# EFFECTIVE RANGE OF A PHEROMONE TRAP AND ITS INSTALLATION INTERVAL

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1. INTRODUCTION

The **tobacco** (or cigarette) **beetle** (*Lasioderma serricorne*) is a notorious pest against stored tobacco. **NEW SERRICO**, a pheromone trap for the tobacco beetle, has an **effective range**, radius that pheromone traps keep capturing efficacy over 50%, of 5 m (see the right fig.). So, a recommended interval between the two traps is **10 m**.
However, traps are not always placed at ten-meter intervals in a site. **The purpose of this study was to clarify influence of intervals on trap efficacy**.

$y=1.10-0.11x$
$r^2=0.94$

5 m

Distance between trap and release point (m)
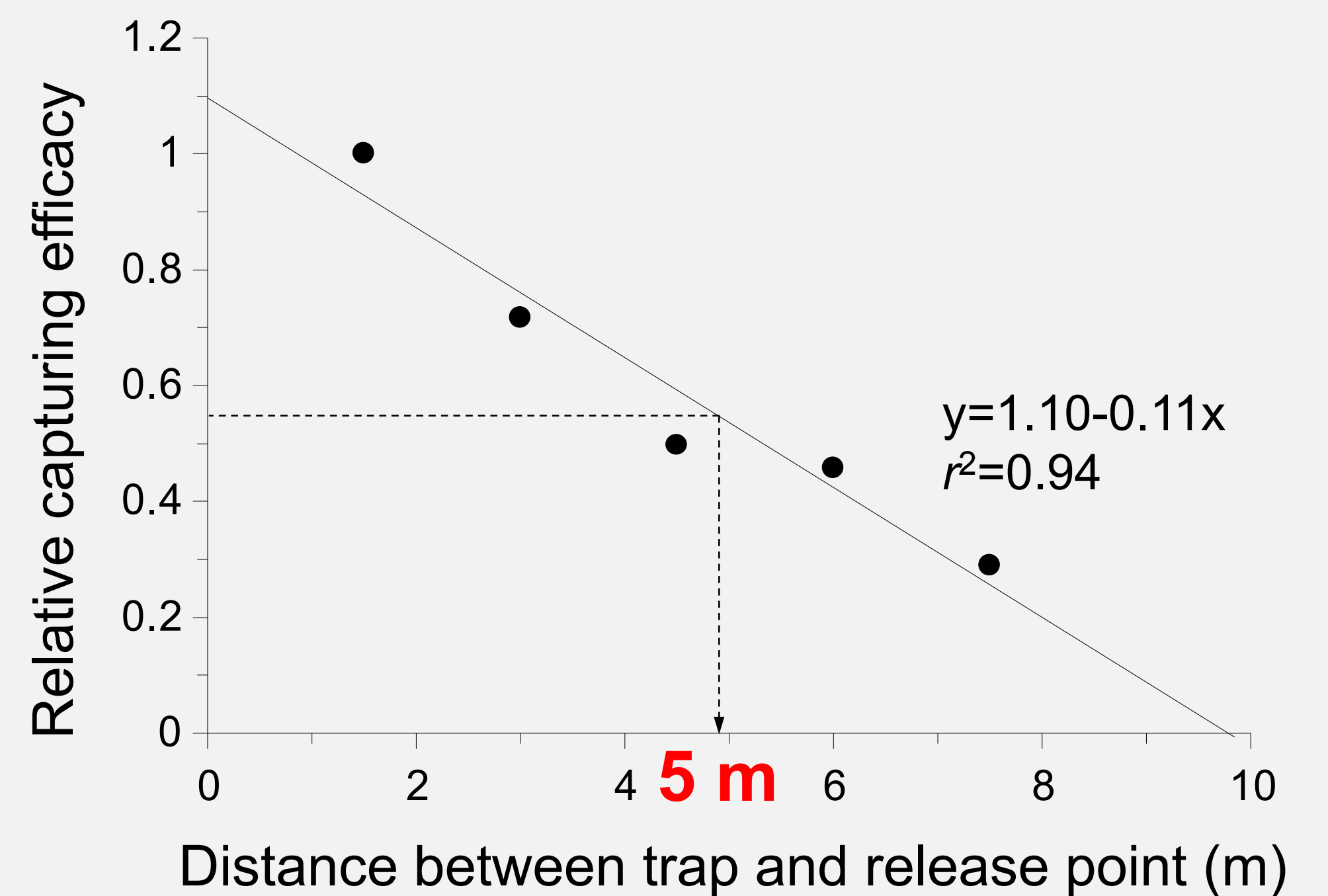
2. MATERIALS & METHODS

