

SEED QUALITY OF DIFFERENT CAPSULE POSITIONS AND VARIETIES IN SESAME

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ABSTRACT

The experiment was conducted in Leuwikopo Experimental Garden, Darmaga IPB, and Physiology Laboratory of the Research Institute for Spice and Medicinal Crops. The objective of this experiment was to evaluate the quality of seed produced from different capsule positions and varieties. Two varieties of sesame seeds, Bogor Hitam and TSI-4B were harvested and separated in 5 different capsule positions in the plant. Each lot of seed was tested for its quality, including seed weight, germination capacity, storability and drought resistance. The experiment was designed as a randomized block arranged factorially. The first factor was variety and the second was capsule positions. Result indicated that the seed produced from the stem showed higher germination percentage compared to that from the branches. Bogor Hitam produced higher germination percentage but lower storability compared with TSI-4B.

Key words : Sesame, seed quality, capsule position

ABSTRAK

Mutu benih wijen dari berbagai posisi kapsul dan varietas yang berbeda

Penelitian ini dilakukan di Kebun Percobaan Leuwikopo, Darmaga-IPB dan Laboratorium Fisiologi Balitro, Bogor, bertujuan untuk mengetahui mutu benih dari berbagai posisi kapsul dan varietas yang berbeda. Dua macam benih wijen yaitu varietas Bogor Hitam dan TSI-4B, dipanen dan dipisahkan menjadi 5 macam posisi buah pada batang dan cabang. Rancangan percobaan yang digunakan adalah rancangan acak lengkap dengan susunan faktorial dalam tiga ulangan. Faktor pertama adalah varietas dan faktor kedua adalah posisi buah. Hasil penelitian menunjukkan bahwa terdapat perbedaan yang nyata pada perkecambahan benih yang berasal dari batang dan cabang. Daya berkecambah wijen varietas Bogor Hitam lebih tinggi tetapi daya simpan benihnya lebih rendah dari TSI-4B.

INTRODUCTION

World production of sesame (*Sesamum indicum*) recorded for about 2 014 000 ton per

hectare per year. While National consumption approximately 2 500 ton/ year and during 1988 - 1990 imported seed and oil in the total amount of US \$ 734 000 or more than Rp 1.5 billion per year (Anon., 1993).

Desai and Goyal (1981) reported that sesame has the lowest productivity among the other oilseeds and does not respond to higher inputs.

Sesame seeds provide an important source of cooking oil. Its oleic and linoleic acid concentration fairly high. It is also directly used as an ingredient of food. Sesame oil does not rancid easily, and may be used to absorb the fragrant essence of sweet scented flowers as a base for perfumes (Uzo *et al.*, 1985). Weiss (1971) indicated that the degree of branching and general habit of the plant are directly affected by environment, i.e. seed rate per hectare, rainfall, daylength, and varieties planted in other than their normal habitat or season generally produce abnormal growth.

The effect of capsule location in strain 45 which was done in Israel is shown in Table 1.

Caldwell (*in* Leffer, 1986) who studied with cotton indicated that seed quality affected by plant spacing, nitrogen fertilization and ball position on stem, and also informed that lower part of the stem produced the lowest quality of seed.

Indonesian farmers' always harvest their seed by cutting the whole plant and clean their

Table 1. Effect of capsule location of sesame 45 seed characteristics

Capsule location	Weight/1000 seeds (g)	Oil (%)	Protein (%)	Carbo- hydrate (%)	Cellulose (%)	Ash (%)
Lower	4.5	59.8	19.0	13.3	2.9	5.1
Middle	4.2	59.8	19.6	12.5	3.0	5.2
Upper	4.1	60.0	17.6	14.3	2.9	5.0

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