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### The Indian Society of Genetics & Plant Breeding

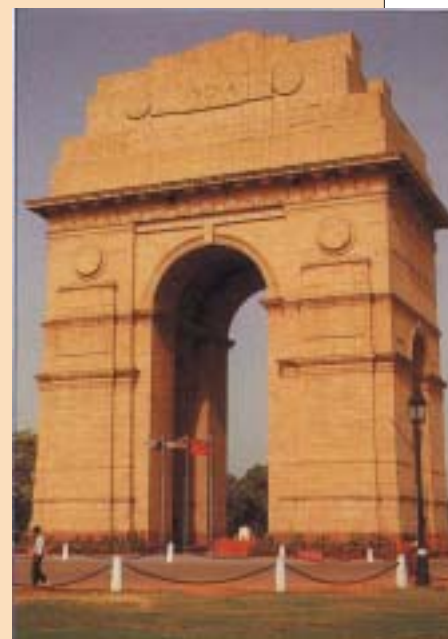
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Outab Minar, New Delhi



India Gate, New Delhi



# INVITATION



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The Indian Society of Genetics and Plant Breeding (ISGPB), the oldest, largest and the most prestigious Society in India, the International Steering Committee of IFLRC-IV, Indian Council of Agricultural Research (ICAR) and the Indian Agricultural Research Institute (IARI), popularly known as Pusa Institute which is having its Centenary Celebrations in the year 2005, invite you most cordially to the Fourth International Food Legumes Research Conference (IFLRC-IV) on **"Food Legumes for Nutritional Security and Sustainable Agriculture"** from **October 18 to 22, 2005** at IARI, New Delhi, India. It is significant that an IFLRC will be held for the first time in an Asian country. This conference will focus on all major food legumes including chickpea, pigeonpea, lentil, pea, faba bean, French bean, grasspea (*Lathyrus*) and *Vigna* group. It will provide an excellent opportunity to all legume researchers to interact, share knowledge, experience and expertise, and in developing new contacts and joint programmes.

Food legumes are known to be important crops in the production systems of the countries in Asian region. Value of legumes in contributing to increased food productivity, nutritional security and sustainability of the production system is well recognised in the region. India occupies first rank in the world by producing more than 25% of the world food legume production. India has given a more important place to food legumes in its agriculture than most other countries and has the distinction of growing more than 14 types of food legumes on a large scale. It is the largest producer of chickpea and lentils in the world. With a well established network of All India Coordinated Projects of ICAR on all grain legume crops spread all over the Research Institutes and State Agricultural Universities under the National Agricultural Research System (NARS), India has developed and released a very large number of improved grain legumes varieties for farmers cultivation. Many of these varieties have been adopted by several other countries, including the developed ones, in their grain legume programmes.

As a result of concerted efforts of the largest scientific manpower engaged in grain legumes improvement through conventional breeding and new emerging tools like biotechnology - India has successfully developed the first pigeonpea hybrid for commercial production and also grasspea (*Lathyrus*) lines with very low neurotoxin. In terms of its share in enriching the world germplasm of grain legumes, India has contributed the largest and widest genetic variability of several grain legume crops. However, due to a variety of biotic and abiotic constraints, the productivity of most of food legume crops is still far from satisfactory. In spite of the reduction in their per capita availability, food legumes are an integral part of the diet of the predominantly vegetarian population in India, South-East Asia and developing countries all over the world. Due to a sea-change in the dietary habits in view of the growing health consciousness and preference for vegetarian proteins, there is an increasing demand of grain legumes in the developed world not only as food but also as feed. There is, therefore, an urgent need to increase the productivity and sustainability of food legumes not only in India, the major contributor in the global production, but also in all other grain legumes producing countries.

IFLRC-IV at New Delhi will review the progress made and take stock of scientific and technical information on global basis covering all aspects of research and development of food legumes for nutritional security and sustainable agriculture. In view of the above considerations, on behalf of the International Steering Committee, IFLRC-IV and Indian Society of Genetics and Plant Breeding, we shall be looking forward to welcome you for an extensive and intense discussion on the theme "Food Legumes for Nutritional Security and Sustainable Agriculture" at New Delhi, India in October, 2005. With some Pre- and Post-Conference Workshops and sight seeing tours to some of the world heritage sites and a wide variety of cultural expositions, we are sure, you will have a memorable visit to India.

**John Hamblin**

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*Secretary & Editor, ISGPB*

*Org. Secretary, IFLRC-IV*

*mckharkwal@yahoo.com*



# OBJECTIVE



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The overall purpose of IFLRC-IV is to review the progress made and take stock of scientific and technical information on a global basis covering all aspects of research and development of food legumes for nutritional security and sustainable agriculture. IFLRC-IV will examine ways and means of ensuring that food legumes are of good quality and sufficient quantity to meet the nutritional needs of consumers at prices they can afford. At the same time this must not lead to land degradation but rather improve the sustainability of agriculture. It is around these twin objectives that the IFLRC IV has been planned to focus on all the major food legumes e.g., chickpea (*Cicer arietinum*), pigeonpea (*Cajanus cajan*), lentils (*Lens culinaris*), peas (*Pisum sativum*), faba beans (*Vicia faba*), French beans (*Phaseolus vulgaris*), grasspea (*Lathyrus sativus*) and *Vigna* group (*Vigna radiata*, *V. mungo* and *V. unguiculata*). However, abstracts for poster presentation can be submitted on any food or feed legume crop in all the possible disciplines. This will provide an opportunity to all legume researchers to participate in the conference, interact, share knowledge and experience and develop new contacts.

