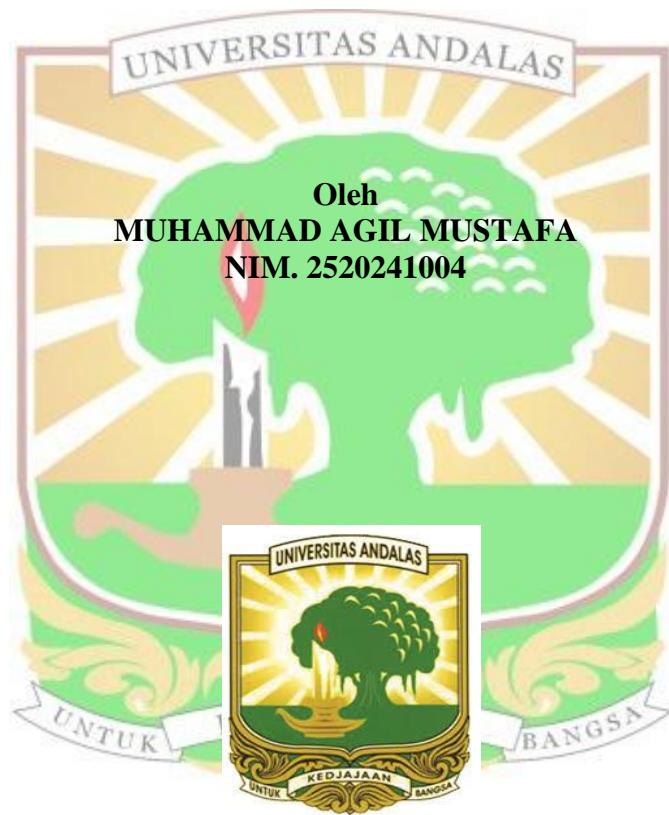


**EVALUASI KARAKTER AGRO-FISIOLOGI BEBERAPA
GENOTIPE GANDUM (*Triticum aestivum* L.)
DI DATARAN MENENGAH SUMATRA BARAT**

TESIS



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PADANG
2026**

RINGKASAN

Muhammad Agil Mustafaa. Evaluasi Karakter Agro-Fisiologi Beberapa Genotipe Gandum (*Triticum aestivum* L.) di Dataran Menengah Sumatra Barat. Dibimbing oleh Prof. Dr. Ir. Irfan Suliansyah, MS dan Dr. Nurwanita Ekasari Putri, SP., MSi.

Gandum merupakan tanaman pangan serealia yang digunakan sebagai bahan baku industri tepung terigu. Tingginya ketergantungan impor gandum di pasar global berpotensi mengancam ketahanan pangan nasional, sehingga diperlukan usaha untuk mensubsitisi impor gandum dengan produksi dalam negeri. Penelitian ini bertujuan untuk mengetahui perbedaan karakter agro-fisiologi, heritabilitas arti luas, variabilitas fenotipik, korelasi antar karakter agro-fisiologi dan tingkat adaptasi beberapa genotipe gandum di dataran menengah Sumatra Barat. Penelitian ini telah dilaksanakan di Jorong Labuah, Nagari Sungai Batang, Kecamatan Tanjung Raya, Kabupaten Agam dengan ketinggian ± 517 mdpl dan analisis sampel dilaksanakan di beberapa labor pendukung, dari bulan Juli hingga November 2025. Rancangan yang digunakan adalah Rancangan Acak Lengkap (RAL) yang terdiri dari 13 genotipe gandum dan 3 ulangan. Data iklim mikro dan fisiologi tanaman dianalisis secara deskriptif, data pertumbuhan dan hasil dianalisis secara statistik dengan uji F pada taraf nyata 5% dan apabila F perlakuan berbeda nyata dilanjutkan dengan uji kontras ortogonal pada taraf nyata 5%. Nilai heritabilitas dan variabilitas dihitung untuk mengetahui kontribusi faktor genetik terhadap karakter yang diamati. Hubungan antar karakter agro-fisiologi dianalisis menggunakan korelasi pearson 5%. Karakter hasil per petak digunakan sebagai dasar penentuan genotipe gandum toleransi di dataran menengah. Hasil dari penelitian ini menunjukkan bahwa terjadi penurunan terhadap karakter fisiologi dan karakter pertumbuhan dan hasil tanaman gandum. Terdapat 12 karakter yang memiliki heritabilitas tinggi, 13 karakter yang memiliki variabilitas luas dan 36 korelasi antar karakter yang berbeda nyata dengan nilai yang mendekati -1 dan 1 termasuk kategori erat. Genotipe yang termasuk kategori toleransi tinggi berdasarkan karakter hasil per petak adalah galur persilangan konvergen CBF6-27, CBF6-26 dan satu varietas nasional yaitu GURI 5 Agritan.

SUMMARY

Muhammad Agil Mustafa. Evaluation of the Agro-Physiological Characteristics of Several Wheat Genotypes (*Triticum aestivum* L.) in the Midlains of West Sumatra. Supervised by Prof. Dr. Ir. Irfan Suliansyah, MS and Mrs. Dr. Nurwanita Ekasari Putri, SP., M.Si.

Wheat is a cereal crop used as a raw material for the flour industry. High dependence on wheat imports in the global market has the potential to threaten national food security, so efforts are needed to substitute wheat imports with domestic production. This study aims to determine the differences in agro-physiological characteristics, broad-sense heritability, phenotypic variability, correlations between agro-physiological characteristics, and the adaptation levels of several wheat genotypes in the midlands of West Sumatra. This study was conducted in Jorong Labuah, Nagari Sungai Batang, Tanjung Raya District, Agam Regency at an altitude of ± 517 meters above sea level, and sample analysis was carried out in several supporting laboratories from July to November 2025. The design used was a completely randomized design (CRD) consisting of 13 genotypes and 3 replicates. Microclimate and plant physiology data were analyzed descriptively, while growth and yield data were analyzed statistically using the F test at a significance level of 5%. If there were significant differences, orthogonal contrast tests were performed at a significance level of 5%. Heritability and variability values were calculated to determine the contribution of genetic factors to the observed traits. The relationship between agro-physiological traits was analyzed using a 5% Pearson correlation. Yield characteristics per plot were used as the basis for determining tolerance wheat genotypes for mid-level plains. The results of this study showed a decline in physiological characteristics, growth characteristics, and wheat yields. There were 12 characteristics with high heritability, 13 characteristics with wide variability, and 36 correlations between characteristics that were significantly different with values close to -1 and 1, which were classified as strong correlations. Genotypes classified as high tolerance based on yield per plot characteristics are the convergent cross lines CBF6-27, CBF6-26, and one national variety, GURI 5 Agritan.