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Characterization and distribution of *Cryptocotyle*, potentially zoonotic parasite, in fishery products - Short term mission in the Laboratory of parasitology of the University of Copenhagen

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INTRODUCTION

Parasites are present in fish. Some parasites are zoonotic.

My fish has black spots. What's that?

It looks like *Cryptocotyle* parasites!

Where are they geographically localised? ?
Which fish species? ?
Where are they localised on the fish? ?
Human health impact? ?
Economic impact

PhD Objectives:

- Epidemiological study
- Zoonotic potential study

Method development to detect and identify the parasites

OPTIMISATION OF PEPSIN DIGESTION ②

① Counting of black spots and Dissection

② Pepsin digestion

③ Isolation of parasites

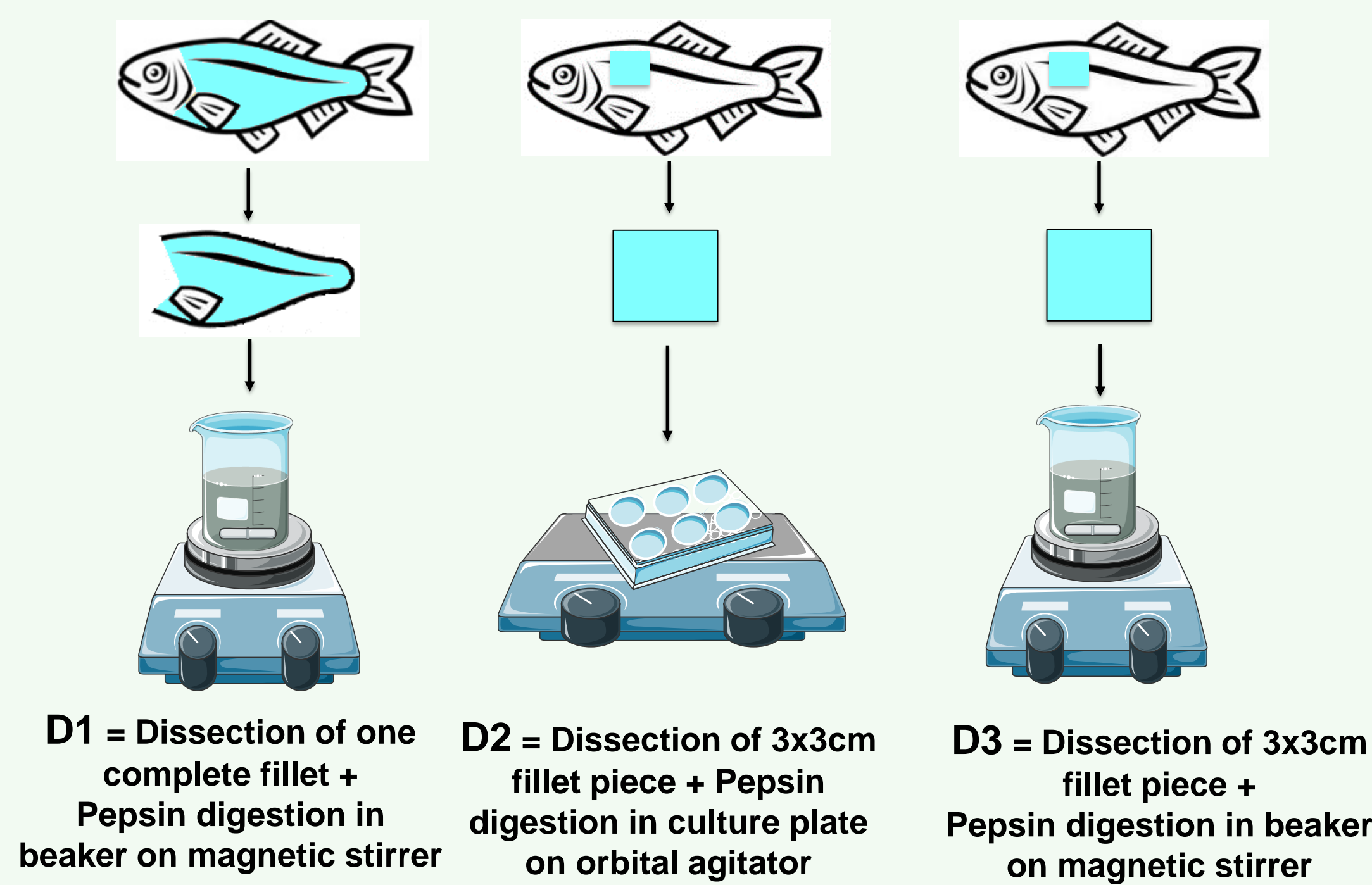
④ Excystment of parasites

⑤ Counting of viable and dead parasites

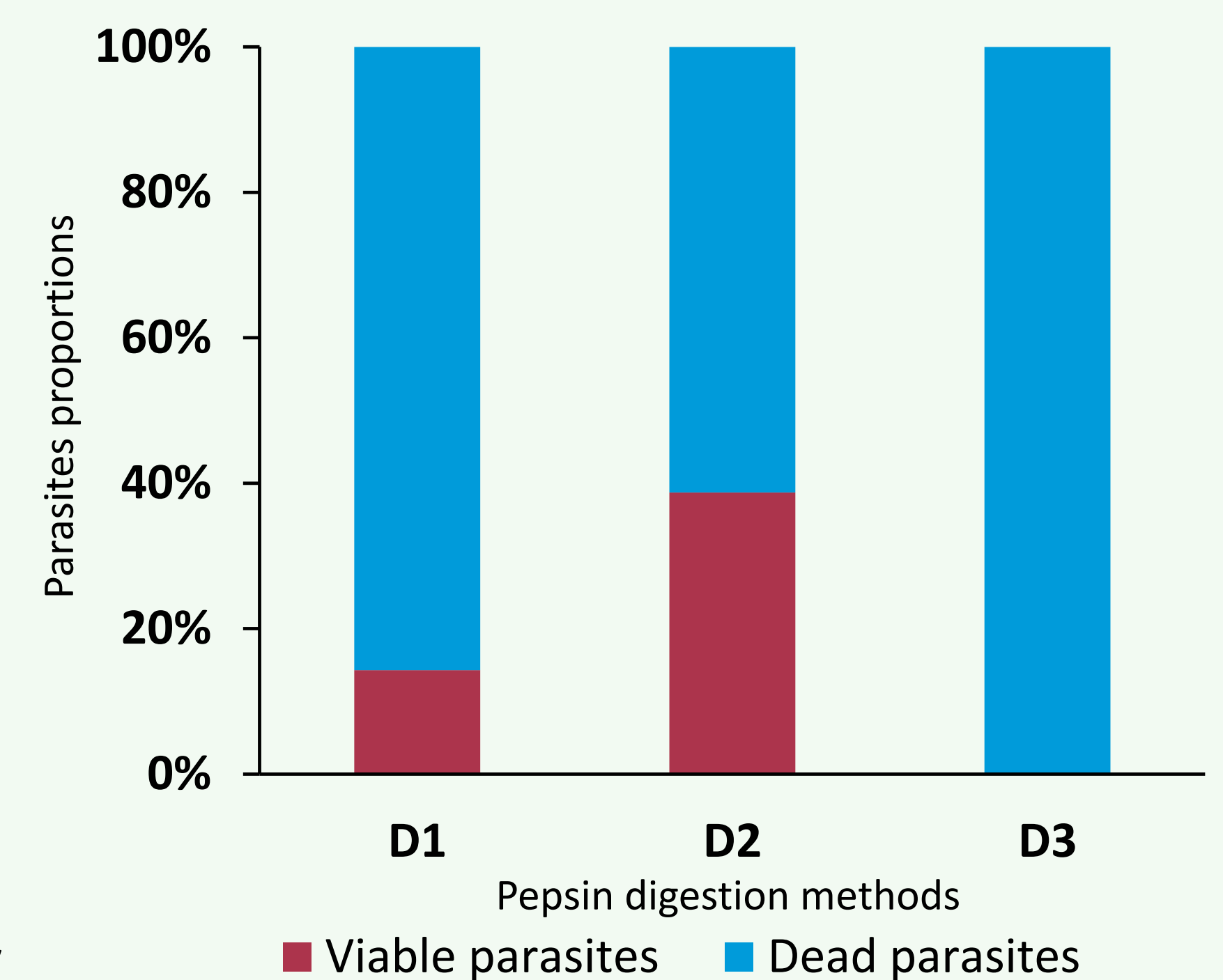
⑥ Fixation of parasites

⑦ Morphological identification

How can I improve the pepsin digestion step?