**Conference:** Plenary and invited papers will be thematic, rather than crop specific and will aim to integrated information within a topic across species. Themes will cover the following under separate sessions:

- Production & Trade - Global Scenario
- Genetic Enhancement
- Genomics, Proteomics & Gene Transfer
- Biotic and Abiotic Stresses
- Crop Growth & Development
- Biological Nitrogen Fixation
- Nutrition, Quality and Health
- Biodiversity Conservation & Utilization
- Sustainability & Cropping Systems
- Management of Feed Legumes
- Post-Harvest Management & Utilization
- Marketing Perspectives

Besides invited papers, delegates are encouraged to submit abstracts of papers by **July 30th 2005** for presentation at IFLRC-IV. An international selection panel for each session will determine whether the abstract of the paper can be accepted for oral presentation as a contributory paper or will be presented as a poster. It is likely that many of these contributed papers will deal with crop specific issues, however, the organizers stress that contributed thematic papers are equally acceptable. Some **Thematic Workshops** on key topics are designed for specific round-table discussions and exchange of ideas.

# VENUE

The conference will be held at the Indian Agricultural Research Institute (IARI), popularly known as “**Pusa Institute**” originally established in 1905 at Pusa, Bihar, India. The Institute, celebrating 2005 as its first Centenary Year, was shifted to its present location in New Delhi in 1936. IARI has been the flagship institute of Indian Council of Agricultural Research (ICAR) for agricultural research and education in India, playing a vital role in “**Green Revolution**” and India’s emergence as a food-sufficient country. The institute has state of the art facilities like National Research Centre on Plant Biotechnology (NRCPB), National Phytotron Facility and Plant Virology Centre etc. Several important research institutes located in New Delhi include: National Bureau of Plant Genetic Resources (NBPGR), National Research Centre on DNA Finger Printing, International Centre for Genetic Engineering and Biotechnology (ICGEB), National Centre for Plant Genome Research (NCPGR), Indian Agricultural Statistical Research Institute (IASRI), National Centre for Agricultural Economics and Policy Research (NCAP), National Centre for Integrated Pest Management (NCIPM), National Bureau of Soil Survey and Land Use Planning (NBSSLUP), University of Delhi, Jawahar Lal Nehru University (JNU), GGS Indraprastha University, National Academy of Agricultural Sciences (NAAS), National Agricultural Science Centre (NASC), Indian National Science Academy (INSA) and National Physical Laboratory (NPL).

# NEW DELHI

Sprawling on the banks of holy river Yamuna, New Delhi the capital city of the thriving Indian nation of more than 1 billion people typifies the soul of the country. The history of Delhi, conceals within its bosom annals of civilizations that flourished for more than 3000 years. The city founded by the Pandavas in the times of epic Mahabharata (circa 1500 B.C.), has seen many dynasties and rulers flourished on its regal soil since those early days. The legacy of that past survives in the many monuments left behind by the regents, each a chronicle of the glory of its time and an imprint of the character of the ruler. Today, the city of Delhi, which is beautifully landscaped is a curious blend of the modern and traditional, skyscrapers, beautiful gardens and wide tree-lined avenues perpetuate the Mughal passion of landscaping and architectural excellence. It has the famous Red Fort, Qutab Minar, India Gate and many other important monuments for sightseeing. It is one of India’s fastest growing cities and has spread far beyond the old Mughal city, now called old Delhi and its past glories are intermingled with residential colonies and bustling commercial complexes of the Lutyen’s New Delhi, which is one of the prettiest and certainly one of the greenest capitals of the world. It provides both a traditional and cosmopolitan atmosphere and gives visitors the opportunity to discover the old and the new India, the largest producer and consumer of food legumes in the world. October is the beginning of autumn season and the nights are mild cool and the days very pleasant. It is the time when warm rainy season (*kharif*) legumes i.e., pigeonpea, cowpea, French bean, mungbean, blackgram and soybean are being harvested. It is also the beginning of the sowing time for the cool season (*rabi*) legumes i.e., chickpea, lentils, field pea and grasspea (*Lathyrus*).



# REGISTRATION



The Conference will be open to registrants only. A Registration Form attached with this brochure should be filled in and sent to "Dr. M. C. Kharkwal, Organizing Secretary, IFLRC - IV, Post Box # 11312, IARI, New Delhi 110 012, INDIA by **July 30, 2005**.

The fee should be paid through crossed Bank Draft in favour of "The Indian Society of Genetics and Plant Breeding - IFLRC - IV" payable at New Delhi 110 012, India. Fees can also be sent through American Express/ VISA/ Master Credit Cards directly to the Society's Bank Account in the SWIFT CODE : **SYNBINBBA 019** A/c No. **SB-66750**, Syndicate Bank, Pusa Campus, New Delhi 110 012.

The Registration Form may initially be sent by E-mail : [iflrc4\\_india@yahoo.com](mailto:iflrc4_india@yahoo.com) / [mckharkwal@yahoo.com](mailto:mckharkwal@yahoo.com) / Fax # 91-11-2584 3437. The original form along with the Abstract, Registration Fee and other enclosures may be sent by courier to avoid postal delays.

We urge you to register now, to make use of the lower rates, to book accommodation, and to let us know which **Thematic Workshop** and what special Pre- or Post-Conference activities you are interested in. For further updates, please visit [isgpb.com](http://isgpb.com).

