

Use of Human Excreta in Agriculture

farmers practices and their perception
of health risks



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Introduction

- ❑ Applying human excreta to agricultural fields has been a long time ago in VN.
- ❑ Despite the potential health risk, the practice is still wide spread.
- ❑ 85% farming households had used latrine wastes as fertilizer (Phuc et al. 2005)
- ❑ In agriculture: Human excreta are
 - It is cheap fertilizers
 - Good for soil structures
 - Reduced imported chemical fertilizers
 - Nutrition recycling in different types of integrated farming systems

Objectives

- ❑ To describe the current use and handling of human excreta as fertilizer
- ❑ The farmers' perceptions of health risks and hygiene related to the use of latrine waste as fertilizer
- ❑ The study findings are discussed in relation to the new guidelines for use of human excreta in agriculture.

Methodology

- ❑ Study areas: 5 communes in Nghe an
- ❑ Total 471 hhs were selected
- ❑ The Respondents: head of hhs or adult people
- ❑ Key persons: Communal people's committee, women's union, farmer's association and health station.



Methodology

- ❑ Questionnaires
- ❑ Participate observations
- ❑ Key informant interviews
- ❑ Focus group discussions
- ❑ In-depth interviews



Findings

1. Latrine types
2. Farmer's practices
3. Annual frequency
4. Farmer's perception



Latrine types

- ❑ 56% hhs used a Double vault Composting (DVC),
- ❑ 35% hhs used a Single Vault (SV),
- ❑ 5% used a temporary (shallow hole/pit),
- ❑ 4% used a septic tank/pour flush.



Farmer's practices

- ❑ 92% hhs used of Human excreta (HE) as fertilizer
- ❑ 94% hhs compost HE before used
- ❑ 50% hhs storage HE inside the latrine
- ❑ 8% hhs storage HE both inside and outside the latrine
- ❑ 38% hhs storage HE outside the latrine



Farmer's practices

- ❑ All 471 hhs put kitchen ash into the latrine vault after each defecation.
- ❑ 63% hhs added lime to the latrine
 - 24% after each visit,
 - 45% weekly,
 - 31% monthly or less frequently
- ❑ 99% hhs composting HE outside the latrine added kitchen ash, and 55% hhs added also lime,

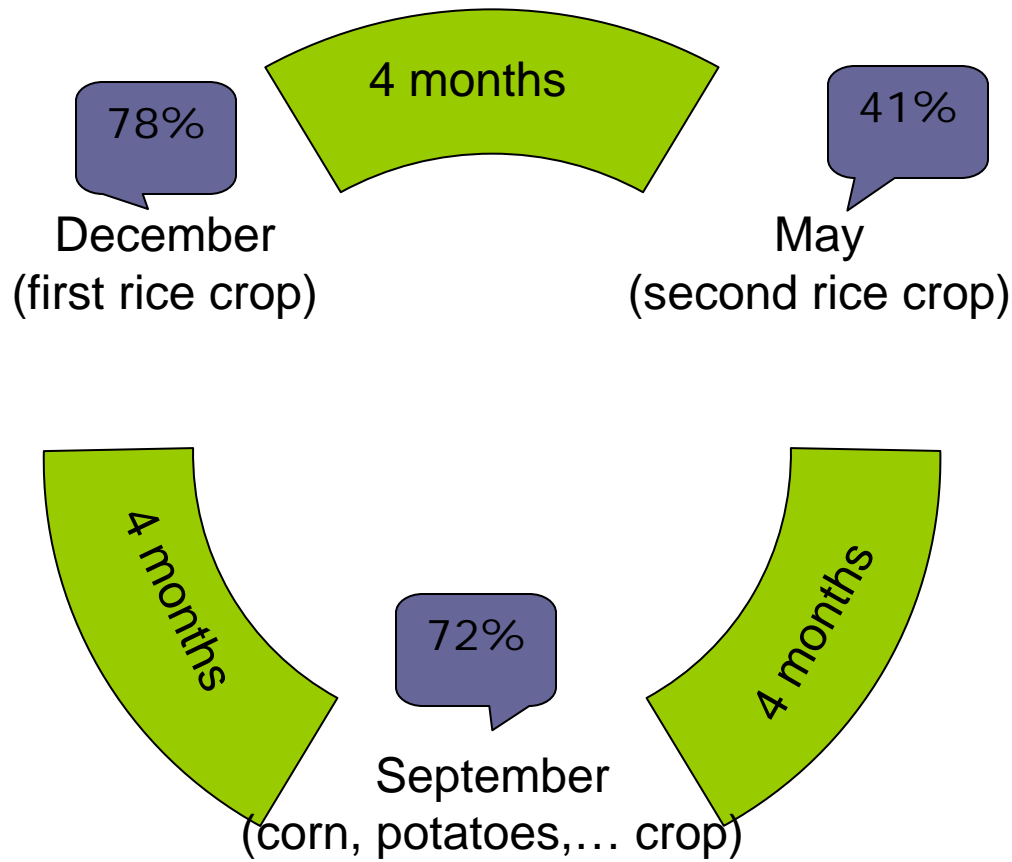


Human excreta used for annual crop of the year

- ❑ 78% hhs applied composted HE for rice is first crop (December-January)
- ❑ 41% hhs applied composted HE for rice is second crop (May-June)
- ❑ 72% hhs applied composted HE for corn, potatoes are third crop (August-September)



Annual frequency of human excreta application on crops



Annual frequency of human excreta application on crops

Human excreta used as fertilizer for	Number of hhs	Percentages
Only first crop in January	35	7%
Only second crop in June	3	0.6%
Only third crop in September	74	16%
Both first and second crop (January and June)	80	17%
Both first and third crop (January and September)	156	33%
Both second and third crop in June and September	21	5%
All 3 crops	90	19%
At least 1 crop per year	459	98%
At least 2 crops per year	347	74%
Only 2 crops per year	257	57%

Farmer's perception

- Composting done to achieve hygienic product and improve fertilizer product but depends upon type of latrine available
- Human excreta regarded the "dirtiest" fertilizer due to bad smell but praised for its nutritious values
- Human excreta and chemical fertilizer compared to eastern and western medicine



Farmer's perception

- Perceived risk clearly associated with smell, secondly texture, thirdly color
- Protective practices given minimal attention and then only when handling excreta with smell
- Other peoples waste and smell from others excreta regarded a health risk



Protecting the “inside”

- Nghe An-farmers - sometimes wear mask and boots when handling fresh excreta
- In the fields few wear any protection since excreta does not smell
- Women used more protective measures but seen as reducing work output
- Women seen as more vulnerable



Summary

- ❑ 74% hhs at least once per year will have only 3-4 months available for composting excreta
- ❑ They not meet the new Vietnamese guidelines
- ❑ Kitchen ash or lime are moisture absorption
- ❑ Health risk perception associated with smell
- ❑ Diseases enters through mouth or nose
- ❑ Unpractical protective measures
- ❑ Cleanliness is about clean appearance/visible dirt
- ❑ Production given first priority above hygiene
- ❑ Organic waste seen as valubal input to production
- ❑ Large degree of gender difference in exposure and use of protective measures



Recommendations

- ❑ Change latrine type to a non-reuse system;
- ❑ Only use human excreta as fertilizer for every second crop or only once per year,
- ❑ Use additives that increase pH to obtain a more rapid pathogen die-off inside the vault.

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Thank you for your attention

