

SUMMARY AND TREND OF PAPERS SUBMITTED TO ICV7



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TOTAL SUBMISSIONS TO ICV7

There were 79 submissions from 21 countries and all 5 continents:

- **Forty two (42) submissions for the King of Thailand Awards**
- **Thirty seven (37) submissions for general presentation**

COUNTRIES AND SUBMISSIONS

- 1. THAILAND: 19**
- 2. VENEZUELLA: 5**
- 3. PR CHINA: 5**
- 4. USA: 5**
- 5. NEW ZEALAND:3**
- 6. INDIA: 3**
- 7. SOUTH AFRICA: 3**
- 8. PAPUA NEW GUINEA: 2**

COUNTRIES AND SUBMISSIONS

9. PHILIPPINES: 2

10. BRAZIL: 2

11. BANGLADESH: 2

12. NIGERIA: 1

13. VIETNAM: 1

14. MALAYSIA: 1

COUNTRIES AND SUBMISSIONS

15. MYANMAR: 1

16. UGANDFA: 1

17. KENYA: 1

18. AUSTRALIA: 1

19. FRENCH GUYANA: 1

20. MEXICO: 1

THE KING OF THAILAND AWARDS

- **Research Agriculture: 7**
- **Research Non-Agriculture: 7**
 - **Dissemination and Technology Transfer: 7**
- **Application of the Vetiver System: 8**
 - **On-farm Applications and Socio-economic Impacts: 9**
- **Disaster Mitigation or Environmental Protection: 4**

GROUPING ACCORDING TO VST APPLICATIONS

Based on actual applications, the submissions can be further sub-grouped as follows:

- 1. Agriculture: 7 submissions**
- 2. Phytoremediation: 5 submissions**
- 3. Vetiver Plant: 4 submissions**
- 4. Soil and Water Conservation: 4 submissions**
- 5. Dissemination: 3 submissions**
- 6. Bio-engineering: 2 submissions**
- 7. Miscellaneous: 17 submissions**

CURRENT TREND

When all the submissions are regrouped according to their current applications:

- **Agriculture production: 7**
- **Environmental protection: 5**
- **Soil and water conservation: 4**
- **Dissemination: 2**
- **Bioengineering: 2**
- **Miscellaneous: 18**

*Hence Agriculture production, Environmental protection
Soil and water conservation are the main concerns*

WINNERS OF THE KING OF THAILAND AWARDS

Research Agriculture

Application of Vetiver Grass *Chrysopogon zizanioides* as a Trap Plant for Controlling Rice Stem Borer *Chilo suppressalis* in China. *Lu YH, Zheng XS, Gao GC, Xu HX, Lu ZX*

Research Non-Agriculture

**Using Vetiver Phytoremediation Technology to Mitigate Dioxin-Contaminated Soils at Bien Hoa Airbase, Dong Nai, Vietnam
*Ngo Thi Thuy Huong, Nguyen Quoc Dinh, Nguyen Thi Thanh Thao, Vu Thi Lan Anh***

WINNERS OF THE KING OF THAILAND AWARDS

Dissemination and Technology Transfer

Comprehensive Miniaturized Sewage Treatment Technology

Ziyuan Feng

Application of the Vetiver System

**Application of the Vetiver System for Landfill Leachate Disposal
in the United States**

Eric Wiediger and Brad Granley

WINNERS OF THE KING OF THAILAND AWARDS

On-farm Applications and Socio-economic Impacts

The Green Latrine: A Low-Cost Sustainable Sanitation Solution for Rural Settlements (A Case Study of a Pilot in a Household Setting in Busia, Kenya)

Edwin Oyaró, Nicola Greene, Henock Belete

Disaster Mitigation or Environmental Protection

Climate Risk Reduction and Soil Conservation Tool for Agriculture:

Keyline Vetiver Hedges Minimum Standard V.1.3 *Antonio Carrillo Bolea*

TVNI LIBRARY

Over the last 20 years, TVNI has monitored publications related to Vetiver on scientific journals, International Reports, University Theses and Government Reports. A total of **434** publications **359** using Vetiver and **75** other plants for various applications.

These are some examples:

- **Soil Conservation: 57**
 - Vetiver: 45
 - Other plants: 12

- **Phytoremediation water: 109**
 - **Vetiver: 91**
 - **Other plants: 18**
- **Phytoremediation floating island: 15**
 - **Vetiver: 14**
 - **Other Plants: 1**
- **Mine rehabilitation: 77**
 - **Vetiver: 69**
 - **Other Plants: 8**
- **Vetiver Bioengineering: 42**
 - **Land Slope: 39**
 - **Stream bank: 3**

CONCLUSION AND RECOMMENDATION

Vetiver grass, *Chrysopogon zizanioides*, is the most researched non-food and non-industrial plant to date. It is called a *Holy Plant, Magic, Wonder* and *Miracle* plant in various part of the world. While it has become well established and proven in bioengineering and agriculture, its role in environmental protection, particularly its role in climate change, such as Carbon sequestration and pollution caused by expanding industrial development need further research and development to meet increasing demands.

The following areas need special attention:

- 1. Water availability, its quality and reuse**
- 2. Future vetiver research is microplastic, antibiotics and both human and veterinary hormones in urban wastewater.**
- 3. Vetiver related technology transfer to enhance VST for sustainable development.**
- 4. Vetiver System needs to be presented as a critical, effective and low cost technology to resolve the climate change issues without having to resort to external funding or assistance thus enabling communities to sustain and improve their quality of life through betterment of their environment.**

THANK YOU