**Registration Fee:** The following types of Registration fees will be offered for the participants of the IFLRC-IV.

## Foreign participants:

### Early birds: If you register before 30 July 2005

1) Developed countries	:	US\$ 600.00
2) Developing countries	:	US\$ 300.00
3) Research Associates/Fellows/Scholars/Students <sup>\$</sup>	:	US\$ 250.00
4) Accompanying Persons <sup>@</sup>	:	US\$ 200.00
5) SAARC Countries*	:	INR 5,000.00

### With late payments: If you register after 30 July 2005

1) Developed countries	:	US\$ 650.00
2) Developing countries	:	US\$ 350.00
3) Research Associates/Fellows/Scholars/Students <sup>\$</sup>	:	US\$ 300.00
4) Accompanying Persons <sup>@</sup>	:	US\$ 250.00
5) SAARC Countries*	:	INR 6,000.00

## Indian participants:

### Early birds: If you register before 30 July 2005

1) Non-members of the ISGPB	:	Rs. 5,000.00
2) Members of the ISGPB	:	Rs. 4,000.00
3) Research Associates/Fellows/Scholars/Students <sup>\$</sup>	:	Rs. 2,500.00
4) Accompanying Persons <sup>@</sup>	:	Rs. 1,500.00

### With late payments: If you register after 30 July 2005

1) Non-members of the ISGPB	:	Rs. 6,000.00
2) Members of the ISGPB	:	Rs. 5,000.00
3) Research Associates/Fellows/Scholars/Students <sup>\$</sup>	:	Rs. 3,000.00
4) Accompanying Persons <sup>@</sup>	:	Rs. 2,000.00

The registration fee includes :

- Attendance at all the Conference sessions from Tuesday to Saturday
- A full Conference registration kit including the abstracts, souvenirs and proceedings
- Morning and afternoon tea/coffee during the breaks in the Conference
- Five lunches during the Conference week (18-22 October 2005)
- Cultural Programme on Wednesday evening (19th October 2005)
- Conference Dinner on Thursday evening (20th October 2005)
- Attendance at the Thematic Workshops (21st October 2005)

<sup>\$</sup> = Not entitled for the Conference Proceedings and their status has to be certified with an official letter signed by their research project Supervisor/Head/Dean.

<sup>@</sup> = Entitled for hospitality only during the Conference.

<sup>\*</sup> = SAARC (South Asian Association for Regional Cooperation) countries are: Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka.

# CANCELLATION

The secretariat must be informed promptly of the cancellation of any registration. Up to **31st August 2005**, 80% of the fee will be reimbursed, but after this date no reimbursement will be possible.





# CALL FOR PAPERS ABSTRACTS



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The participants of the Conference are invited to submit abstracts of the papers for oral or poster presentation at the Conference on all the major food legumes e.g., chickpea (*Cicer arietinum*), pigeonpea (*Cajanus cajan*), lentils (*Lens culinaris*), peas (*Pisum sativum*), faba beans (*Vicia faba*), French beans (*Phaseolus vulgaris*), grasspea (*Lathyrus sativus*) and *Vigna* group (*Vigna radiata*, *V. mungo* and *V. unguiculata*). However, abstracts for poster presentation can be submitted on any food or feed legume crop in any of the following major areas.

- Production & Trade - Global Scenario
- Genetic Enhancement
- Genomics, Proteomics & Gene Transfer
- Biotic and Abiotic Stresses
- Crop Growth & Development
- Biological Nitrogen Fixation
- Nutrition, Quality and Health
- Biodiversity Conservation & Utilization
- Sustainability & Cropping Systems
- Management of Feed Legumes
- Post-Harvest Management & Utilization
- Marketing Perspectives

Abstracts typed exactly on the enclosed **Abstract Form** must reach the Organizing Secretary, IFLRC-IV at the address given in the brochure not later than **30th July 2005**.

An international selection panel for each Session will determine whether the abstract of the paper can be accepted for oral presentation as a contributory paper or as a poster. It is likely that many of these contributed papers will deal with crop specific issues, however the organizers stress that contributed thematic papers are equally acceptable.

All papers accepted for oral and poster presentations, and received with registration fee before **30th July 2005** will be printed in the Book of Abstracts of the Conference and made available in the Registration kit of the participants.

## POSTER SESSION

Posters will be the principal format for the participants' volunteered presentations. The posters will be displayed throughout the Conference (5 days) and in order to ensure discussions around the posters, three specific Sessions are devoted to them. The space allocated to each participant presenting a poster and guidance for the same shall be available at the poster venue of the Conference.

A panel space of 1.2 x 1.0 m (height x width) will be made available for presentation of poster. The letter size used should be such that the poster should be readable from a distance of 2 m. Material for fixing the posters will be provided by the organizers.

Please take note that if the poster presenter has not paid registration fee by **30th July 2005**, the poster abstract WILL NOT be included in the conference Book of Abstracts and the poster will not be forecasted in the Poster Session.

## WORKSHOPS

Professional groups and leading scientists will be offered opportunities during the Conference period and outside the Session to coordinate and arrange Thematic Workshops, and special meetings for interested participants. The Thematic Workshops are designed for specific round-table discussions on the following selected key topics defined by one or two coordinators. The exchange of ideas and discussions will be encouraged rather than formal academic presentations, and the participation of young scientists in the workshops will be promoted. For information, reservation and necessary announcements etc., please contact the Organizing Secretary. Reservations will be made on "First come – First served" basis. Please indicate your interest for attending the workshop in the Registration Form.

Hybrid Technology for Legumes

Molecular Breeding in Legumes

*Vigna* in Cropping Systems

Pest Management in Legumes

Drought Management in Legumes

BNF: Current Trends

## CULTURAL PROGRAMME

A cultural programme is scheduled on the evening of Wednesday the **19th October 2005** for the registered delegates and the accompanying persons. The details will be announced at the beginning of the Conference.

