# KATO THICK SMEAR TECHNIQUE

- In 1954, Kato and Miura were the first tointroduce a new method, the “cellophanethick-smear technique” which involved a principle of direct fecal sampling (Kato and Miura,1954).
- It is different from the standard directsmear procedure in that a larger amount offecal sample is employed and cellophanestrips are used as cover slips instead of glass.After further refinement, the Kato thick smeartechnique, was adopted in control programsin Japan (Kato, 1960).
- A quantitative study of helminthic infections using the Kato method was initially carried out by Martin and Beaver in 1968 for thedetection of specific helminth eggs.

# Advantages &Disadvantages

- **Advantages**
- N.B. The ideal time for observing Schistosoma eggs is 24 hrs after preparation except in bright sunlight ، the slide will clear rapidly & can be examined.
- Ascaris & Trichuris eggs are visible at any time & hookworm eggs are visible 30 min after preparation .
- The kato- katz template delivers 41.7 mg of faeces . The number of eggs observed is multiplied by 24 to obtain the number of eggs per gm . of faeces.

# Advantages &Disadvantages

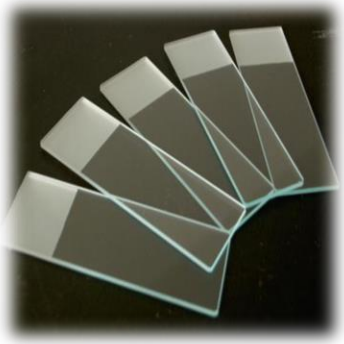
- **Advantages**
- The aim of this paper is to show the appearanceof the helminth eggs when malachite green is replacedwith a stain comprised of nigrosin and eosin yellow informalin.
- Several field studies confirm the simplicity,quality, and cost effectiveness of the proposed modification .
- a visual reference of the results of the methodcan be useful to facilitate the recognition of parasite eggs by microscopists willing to adopt this methodology.

# Advantages &Disadvantages

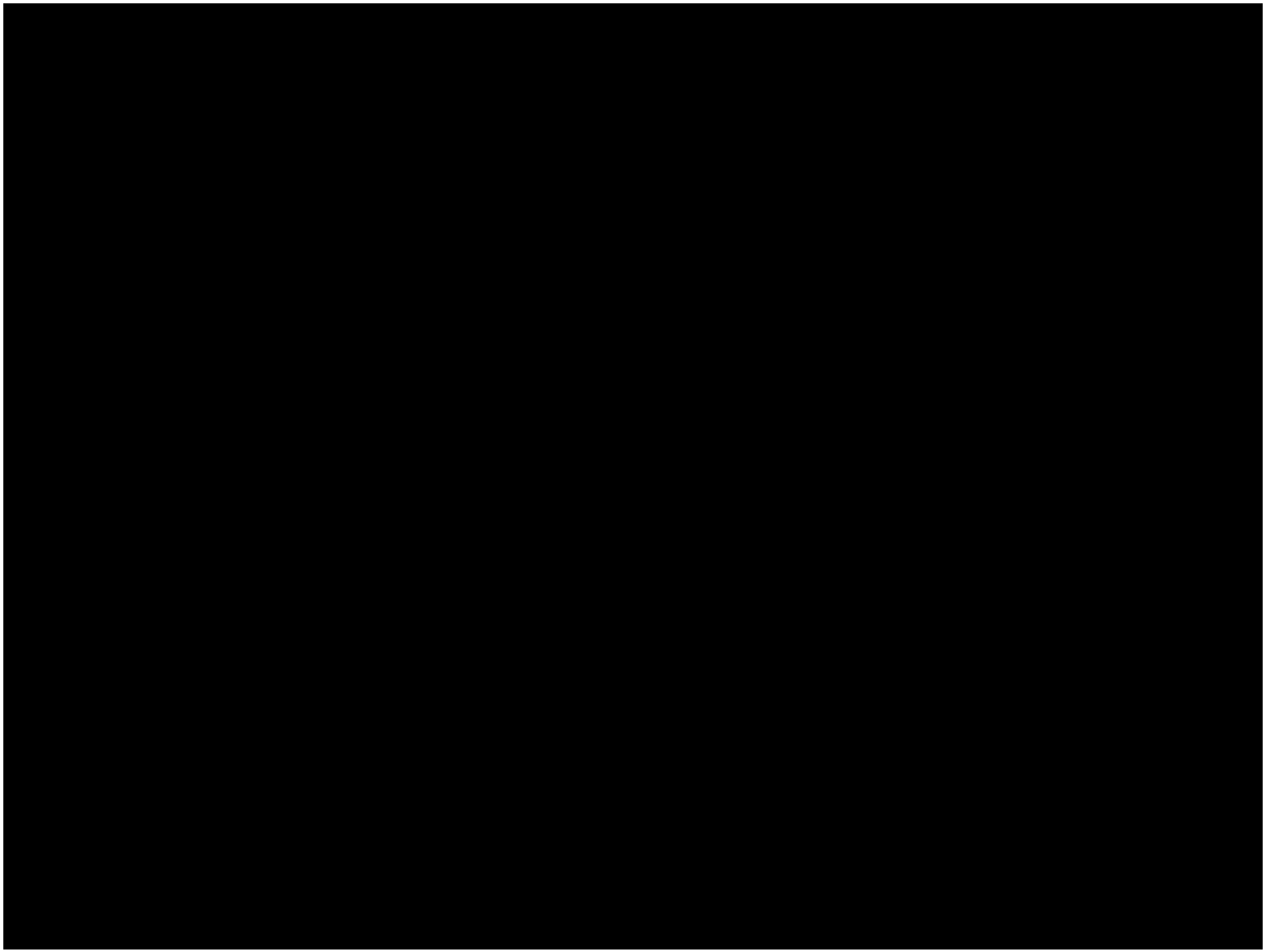
- **Disadvantages**
- Take time (The Kato-Katz methods require between 1 to 2 hoursbefore the glycerin clears the background of the stoolsmear on the slide for accurate visualization of mosthelminth eggs )
- The major problem of the technique isthat few hours after the preparation of the slidehookworm eggs are difficult to recognize due to overclarification by glycerin .

