

Information on Doctoral thesis of Fellows Tran Thi Pha

Title of thesis: Study on the heavy metal (As, Pb, Cd, Zn) absorbability in the soil of reed (*Phragmites australis*) and application in reclaiming heavy metal contaminated soil after mining extraction in Thai Nguyen province

1. Full name: Tran Thi Pha

2. Gender: Female

3. Date of birth: July 4th, 1981

4. Place of birth: Nam Dinh

5. Number of admission decision: No. 2934/QĐ-KHTN-CTSV by Rector of VNU University of Science.

6. Changes in academic process: Adjusted title of the thesis according to Number of decision 1795/QĐ-SDH on 23rd April, 2013 by Rector of University of Science.

7. Title of thesis: Study on the heavy metal (As, Pb, Cd, Zn) absorbability in the soil of reed (*Phragmites australis*) and application in reclaiming heavy metal contaminated soil after mining extraction in Thai Nguyen province

8. Major: Soil and Water Environment

9. Code: 62440303

10. Supervisors: 1. Assoc. Prof. Dr. Dang Van Minh

2. Assoc. Prof. Dr. Le Duc

11. Summary of the new findings of thesis:

- Confirming the resistance and the absorbance of reed (*Phragmites australis*).
- Providing several relations between the absorbability of *Phragmites australis* in different soil characteristics.
- Providing the correlation of heavy metals contents in soil and reed.
- Partly contributing to addressing water and soil pollution in Dai Tu District and Dong Hy District of Thái Nguyên Province.
- Having applicability in practice to treat heavy metal contaminated soil, especially particularly contaminated land by mining exploitation.

12. Practical applied capability

- Success of the study will contribute to solving soil and water pollution in Dai Tu district, Dong Hy District, Thai Nguyen Province.

- Results of the study can be applied in practice to treat heavy metals contaminated soils, particularly contaminated land by mining exploitation.

13. Further research directions:

- Study on building up processes, proposing planting and caring reeds in mining areas.

14. Thesis-related publications:

1 . Tran Thi Pha, Dang Van Minh, Le Duc , Dam Xuan Van (2012), "Study on the effect of pH on the arsenic (As) and lead (Pb) absorbability of reed (*Phragmites australis*)", *Journal of Science and Technology – Thai Nguyen University* 90 (02), pp.101-105.

2 . Tran Thi Pha, Dang Van Minh, Le Duc , Dam Xuan Van (2012), " Study on the effect of pH on the cadmium (Cd) and zinc (Zn) absorbability of reed (*Phragmites australis*)", *Journal of Agriculture & Rural Development* 3/2012, pp.62-65.

3 . Tran Thi Pha, Dang Van Minh, Le Duc , Hoang Van Hung , Dam Xuan Van (2013), "Research on the distribution , potential growth, development and heavy metal absorbability of reed (*Phragmites australis*) on land after mining in Thai Nguyen Province ", *Journal of Agriculture & Rural Development* 3/2013, pp. 193-199.

4 . Dam Xuan Van, Tran Thi Pha, Dang Van Minh, Hoang Van Hung (2013), "Research on the distribution , potential growth and development of reed (*Phragmites australis*) on the land after mining in Thai Nguyen ", *Journal of Science & Technology - Thai Nguyen University* 107 (07), pp. 91-97.

5 . Tran Thi Pha, Dang Van Minh, Hoang Van Hung , Dam Xuan Van (2013), "Research on the ability to treat heavy metal of reed (*Phragmites australis*) on the land after mining in iron ore Trai Cau - Dong Hy district and Ha Thuong tin mine, Dai Tu district, Thai Nguyen province ", *Journal of Agriculture & Rural Development*, 9/2013, pp. 66- 74 .

6 . Tran Thi Pha, Dang Van Minh, Le Duc , Hoang Van Hung , Dam Xuan Van (2013) , "Study on absorption of heavy metal reed (*Phragmites australis*) in the soils with different heavy metal contents ", *Journal of Soil Science* 42, pp. 75 - 80 .

7 . Tran Thi Pha, Dam Xuan Van , Dang Van Minh, Le Duc, Nguyen Thi Hien (2013), "Research on using reed (*Phragmites australis*) to treat heavy metal contaminated soil after mining in Thai Nguyen province", *Journal of Soil Science* 42, pp. 81 - 87 .