## EXHIBITION

An exhibition on commercial equipment, products and publications of interest to crop scientists working on different aspects of food legumes will be organized during the Conference.

## TECHNICAL VISIT

A visit to **National Phytotron Facility (IARI)**, **Gene Bank (NBPGR)**, Glasshouses and experimental farms at IARI will be arranged on the afternoon of Saturday the **22nd October, 2005**. A shuttle bus service free of charge will be available for the Conference participants who will express their interest.



# REGISTRATION FORM

(PLEASE TYPE/ PRINT / USE CAPITAL LETTERS and RETURN WITH PAYMENT)  
Deadline for early bird registration: 30th July 2005



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Title (Prof. / Dr. / Mr. / Mrs. / Ms.) First Name ..... Family Name .....

Position .....

Date of Birth ..... Male / Female..... Nationality .....

Passport No. (in case of foreigners) ..... Date of issue ..... Validity .....

Organization .....

Category of the organization: Research Center / Institute / University / Associative group / Private Company / Govt. Deptt.

Discipline / Subject ..... Specialization .....

Crop(s) / Commodity .....

Office address .....

City ..... PIN ..... State ..... Country .....

Phone (O) with ISD / STD Code ..... Fax with ISD / STD Code .....

Mobile ..... E-mail .....

Residential address .....

..... City ..... PIN ..... State .....

Phone (Res.) with ISD / STD Code ..... E-mail .....

Whether presenting a paper : Yes / No

Title of presentation .....

Accompanying person's name: ..... Male / Female .....

Passport No. (in case of foreigners) ..... Date of issue..... Validity .....

Category of participant: Foreign Delegate / ISGPB Member / Non-Member / Research Associate / Fellow / Scholar / Student

## ACCOMMODATION REQUEST

I wish to book a single / double, or twin room at ..... @ .....

If sharing with another delegate, please give the full name of the other person .....

Arrival date & flight No. .... Estimated arrival time ..... Departure date .....

## WORKSHOP & TOUR REQUEST

Please indicate your attendance at the following:

- |   |          |
|---|----------|
| 1. I will be attending the Pre-Conference Workshop at Kanpur              | Yes / No |
| 2. I will be attending the Post-Conference Workshop at ICRISAT, Hyderabad | Yes / No |
| 3. I will be attending the City Tour of New Delhi & Old Delhi             | Yes / No |
| 4. I will be attending the Taj Mahal Tour to Agra (same day return trip)  | Yes / No |
| 5. I will be attending the Golden Triangle Tour (Delhi, Agra & Jaipur)    | Yes / No |
| 6. I will be attending the Temple Tour to Khajuraho & Varanasi            | Yes / No |
| 7. I will be attending the Ajanta & Ellora Tour (Delhi-Aurangabad)        | Yes / No |
| 8. I will be attending the Golden Sands – Goa Tour (Delhi-Goa)            | Yes / No |
| 9. I will be attending the Thematic Workshop on .....                     |          |

## PAYMENT OF FEES

Registration Fee (Earlybird rate before July 30 2005) : .....

No. of persons ..... Amount enclosed (US\$ / Rs.) ..... Bank Draft Number: .....

Dated ..... Drawn on (Name of the Bank) ..... City .....

The payment should be sent through Bank Draft in favour of "The Indian Society of Genetics and Plant Breeding - IFLRC - IV" payable at New Delhi, India. The payment can also be sent through American Express / VISA / Master Credit/Debit card directly in the SWIFT CODE : SYNBINBBA 019 A/c No. SB-66750, Syndicate Bank, Pusa Campus, New Delhi 110 012.

Please send this form along with ABSTRACT and REGISTRATION FEE.

Signature



# ABSTRACT FORM

INTERNATIONAL FOOD LEGUMES RESEARCH CONFERENCE - IV



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NEW DELHI, INDIA

OCTOBER 18-22, 2005

Session :

Title :

Authors (s) :

Organization, Country :

Name of corresponding author : Last ..... First ..... Middle .....

Designation/Title : .....

Name and address of Institution / Company : .....

.....

Phone : ..... Fax : ..... E-mail : .....

**Abstracts are due to the following by 30th July 2005**

**Dr. M.C. KHARKWAL**, *Secretary & Editor, ISGPB*

*Organizing Secretary, IFLRC-IV, 2005*

Post Box # 11312, Indian Agricultural Research Institute, New Delhi 110 012, India

Telefax : 91-11-2584 3437, E-mail : iflrc4\_india@yahoo.com / mckharkwal@yahoo.com.



IFLRC IV - 2005



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## IFLRC-IV October 18-22, 2005 at NEW DELHI, INDIA TENTATIVE PROGRAMME AT A GLANCE