# Materials

1. Stool samples
2. Glass slides
3. Cellophane (25×30 mm)
4. 50% glycerol
5. a Piece of paper
6. Coverslips
7. Pipettes
8. Stick
9. Gloves
10. Microscope

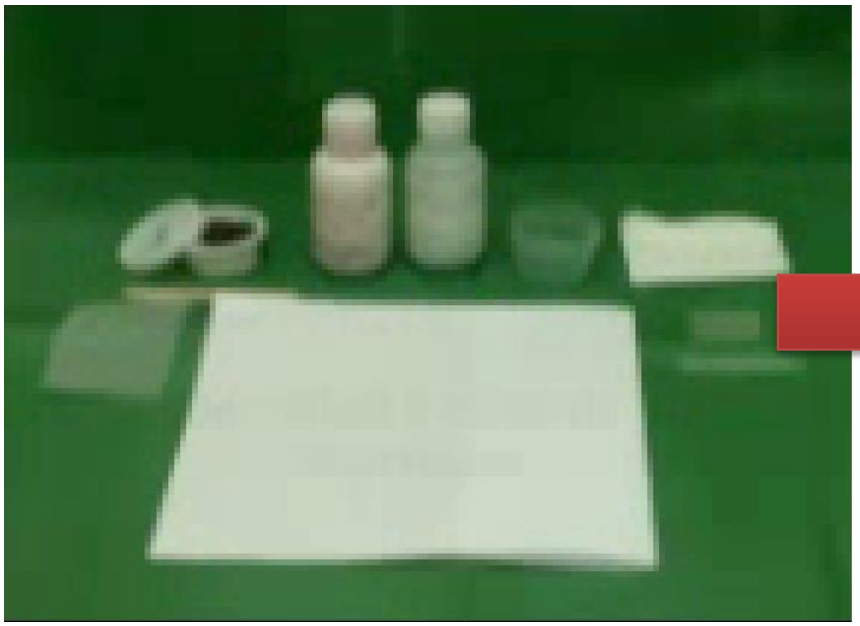



# Procedure



**Preparation Material**

**Use Glass slides and Coverslips with hole**



**Transfer a small amount of faeces**


Transfer a small amount of faeces onto a piece of paper.

Soak the cellophane strips (25×30 mm) in 50% glycerol malachite green

Solution for at least 24 hrs before use.


