



ĐẠI HỌC Y DƯỢC TP. HỒ CHÍ MINH



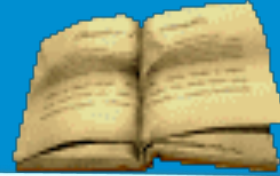
THE PREVALENCE OF PARASITES IN FRESH VEGETABLES AT THE MARKETS OF BAC LIEU CITY - VIETNAM

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Outline



- 1- Introduction:
- 2- Objective and Method
- 3- Results and Discussion
- 4- Conclusion





1- Introduction (1)

In Vietnam, Fresh vegetables are a popular food.

It is easy to buy them from market to super market.

However, the hygienic fresh vegetables contain countless pathogens that we can not see with eyes, they include parasites





1- Introduction (2)

Bạc Liêu city is located in Mekong Delta with rivers systems – risk for contamination of parasites





2- Objective and Method (1)

+ Objective: Identify the prevalence of parasites in fresh vegetables at the markets of Bac Lieu city

+ Method: Cross sectional Study

<http://www.baobaclieu.vn/dong-hanh-cung-nha-nong/xu-ly-tan-goc-vi-pham-an-toan-thuc-pham-49863.html>





2- Objective and Method (2)

Sample Size:

$$N = Z_{(1-\alpha)}^2 \frac{p(1-p)}{d^2}$$

$$p = 97,1\%$$

(Markets in HCM city [Lê Thị Ngọc Kim - 2007])

$$\Rightarrow N = 44$$





2- Objective and Method (3)

Bạc Liêu city: 10 Markets: 7 in urban areas and 3 in suburb

In each market: 2 randomize point

In each point: *Lettuce, Heartleaf Houttuynia Herb, Basil, Mustard greens*

Total:

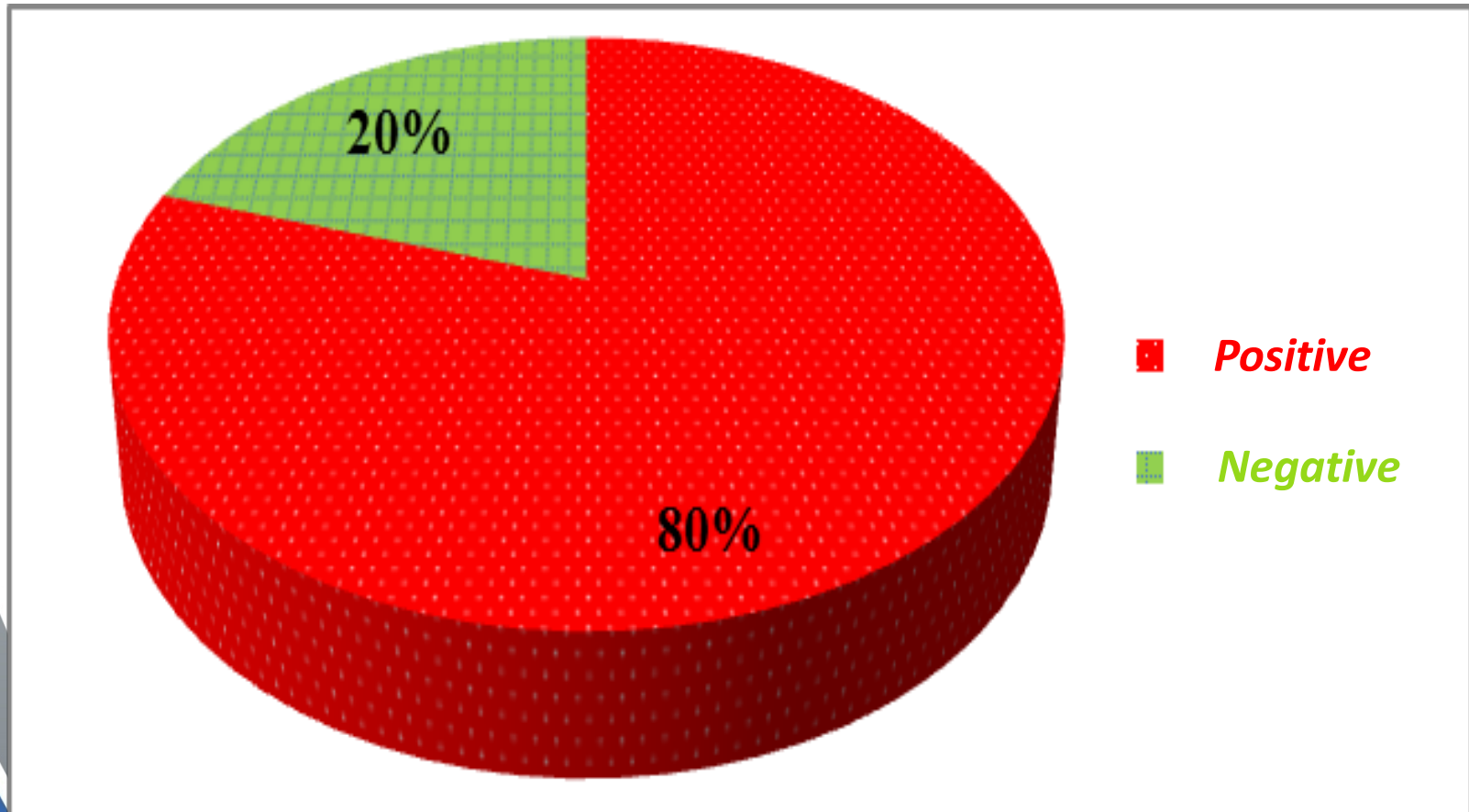
4 Vegetables x 2 points x 10 markets = 80 samples