Time / Date	Tuesday 18.10.2005	Wednesday 19.10.2005	Thursday 20.10.2005	Friday 21.10.2005	Saturday 22.10.2005
0900-1030	Inaugural Session	Plenary Lecture	Plenary Lecture	Plenary Lecture	Plenary Lecture
1030-1115	Keynote Address:	Session 4 (JS): Genetic Enhancement of Food Legumes - I	Session 8 (CS): Genomics, Proteomics and Gene Transfer	Session 16 (CS): Biodiversity Conservation and Utilization - I	Session 20 (CS): Improvement and Management of Feed Legumes  Session 22 (CS): Marketing Perspectives
1115-1130	Tea/Coffee	Tea/Coffee	Tea/Coffee	Tea/Coffee	Tea/Coffee
1130-1315	Session 1 (JS): Production and Trade - Global Scenarios - I	Session 5 (JS): Genetic Enhancement of Food Legumes - II	Session 9 (CS): Genomics, Proteomics and Gene Transfer - II	Session 17 (CS): Biodiversity Conservation and Utilization - II	Session 23 (JS): Valedictory Function IFLRC Business Meeting
1315-1400	Lunch	Lunch	Lunch	Lunch	Farewell Lunch
1400-1530	Session 2 (JS): Production and Trade - Global Scenarios - II	Session 6 (JS): Genetic Enhancement of Food Legumes - III	Session 10 (CS): Nutrition, Quality and Health	Thematic Workshops:  1. Hybrid Technology for Legumes 2. Molecular Breeding in Legumes 3. Vigna in Cropping Systems 4. Pest Management in Legumes 5. Drought Management in Legumes 6. BNF: Current Trends	
1530-1545	Tea/Coffee	Tea/Coffee	Tea/Coffee		
1545-1700	Session 3 (JS): Challenges for Legume Research	Session 7 (JS): Genetic Enhancement of Food Legumes - IV	Session 11 (CS): Biological Nitrogen Fixation		
1700-1800	Poster Session	Poster Session	Poster Session		
1815-1900	Evening Lecture	Evening Lecture	ISGPB Business Meeting		
1900-2000		Cultural Programme	Presidential Lecture		
2000-2030			Conference Dinner		

JS = Joint Session; CS = Concurrent Session

Visits to  
National Phytotron Facility, IARI  
Gene Bank, NBPGR  
and  
Experimental Farms, IARI  
City Tour





# TENTATIVE SCIENTIFIC PROGRAMME

Day, Session and Title of the Invited\* lectures

(\*Lead speakers of international eminence are being contacted)

J S = Joint Session; CS = Concurrent Session

**Day one – Tuesday 18th October, 2005**



## Inaugural Session

**Keynote Address:** New directions in food legumes research for nutritional security and sustainable agriculture

### Session 1 (JS): Trends in Production and Trade - Global Scenarios

- 1.1 Research priorities and policies for food legumes in world agriculture
- 1.2 Global demand, supply and trade of food legumes
- 1.3. Impact of research and development in food legumes on production and productivity in the last two decades

### Session 2 (JS): Trends in Production and Trade - Global Scenarios

- 2.1 Trends in funding for research on food legumes
- 2.2 Globalization and implications for policy on food legumes
- 2.3 Trends in South Asian production, consumption and trade of food legumes

### Session 3 (JS): Challenges for Legumes Research

- 3.1 Challenges for legumes research – Global prospects
- 3.2 Challenges for increasing area, production and productivity of pulses in the Indian sub-continent
- 3.3 Future of transgenics in legume crops

## Poster Session

**Evening Lecture:** Global status of nutritional security and sustainable agriculture – Challenges and prospects

**Day two – Wednesday 19th October, 2005**

## Plenary Lecture

### Session 4 (JS): Genetic Enhancement of Food Legumes - I

- 4.1 Heterosis breeding in food legumes
  - 4.2 New plant types in grain legumes for improved management
  - 4.3 Genetic modeling in optimizing breeding strategies
- Contributed Papers

### Session 5 (JS): Genetic Enhancement of Food Legumes - II

- 5.1 Application of molecular markers in food legumes breeding
  - 5.2 QTL mapping and marker assisted selection in food legumes
  - 5.3 Distant hybridization in food legumes
- Contributed Papers

### Session 6 (JS): Genetic Enhancement of Food Legumes - III

- 6.1 Breeding methods and selection techniques for genetic enhancement of food legumes
  - 6.2 Mutation breeding in food legumes
- Contributed Papers

### Session 7 (JS): Genetic Enhancement of Food Legumes - IV

- 7.1 Varietal adaptation and participatory approach in food legumes improvement
  - 7.2 Sustainable seed production systems for food legumes
- Contributed Papers

## Poster Session

## Evening Lecture

**Day three – Thursday 20th October, 2005 (Hall – I)**

## Plenary Lecture

### Session 8 (CS): Genomics, Proteomics and Gene Transfer - I

- 8.1 Scope of biotechnology in food legumes improvement
  - 8.2 Comparative genomics in food legumes
  - 8.3 Transformation and *in vitro* culture in food legumes
- Contributed Papers

### Session 9 (CS): Genomics, Proteomics and Gene Transfer - II

- 9.1 Expression profiling in food legumes
  - 9.2 Gene silencing in functional genomics
  - 9.3 Bioinformatics for the food legumes
- Contributed Papers

### Session 10 (CS): Nutrition, Quality and Health

- 10.1 Food legumes research for improved nutrition and quality
  - 10.2 Food legumes in nutraceutical research
  - 10.3 Food legumes for human health
- Contributed Papers

### Session 11 (CS): Biological Nitrogen Fixation

- 11.1 Biological nitrogen fixation in food legumes
  - 11.2 Associative effects of rhizobia with soil microorganisms
  - 11.2 Biological and technological constraints in improvement of BNF
- Contributed Papers

## Poster Session



**Day three – Thursday 20th October, 2005 (Hall – II)**

**Session 12 (CS): Plant and Crop Growth and Development**

- 12.1 Increasing the yield potential in food legumes
- 12.2 Integrated nutrient and water management in food legumes
- 12.3 Source and sink relationship in food legumes

Contributed Papers

**Session 13 (CS): Biotic Stresses – I**

- 13.1 Monitoring and forecasting of insect pests and diseases of food legumes
- 13.2 Management of insect pests of food legumes
- 13.3 Management of diseases of food legumes
- 13.4 Monitoring, forecasting and management of nematodes in food legumes