**Press the screen on top of faecal specimen.**

**Using a plastic spatula, scrap across the upper surface of the screen to sieve the faecal sample .**

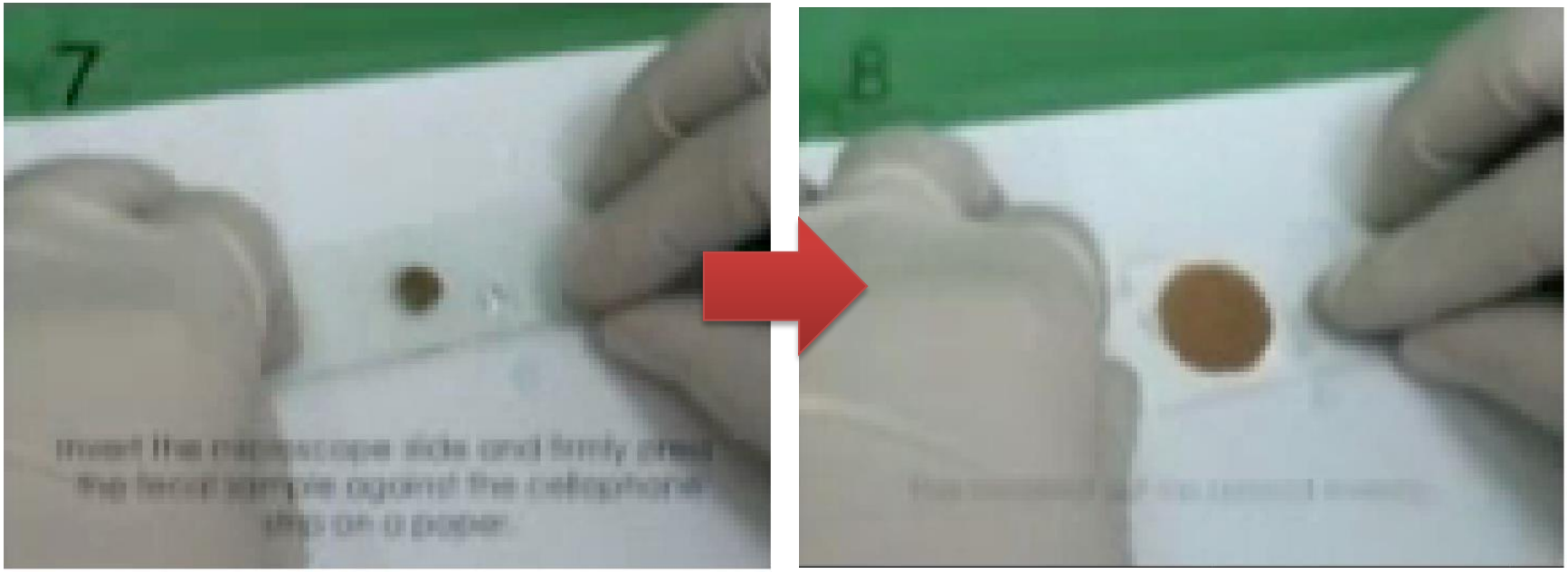
**Transfer a small amount of the sieved faecal material into the hole of the template & carefully fill the hole. Level with the applicator stick.**

**Remove the template carefully so that all the faecal material is left on the slide &none is left sticking to the template.**

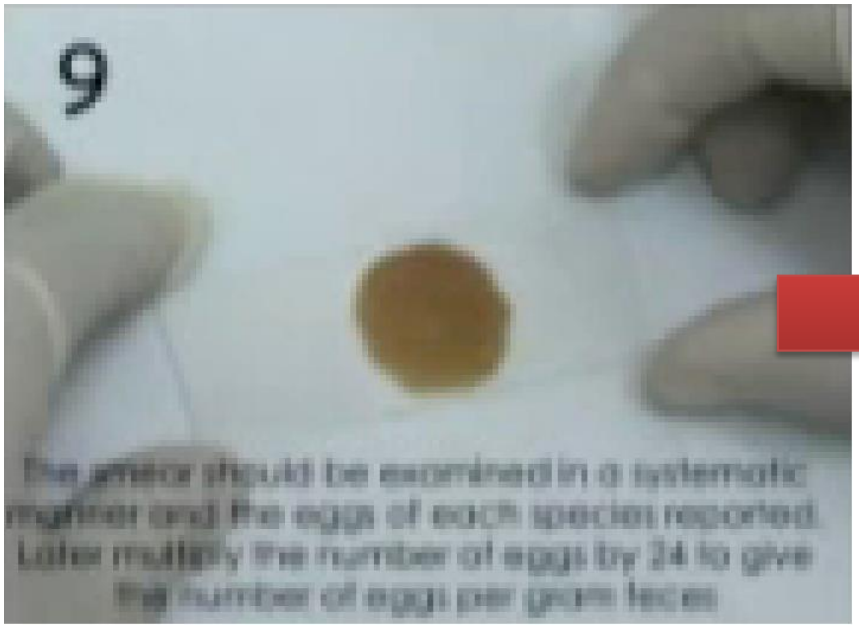
•Cover the faecal sample on the slide with the glycerol-soaked cellophane strip، wipe off excess glycerol with a small piece of toilet paper.

•Invert the microscope slide & press faecal sample against cellophane on a smooth surface to spread sample evenly .

**Volatility on the other destination and then press to spread the sample**



## Slide ready for Examine




## Examine under microscope