

development for mapping and phylogeny studies in eggplant. BMC GENOMICS. v.9(357):1-14.

Singh, B., Sirohi, N.P.S. (2006). Protected cultivation of vegetables in India: problems and future prospects. ACTA HORTICULTURAE. no.710:330-342.

Singh, P.K. (2000). Utilization and seed production of hybrid vegetable

varieties in India. JOURNAL OF NEW SEEDS. v.2(4):37-42.

Dittoh, S. (1992). The economics of dry season vegetable production in Nigeria. ACTA HORTICULTURAE. no.296:257-264.

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[nick.kao@worldveg.org](mailto:nick.kao@worldveg.org)

### Web Link of the Week: EARD-InfoSys+

“The European Information System on Agricultural Research for Development” aims at improving access to European web resources in the areas of agriculture, environment, forestry, fisheries, socio-

economics, rural transformation and many other development disciplines. It also offers an information and communication platform as a service for a multitude of institutions and parties all over Europe involved in

scientific development cooperation.

Please visit

<http://www.infosysplus.org/>

– Fang-chin Chen, Editorial and Library

## CORNUCOPIA

### Enhancing the Center's management and leadership



There is a lot more to leadership and management than many of us realize. During a week of training between October 6th and 10th, 24 middle managers from headquarters and each of the Center's regions gained a new understanding of both. Held in Bangkok and run by two professors from the Indian Institute of Management, the course covered many new concepts using lectures, films, group activities, and extensive reviews of case studies

from the Harvard Business School. Topics included understanding group dynamics, interpersonal negotiation, power and influence, implementing change, and understanding personal management and leadership styles. It was a very full week that provided new skills to lift the management level of the Center as well as insight to inspire its leadership.



Heated discussions, team work is the credo

— Dr. Warwick Easdown, Donor Support and Information Technology

## FOCUS: AFRICA — NIAMEY, NIGER

### Sahelian Field Day and Ministers Visit



ICRISAT-Niamey, Niger invited progressive farmers and NGO representatives to attend its annual

field day on 7 October. About 200 participants were briefed about AVRDC — The World Vegetable Center's vegetable breeding project with ICRISAT for the Sudano-Sahelian region and vegetable lines available for the farmers of Niger. The participants visited the okra breeding field and observed various genotypes raised for regeneration during the rainy season. On 9 October, Mr. Mahamane Moussa, Minister of Agricultural

Development, and Mme. Aichatou Mindaoudou, Minister of Foreign Affairs (Government of Niger) visited ICRISAT and learned about its programs. They were also briefed about AVRDC's vegetable breeding project and the vegetable lines this project is offering to the host country.

— Dr Sanjeet Kumar, Vegetable Breeder for Sudano-Sahelian Region (AVRDC-ICRISAT)

## FOCUS: AFRICA — TANZANIA

### Seed Pathology & Seed Technology Course



Mr. Jan Helsen officially opening the training course while Professor R. Mabagala looks on.

The vBSS program held a training course from 1-12 September 2008 in collaboration with its partner, the African Seed Health Center, at Sokoine University of Agriculture, Morogoro, Tanzania for 14 participants drawn from the four target countries in Africa. Seed analysts and quarantine officers from the target country vBSS partners in the NARES dealing with seed certification, quarantine, and phytosanitary services participated.

The training needs of the participants had been identified from a survey carried out by the vBSS Seed Health Specialist. The course was structured to help build capacity within the NARES for seed-borne disease identification

and seed testing technologies.

The course lectures, laboratory and field practicals covered the following topics:

#### LECTURES

- γ Elements of good quality seed
- γ An overview of seed-borne diseases and their importance
- γ Objectives of seed health testing
- γ Significance of seed-borne inocula in relation to other means of dispersal
- γ Management of crops for seed production
- γ On-farm seed production and seed health
- γ Seed health testing techniques for seed-borne pathogens of selected crops
- γ Integrated management of selected seed-borne diseases

#### PRACTICALS

- γ Inspection of dry seed
- γ Various seed health testing techniques
- γ Blotter, sand, soil, and agar tests
- γ Germination tests
- γ Examination of seed after germination
- γ Diagnosis of diseases caused by seed-borne pathogens
- γ Isolation of plant pathogens from seed, indicator plants, etc.
- γ Field disease identification



Participants carrying out dry seed

— Ronia Tanyongana  
Seed Health Specialist, vBSS program

## SKETCH



**Name:** Ronia Tanyongana

**Home:** Harare, Zimbabwe

**Position:** Seed Health Specialist, vBSS program

#### Why do you do what you do?

I have always liked working with seed, initially in the form of grain for consumption. I got involved in grain storage research for some years dealing with insect pests of storage and pathogens that infect grain in storage. I then got fascinated looking at toxins that pathogens produce on grains and the effect they have on food health standards. Grain trading standards

include limits of these toxins and for groundnut trading in my country. It's a big issue. This is how I got interested in the health of seeds, because seed is the starting point of all crops, be they grains or vegetables.

#### Why do you do it at AVRDC?

I was looking for new challenges in my career and came across an advertisement for a Seed Health Specialist with the Vegetable Breeding and Seed Systems (vBSS) program for the AVRDC – The World Vegetable Center. I must admit I did not know much about the Center but got very interested after I read information on the website. I joined in December 2007 and have not regretted it since. It has given me the opportunity to apply myself in a wide variety of activities regarding the health of vegetable seed in the vBSS program.

#### Research?

I do very little research as I mainly support the program to produce and disseminate health seed by ensuring proper phytosanitary measures are applied every time seed is produced, distributed or

moved across borders. I also assist the different countries we work in, in building up capacity to test seed by way of training their quarantine officers and seed analysts in seed pathology and seed testing technologies. I liaise with national quarantine institutions to encourage the updating of quarantine pests so that during the movement of seed in our program we do not move unwanted pests from one country to the other.

#### What's next?

The program has been running for the past two years. I look forward to seeing it evolve and establish itself, and to overcoming the challenges that sub-Saharan Africa presents. I also hope I can contribute significantly to this success.

#### Favorite RCA experience?

Working with a team that has such diverse backgrounds has been an experience for me, and I enjoy it a lot.

#### Favorite vegetable?

My favorite vegetable is amaranth, especially when it is mixed with spider plant.

## PEOPLE

## Farewell

**Stefan Pletziger**, who worked as economist for the last two years at AVRDC Regional Center for Africa, has decided to leave RCA. He will start a new job at GTZ Headquarters in Frankfurt, Germany where he will mainly work in the field of agricultural trade and markets. He can be contacted at: [Stefan.Pletziger@gmx.de](mailto:Stefan.Pletziger@gmx.de)

– Public Awareness and Information

#### Contact information

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His office is opposite to the Board Room, 2nd floor, Chandler Hall. He can be contacted at ext. 150 until 3 November. Thereafter his extension will be 140.

**Mr. Ted Palada**

Research Intern, GTD

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