Contributed Papers

**Session 14 (CS): Biotic Stresses – II**

- 14.1 Breeding for resistance to biotic stresses in food legumes
- 14.2 Biological control of insect pests and diseases in food legumes
- 14.3 Management of viruses in food legumes

Contributed Papers

**Session 15 (CS): Abiotic Stresses**

- 15.1 Characterization and management of drought stress environment in food legumes
- 15.2 Temperature tolerance in food legumes
- 15.3 Nutrient efficiency in food legumes
- 15.4 Genetics and breeding for drought tolerance in food legume

Contributed Papers

**Poster Session**

**Day four – Friday 21st October, 2005 (Hall – I)**

**Plenary Lecture**

**Session 16 (CS): Biodiversity Conservation & Utilization – I**

- 16.1 Origin, evolution and wild relatives of food legumes
- 16.2 Biodiversity, pre-breeding and participatory breeding
- 16.3 Access to genetic resources of food legumes

Contributed Papers

**Session 17 (CS): Biodiversity Conservation & Utilization – II**

- 17.1 Widening the genetic base of food legumes for input response and increased production
- 17.2 Genetic alchemy of food legumes for new and emerging production regimes

Contributed Papers

**Day four – Friday 21st October, 2005 (Hall – II)**

**Session 18 (CS): Sustainability and Cropping Systems – I**

- 18.1 Legumes in sustainable cropping systems
- 18.2 Food legumes in crop diversification and intensification
- 18.3 New niches for food legumes

Contributed Papers

**Session 19 (CS): Sustainability and Cropping Systems – II**

- 19.1 Organic production of food legumes
- 19.2 Management of weeds in food legumes

Contributed papers

**Thematic Workshops:** 1. Hybrid Technology for Legumes, 2. Molecular Breeding in Legumes, 3. *Vigna* in Cropping Systems, 4. Pest Management in Legumes, 5. Drought Management in Legumes, 6. BNF : Current Status

**Day five – Friday 22nd October, 2005**

**Plenary Lecture**

**Session 20 (CS): Improvement and Management of Feed Legumes (Hall I)**

- 20.1 Breeding feed legumes for nutritional quality
- 20.2 Feed legumes in new cropping patterns
- 20.3 Feed legumes for improved animal productivity

Contributed Papers

**Session 21 (CS): Post-harvest Management & Utilization (Hall II)**

- 21.1 Safe storage of food legumes
- 21.2 Processing of and value addition in food legumes
- 21.3 Diverse ways of utilization of food legumes

Contributed Papers

**Session 22 (CS): Marketing Perspectives (Hall III)**

- 22.1 Standardization of legume products quality
- 22.2 Market needs of food legumes

Contributed Papers

**Session 23 (JS): Valedictory Function**



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# ACCOMMODATION



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**New Delhi** has a large number and an excellent range of hotels and restaurants conforming to the best international standards, which offer a wide variety of cuisines available for delegates. Many hotels in New Delhi, are having an ambience of royalty and Mughal era while providing all modern comforts and amenities. Outside the hotels, there are many fine restaurants and fast food outlets.

**Hotel Booking:** A range of accommodation types is available for the delegates and their accompanying persons in hotels. Some of the famous hotels in New Delhi, along with their category and indicative normal tariff range and within a distances of 10 km from the venue are listed below. You are requested to indicate your preference of hotels in the space provided in the **Accommodation Form**. Bookings will be made on **'First-Come, First-Serve'** basis. Early reservation is strongly recommended. For firm bookings, delegates are advised to send the enclosed Accommodation request duly filled in the Registration Form along with hotel deposit (**one night's tariff**) latest by **30th July 2005**. Hotel reservation requests cannot be guaranteed at the same rates received after **30th July 2005**. If you are prepared to share a room with another delegate, please indicate the full name of the other person on the Accommodation Form. If you do not indicate the name, the Secretariat will arrange twin sharing with anyone willing to share the room. For late night or early morning arrivals, the hotel reservation needs to be made from the previous day to ensure immediate occupancy on arrival. An official Travel Agent to be appointed soon will provide on line service, specially negotiated rates and all assistance needed.

Limited accommodation is available in guest houses for Indian participants only, and a minimum of **Rs. 300/-** as rent advance should be paid for firm booking in budget hotels / guest houses latest by **30th July 2005**.

## List of hotels with indicative normal tariffs range:

Category	Name of Hotels	Tariff range per day
Star Hotels	Le Meridien, Inter Continental, The Park, Ashok, Siddharth, Hans Plaza, Connaught and Samrat	US\$ 100-175
Budget Hotels	Regent, Swati Deluxe, Taj Princess, Marina, Clark Inn, Host Inn, Metro City and Bharat Palance	US\$ 25-35

**Cancellation:** In case of cancellation requests received upto **30th August 2005**, 10% of the payment will be deducted as administrative charges. Cancellations received after **1st September 2005** will be subject to deduction of one day's tariff from the deposit.

The indicative rates listed are exclusive of taxes, include complementary buffet breakfast and daily transport shuttle service from hotel to Conference venue and back. A limited number of low-budget/economy class accommodations are also available at about US\$ 20 per day.

# GENERAL INFORMATION

**Official Travel Agent:** An official travel agent to be appointed soon will assist in on line registration, arrangements for travel, hotel accommodation, local transport, including airport arrival transfers and pre-/post-/daily Conference tours. For updates visit : **isgpb.com**.

**Language:** The official language of the Conference will be English.

**Visas:** All foreign delegates should possess a valid passport and a visa for India. Indian Consulates will be requested to ensure prompt issue of visa for the delegates.

**Health Requirements:** A vaccination certificate against yellow fever is required for visitors arriving from or - travelling through endemic areas in Africa and South America.