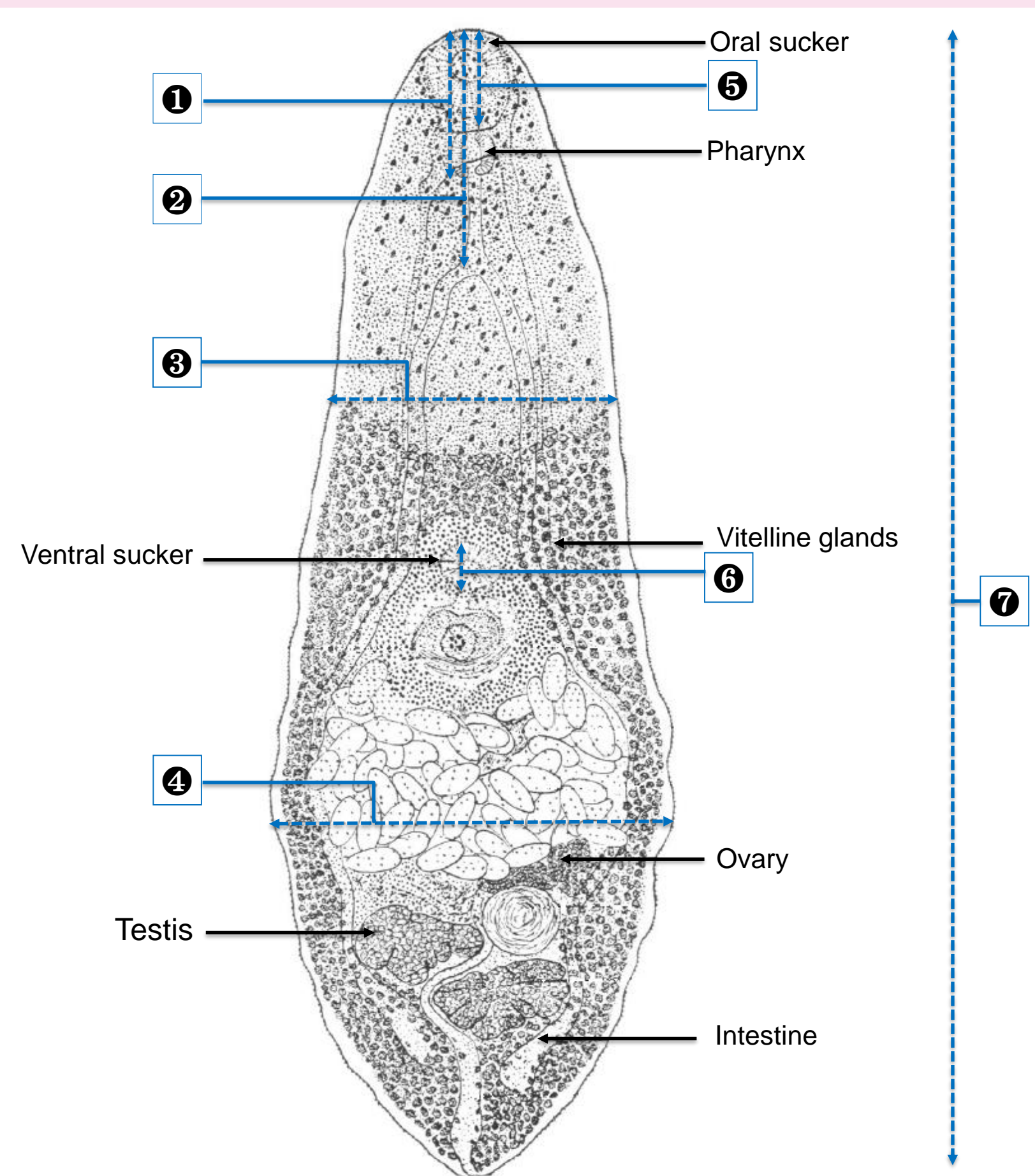
③ to ⑤ steps



The stirrer of D1 and D3 methods is destructive for the parasites.

D2 method allows to keep good viability rate.

MORPHOLOGICAL IDENTIFICATION ⑦ AND COMPARISON BETWEEN



Adult stage of *Cryptocotyle lingua* by Linton, 1915

IDENTIFICATION OF <i>Cryptocotyle lingua</i>	Measurements (in mm)		
	Literature (Ransom, 1920)	Parasites from French whiting n = 10	Parasites from Danish cod n = 5
① Distance from oral sucker to end of pharynx	0,03-0,048	0,07-0,12	0,08-0,11
② Distance from oral sucker to intestinal branches	0,05-0,32	0,11-0,19	0,06-0,15
③ Width 1	0,2-0,9	0,11-0,31	0,2-0,26
④ Width 2	/	0,14-0,25	0,14-0,21
⑤ Oral sucker diameter	0,066-0,11	0,03-0,06	0,05-0,06
⑥ Ventral sucker diameter	0,055-0,085	0,02-0,05	0,02-0,03
⑦ Total length	0,55-2	0,44-0,92	0,39-0,59

How to morphologically recognize *Cryptocotyle*?

The parasites analysed have the same morphological characteristics as *Cryptocotyle lingua*.

Parasites from different fish batches had different width, but without significantly difference.

TAKE-HOME MESSAGE

- Selection of a digestion method with orbital agitation for the epidemiological study.
- Morphological observation skills acquired: identification of *Cryptocotyle lingua* from fish.