Trap Placement (see the right fig.)
Three NEW SERRICO traps were placed at **20-meter** intervals (**BLUE**), eight traps were placed at **ten-meter** intervals (**BLUE** and **YELLOW**) or 21 ones were placed at **five-meter** intervals (**BLUE**, **YELLOW** and **PINK**).
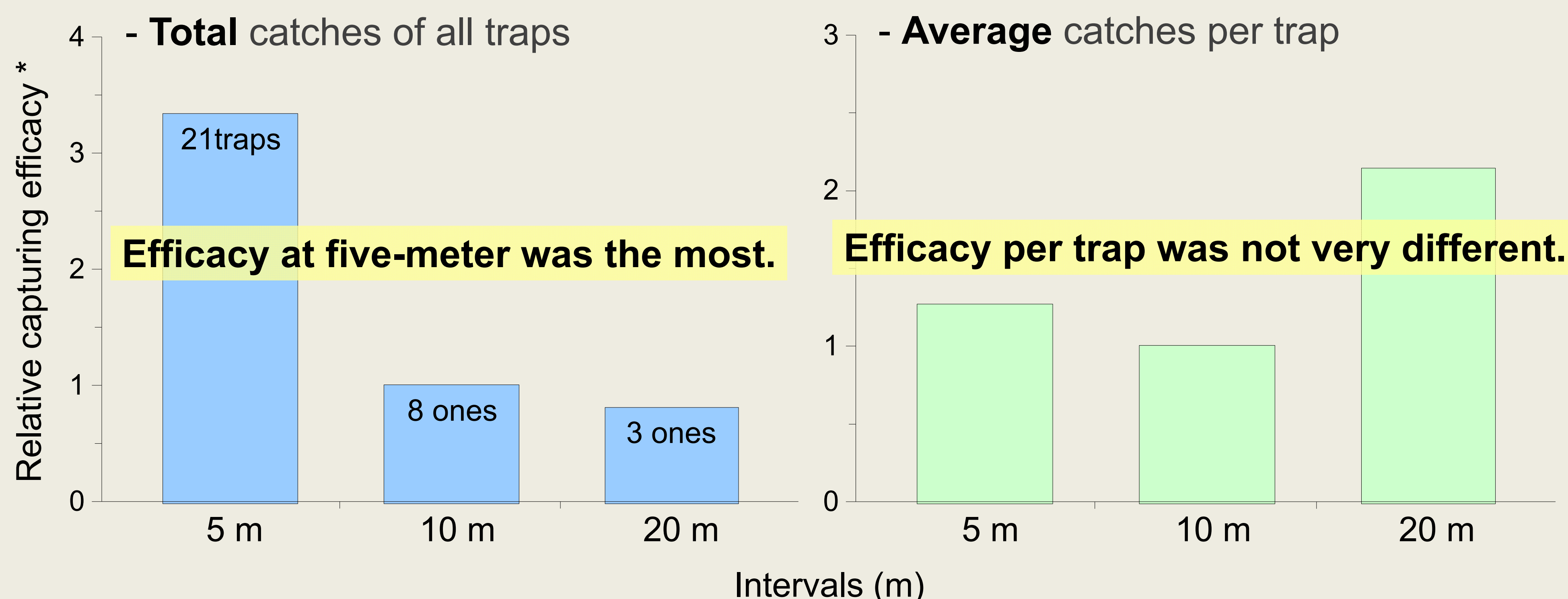
Experiment Conditions
Released insects: three hundred male beetles
(three days after appearance)
Experiment period: July to September in 2011
Maximum average temperature: 33.6 ℃
Minimum average temperature: 24.3 ℃

The beetles were released from a release point.
The catches were counted **one week** after release.
The experiment was replicated **three times** for each interval.