**Customs:** On arrival in India, please complete customs REGULATIONS formalities. Airports operate the conventional green and red channels. Valuable articles such as videos and cameras may be brought in subject to re-export and should be declared to the customs authorities. Duty free shopping is available on arrival and departure at all international airports.

**Currency:** There is no restriction on the import of foreign currency into India. While in India, please change your money into rupees only at Authorized Money Changers/ Banks retaining the documentary evidence of the transaction. This facility will also be available at Conference venue with the Travel Agent. Most hotels, restaurants and departmental stores accept Travellers' Cheques of major currencies and major Credit Cards.

**Airport Tax:** Rs. 500/- is payable at the time of International Departures for all countries except Afghanistan, Burma, Bangladesh, Maldives, Nepal, Pakistan and Sri Lanka in which case the tax is Rs. 150/-.

**Voltage:** The line voltage for electricity is 220 A.C., 50 hz. in the subcontinent. Most hotels provide 110 volt A.C. points for electric shavers.

**Weather:** At the time of the Conference the climate in Delhi will be pleasant with clear skies and plenty of sunshine. Temperatures normally range between 15 to 30°C. Light woollens are recommended.

**Banking:** Banking facilities are available with in the campus of the Conference Venue.

**Communication:** E-mail, photocopying, international and local telephone and fax facilities will be available.

**Medical Aid:** Emergency medical aid will be available at the Conference Venue.

**Transport:** All the delegates are requested to go to their respective places of accommodation/ IARI preferably only by availing of the Pre-Paid Taxi Service available at Airport, Old Delhi, New Delhi Railway Stations and Inter State Bus Terminals.



## TRAVEL, TOURS AND EXCURSIONS



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**New Delhi** is the main gateway city for India. All major international airlines operate direct to Indira Gandhi International Airport, New Delhi (20 km from downtown) from various cities in the world. Air, rail and road services are available to all major destinations within India. Pre-paid taxis are available at the airport. From New Delhi, the delegates can step out and experience the magic of India by choosing from an array of Pre- and Post-Conference tours and excursions that will be arranged specially for them. A Pre-Conference tour and invited lecture presentation/ workshop on host country production issues will be organized at Kanpur, a city where the Indian Institute of Pulses Research (IIPR) and Chandra Shekhar Azad University of Agriculture and Technology are located. On the return to Delhi delegates will visit Agra (the world famous marvel of 17th century architecture, the sublime Taj Mahal, the living symbol of love and one of the seven wonders of the world) and have an interaction meeting/ workshop and look at facilities of the Department of Genetics and Plant Breeding of the Raja Balwant Singh College, Bichpuri, Fatehpur Sikri (abandoned capital city built by the Great Mughul Emperor Akbar). A golden triangle tour of Delhi, Agra, Jaipur – the pink city of forts and palaces, Delhi or the temple tour of Delhi, Khajuraho – the famous erotic sculpture temples with the finest expression of medieval art on stones, Varanasi, a holy city on the holy river Ganges are the other attractive choices. There will be a half-day field visit to IARI and other nearby agricultural research facilities like National Phytotron Facility, Virology Centre and NBPGR Gene Bank in New Delhi. A Post-conference tour and workshop will be organized at ICRISAT, Patancheru near Hyderabad, the city of pearls, bangles and Charminar. This will provide delegates with the opportunity to visit places of tourist interest in central and southern India (Golconda, Aurangabad, Ajanta and Ellora Caves, Bangalore, Mysore, Goa and Mumbai etc.) after the workshop and before returning home. Pre- and Post-Conference tours are not included in the Conference registration fee.

**Accompanying persons:** A full program of visits to sites of cultural and historic interest in and around Delhi, i.e. New Delhi and Delhi (local sight seeing), Agra (200 km) the city of the world famous Taj Mahal, Fatehpur Sikri (200 km), Jaipur [the Pink City of Forts and Palaces (250 km)] and Khajuraho (600 km) will be available for accompanying persons. Opportunities to purchase a wide range of handicrafts, sandal wood and marble carved items, bronze sculptures, intricate gold, silver and enameled jewelry, beautiful hand printed scarves, silk and cotton dress material, leather goods etc. are available at reasonable prices. The help of local guides will be available to the participants for the purchase of local products. Sightseeing tours are not included in the Conference registration fee. Registered accompanying persons will be invited to all social and cultural events provided for delegates to IFLRC-IV to meet informally and to experience Indian culture.

**Tours & Excursions:** Many participants will also be interested in the great variety of excursions for which an early registration may be necessary to find a place in the "First come-First serve" situations. Following Pre- and Post Conference tours and excursions with indicative rates will be arranged to places of historic and cultural importance reflecting the true heritage of India. The expenses of these tours are to be borne by the participants. Tour Request Form is included in the Registration Form to enable you to indicate your choice.

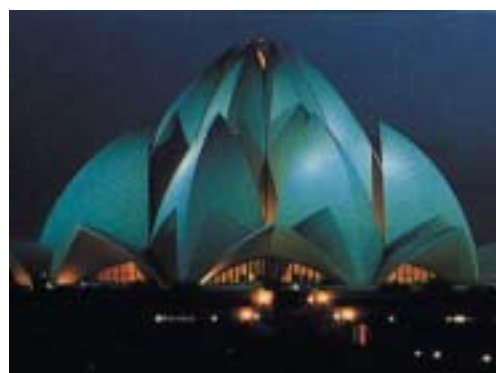
**Reservation:** For firm bookings, please send the Form duly filled in along with payment equivalent to the tour cost in the mode indicated in the Form before **July 30, 2005**. An official Travel Agent to be appointed soon will provide all assistance needed through on line service. For further updates visit [isgpb.com](http://isgpb.com).

