

**PRODUKTIVITAS GENERATIF DAN VIABILITAS BIJI
RUMPUT SETARIA (*Setaria sphacelata*) PADA
MUSIM KEMARAU DI YOGYAKARTA,
INDONESIA**

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INTISARI

Penelitian ini bertujuan untuk mengetahui produktivitas generatif dan viabilitas biji rumput setaria (*Setaria sphacelata*) pada musim kemarau di Yogyakarta, Indonesia. Penelitian dilakukan di lahan dan Laboratorium Hijauan Makanan Ternak dan Pastura, Fakultas Peternakan, Universitas Gadjah Mada. Produktivitas generatif diukur dengan cara menghitung jumlah *tiller* per tanaman, *inflorescence* per tanaman, *floret* per *inflorescence*, biji per *inflorescence*, berat 1000 biji, produksi biji, dan kemurnian biji. Viabilitas biji diukur dengan cara menggerminasikan biji yang telah disimpan pada suhu ruang (28°C) dan suhu refrigerator (9°C) pada hari ke-0, 14, 28, 42, dan 56 dengan tiga pengulangan pada setiap perlakuan. Data produktivitas generatif dianalisis menggunakan analisis deskriptif, sedangkan data viabilitas dianalisis menggunakan analisis variansi dengan Rancangan Acak Lengkap pola faktorial 2x5 dengan faktor pertama yaitu suhu penyimpanan dan faktor kedua yaitu lama penyimpanan. Data kemudian diuji dengan uji *Duncan's Multiple Range Test* apabila menunjukkan hasil yang signifikan. Hasil penelitian menunjukkan rerata jumlah *tiller* per tanaman rumput setaria adalah 63,83, *inflorescence* per tanaman 50,33, *floret* per *inflorescence* 1079,83, biji per *inflorescence* 1079,83, berat 1000 biji 0,32 g, produksi biji 386,67 kg/ha, dan kemurnian biji 74,57%. Viabilitas biji yang disimpan pada suhu refrigerator (16,39%) menghasilkan viabilitas lebih tinggi ($P < 0,05$) dibanding suhu ruang (12,07%). Viabilitas biji yang disimpan selama 42 hari (25,70%) menghasilkan viabilitas tertinggi ($P < 0,05$) dibanding penyimpanan 0 (10,80%), 14 (18,25%), 28 (15,64%), dan 56 hari (0,75%). Berdasarkan penelitian disimpulkan bahwa rumput setaria (*Setaria sphacelata*) memiliki produktivitas generatif yang baik pada musim kemarau di Yogyakarta. Viabilitas biji pada penyimpanan suhu refrigerator lebih tinggi dibandingkan pada penyimpanan suhu ruang dan viabilitas biji menurun setelah mencapai viabilitas optimal pada lama penyimpanan 42 hari.

Keyword: *Setaria sphacelata*, Produktivitas generatif, Viabilitas biji, Musim kemarau

GENERATIVE PRODUCTIVITY AND SEED VIABILITY OF SETARIA GRASS (*SETARIA SPHACELATA*) IN DRY SEASONS IN YOGYAKARTA, INDONESIA

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ABSTRACT

This study aimed to determine the generative productivity and seed viability of setaria grass (*Setaria sphacelata*) in dry season in Yogyakarta, Indonesia. This study was conducted on Field and Laboratory Forage and Pasture Science, Faculty of Animal Science, Universitas Gadjah Mada. Generative productivity was measured by counting the number of tiller per plant, *inflorescence* per plant, *floret* per *inflorescence*, seed per *inflorescence*, 1000 seeds weight, seed production, and seed purity. Seed viability was measured by doing germination on seeds stored at room temperature (28°C) and refrigerator temperature (9°C) on day 0, 14, 28, 42, and 56 with 3 replications at each treatment. Generative productivity's data was analyzed with descriptive analysis, while viability's data were analyzed with two-way analysis of variance 2×5, with the first factor was storage temperature and the second factor was storage time. The data was tested with duncan's multiple range tests if the result shows significant differences. Based on the study, average of *tiller* per plant of setaria grass was 63,83, with *inflorescence* per plant 50,33, *floret* per *inflorescence*, seed per *inflorescence* 1079,83, 1000 seeds weight 0,32 g, seed production 386,67 kg/ha, and seed purity 74,57%. Seed viability stored in refrigerator temperature (16,39%) had better (<0,05) viability than room temperature (12,07%). Seed viability stored for 42 days (25,70%) had better ($P < 0,05$) viability compare to 0 (10,80%), 14 (18,25%), 28 (15,64%), and 56 days (0,75%) storage, so it can be concluded that setaria grass (*Setaria sphacelata*) has good generative productivity in dry season in Yogyakarta, seed stored in refrigerator temperature has higher viability from room temperature, and seed viability decreased after achieving optimal viability on storage time 42 days.

Keyword: *Setaria sphacelata*, Generative productivity, Seed viability, Dry season