Release ✕ point

20 m
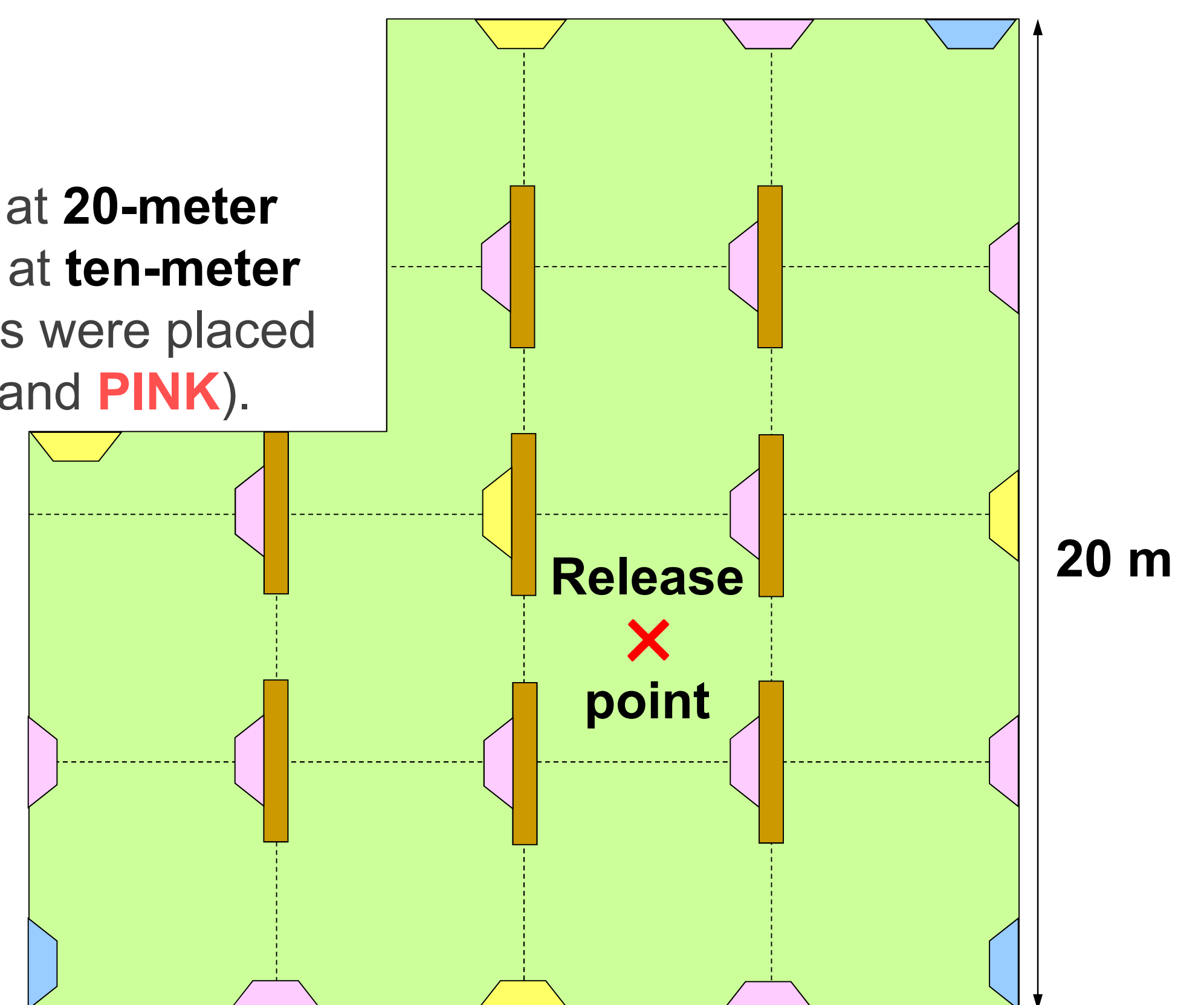
3. RESULTS & DISCUSSION

Efficacy per trap was **constant regardless of an interval** in the range from 5 m to 10 m.

- **Total** catches of all traps

Relative capturing efficacy *

21traps

Efficacy at five-meter was the most.

8 ones

3 ones

5 m   10 m   20 m

- **Average** catches per trap

Efficacy per trap was not very different.

5 m   10 m   20 m

Intervals (m)

*: relative to the capturing efficacy of a trap placed at ten-meter intervals.

The results suggest that it is possible to **adjust an installation interval with a focus on 10 m** depending on situations of factories or warehouses; nevertheless **the interval of 10 m is still recommended**. Because data from regular monitoring are used to detect sources of beetle infestation. When intervals between traps are relatively wide, more steps are necessary to delimit an area. More effort is necessary as a result. **Infestation source detection is an important element considering installation intervals between pheromone traps**.