Tour destination	Mode	US\$	Tour destination	Mode	US\$
Pre-Conf. Workshop (Kanpur – Agra)	Train/Coach	400	Post-Conf. Workshop (ICRISAT, Hyderabad)	By air	950
City Tour - New Delhi/Old Delhi	Coach/Car	20	Taj Mahal, Agra (same day return)	Coach/Car	100
Golden Triangle Tour - Delhi, Agra & Jaipur	Coach/Car	300	Temple Tour to Khajuraho & Varanasi	By air	500
Ajanta & Ellora Tour (Delhi - Aurangabad)	By air	800	Golden Sands – Goa Tour (Delhi - Goa)	By air	1000

**Cancellation:** In case of cancellation received post marked 60 days before the commencement of the tour, 90 % of the payment will be refunded.



Red Fort, Delhi



Bahai (Lotus) Temple, New Delhi



Khajuraho sculpture





# INDIA – DESTINATIONS BEAUTIFUL



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**India:** India is one of the few most ancient countries of the world. A tourist's paradise on the earth and a land of stunning contrasts and breathtaking sights. It is a country of palaces, fortresses, Maharajas and their regalias. The grandeur of medieval palaces especially those in Jaipur and Jodhpur will hold you enthralled. Not to forget the Mughal masoleums of Delhi, the forts of Delhi bear testimony to the chequered history of the city which has been destroyed and rebuilt nine times in its long history. Should you have the urge, its Taj Mahal by moonlight – the undying symbol of love. The eerie silence of Agra's famous Red fort traces the last days of Mughal Emperor Shah Jahan.

**Agra:** Agra is 204 kms from Delhi, located on the banks of the river Yamuna. This former seat of Mughal empire presents the Mughal architecture at its best. The 'Taj Mahal' is a testimony of an Emperor's love for his consort Mumtaz Mahal. This architectural marvel is a perfectly proportioned masterpiece fashioned from white marble. You will also see the Agra Fort, Sikandra and Itmad-ud-Daulah and the deserted city - Fatehpur Sikri having the majestic Buland Darwaza.

**Ajanta and Ellora:** Aurangabad is the most convenient point for visiting the world famous Ajanta and Ellora caves. They are amongst the most remarkable monuments in the world. Bibi-ka-Maqbara is another beautiful piece of architecture, built on the lines of the Taj Mahal.

**Goa:** Goa is the former Portuguese colony. It is a picturesque land full of scenic charm, historic forts, ornate churches and temples. Miles and miles of golden beaches, fringed with palms, stretch out into the horizon, while the sun beams to the merry dance of the waves. Sunbath on golden beaches, soaking in the wonderful Goan atmosphere.

**Jaipur:** Jaipur also called the pink city, is the capital of Rajasthan and takes its name from Maharana Sawai Jai Singh who founded it in 1728. Sightseeing includes City Palace, Observatory and Palace of Winds - Hawa Mahal, a landmark of Jaipur made of pink sandstone. Amber Palace built in the 17th century, is a distinguished specimen of Rajput architecture. This excursion will be conducted on elephant back.

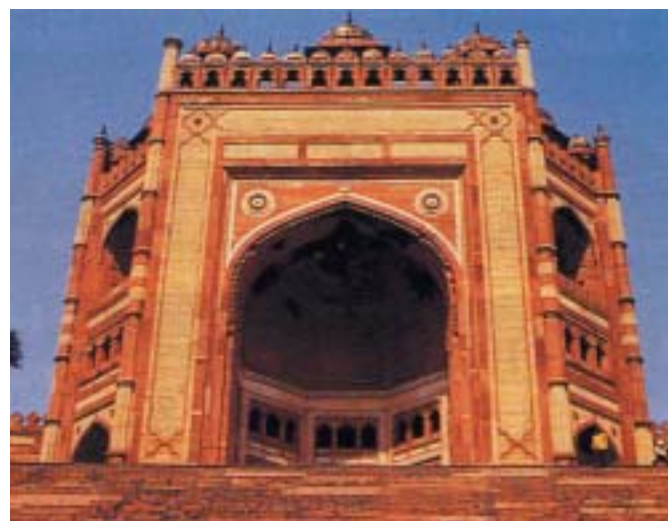
**Khajuraho:** Khajuraho the finest expression of India's medieval art is to be found in 22 exquisitely carved stone temples of Khajuraho, an hour's flight from Delhi. Built between the 10th and 11th centuries by the supreme Chandela Kings, the richly carved friezes depict a peerless race of people who lived deeply and richly and left behind this triumphant legacy.

**Varanasi:** Varanasi is considered to be the holiest of cities by Hindus. It has an array of shrines, temples and palaces rising in several tiers from the water's edge of holy river Ganges. It is a city of fairs and festivals celebrating about 400 of them. The tour of city includes visits to Bharat Mata temple, Durga temple, Aurangzeb's Mosque, Vishwanath Temple (its spires are covered with gold) and Banaras Hindu University with its marble Shiva Temple. All these make Varanasi "the most fascinating city of the East".

**Sarnath:** Sarnath situated 9 kms from Varanasi, is the place where Buddha delivered his first sermon after his enlightenment. Sarnath has ruins of monasteries built more than 2000 years ago. Sarnath also has the famous Ashoka pillar of polished sandstone whose lion capital has been adopted by the Indian Government as its state emblem.



Taj Mahal, Agra



Buland Darwaza, Fatehpur Sikri, Agra



Hawa Mahal, Jaipur