3- Results and Discussion(1)

The prevalence of parasites in fresh vegetables: 80%





3- Results (2)

Proportion of Parasite in vegetables (n=80)

		Parasites		Metazoa		Protozoa	
		n	%	n	%	n	%
Lettuce (n=20)							
	Positive	17	85	14	70	13	65
	Negative	3	15	6	30	7	35
Heartleaf (n=20)							
	Positive	16	80	16	80	12	50
	Negative	4	20	4	20	8	50
Basil (n=20)							
	Positive	17	85	16	80	14	70
	Negative	3	15	4	20	6	30
Mustard greens (n=20)							
	Positive	14	70	12	60	9	45
	Negative	6	30	8	40	11	55
Total (N= 80)							
	Positive	64	80	58	73	43	54



3- Results (3)

Proportion of **Metazoa** in vegetables (n=80)
Metazoa - 73%

Metazoa		Lettuce (n=20)	Heartleaf (n=20)	Basil (n=20)	Mustard (n=20)	Total (N=80)
		%	%	%	%	%
Eggs of <i>Ascaris lumbricoides</i>	Positive	40	50	50	30	43
	Negative	60	50	50	70	57
Eggs of <i>Trichuris trichiura</i>	Positive	0	5	0	0	1,3
	Negative	100	95	100	100	98,7
Eggs of <i>Ancylostom e sp</i>	Positive	55	25	25	45	38
	Negative	45	75	75	55	62
Eggs of <i>Toxocara sp</i>	Positive	5	20	10	10	11
	Negative	95	80	90	90	89
Larvae	Positive	50	60	30	35	44
	Negative	50	40	70	65	56



3- Results (3)

Proportion of Protozoa in vegetables (n=80)

Protozoa		Lettuce (n=20)	Heartleaf (n=20)	Basil (n=20)	Mustard (n=20)	Total (N=80)
		%	%	%	%	%
Entamoeba histolytica	Positive	25	25	10	15	19
	Negative	75	75	90	85	81
Entamoeba coli	Positive	25	15	5	10	14
	Negative	75	85	95	90	86
Balantidium coli	Positive	50	45	40	30	41
	Negative	50	55	60	70	59
Giardia lamblia	Positive	5	10	15	20	13
	Negative	95	90	85	80	87

The prevalence of protozoa in fresh vegetables is 54%:
Balantidium coli cysts with 41%



3- Results (5)

Metazoa: vegetables have been contaminated with faeces

Protozoa: vegetables are infected by faeces or dirty water

Causes:

- + **Cultivation:** vegetables are infected in the plantation
- + **Transportation, Conservation**
- + **Improper use** of water to irrigate vegetables





4- Conclusion

- + The prevalence of parasites in fresh vegetables is 80%.
- + Control parasites on fresh vegetables: “Food supply chain”
- + Collaboration between Medical workers and Veterinarians

Food safety in One Health



THANK YOU

