

## ABSTRAK

**Irda Maya Farinsza.** Pengembangan Buku Nonteks Keanekaragaman Serangga di Kebun Kelapa Sawit Berbasis Literasi Sains Sebagai Sumber Belajar Biologi Siswa di Labuhanbatu Utara. Tesis. Program pascasarjana Universitas Negeri Medan. 2021.

Penelitian ini bertujuan untuk: (1) Mengetahui keanekaragaman serangga yang berada di area kelapa sawit di Kecamatan Marbau, Kabupaten Labuhanbatu Utara; (2) Mengetahui tingkat kelayakan isi buku nonteks keanekaragaman serangga kelapa sawit berbasis literasi sains menurut ahli materi; (3) Mengetahui tingkat kelayakan penyajian pembelajaran buku nonteks keanekaragaman serangga kelapa sawit berbasis literasi sains menurut ahli desain; (4) Mengetahui tanggapan guru Biologi dan peserta didik terhadap buku nonteks keanekaragaman serangga kelapa sawit berbasis literasi sains; dan (5) Mengetahui efektivitas buku nonteks keanekaragaman serangga kelapa sawit berbasis literasi sains yang telah dikembangkan dalam meningkatkan literasi sains biologi siswa SMA.

Penelitian ini dilakukan di perkebunan perseorangan di Kec. Marbau, Kab. Labuhanbatu Utara. Metode pengumpulan data melalui pengamatan langsung di 2 lahan kelapa sawit yang berbeda, yakni lahan Tanaman Belum Menghasilkan (TBM) dan lahan Tanaman Menghasilkan (TM) dengan menggunakan tiga macam perangkap, yaitu *Pitfall Trap*, *Light Trap*, dan *Sweep Net*. Buku yang dikembangkan berdasarkan teori dari Thiagarajan yakni 4-D (*Four-D Models*). Instrumen penelitian berupa lembar penilaian validator ahli materi, ahli desain pembelajaran, dan penilaian respon guru Biologi serta respon peserta didik. Hasil penelitian pada lahan TBM dikelompokkan dalam 8 ordo, yaitu Coleoptera, Hemiptera, Orthoptera, Hymenoptera, Homoptera, Diptera, Lepidoptera dan Isoptera. Ordo Hymenoptera (Formicidae) termasuk spesies yang paling banyak ditemukan dengan jumlah 393 individu dengan kelimpahan relatif tertinggi sebesar 76,2%. Hasil penelitian pada lahan TM dikelompokkan dalam 6 ordo, yaitu Coleoptera, Himeptera, Orthoptera, Hymenoptera, Lepidoptera, dan Odonata. ordo Hymenoptera (Formicidae) juga memiliki spesies terbanyak yaitu 471 individu dengan kelimpahan relatif tertinggi sebesar 102,2%. Hasil penilaian kelayakan isi buku dari ahli materi mendapatkan persentase sebesar 90,9% dengan kategori "Sangat Baik". Hasil penilaian kelayakan penyajian buku dari ahli desain mendapatkan persentase sebesar 90,6% dengan kategori "Sangat Baik". Hasil tanggapan guru Biologi dan peserta didik terhadap buku mendapatkan persentase sebesar 90,8% dan 90,1% dengan kategori "Sangat Baik". Hasil uji efektivitas buku nonteks keanekaragaman serangga kelapa sawit berbasis literasi sains tergabung dalam kriteria cukup efektif dengan perolehan persentase n-gain senilai 64,02%.

**Kata kunci** : Buku nonteks keanekaragaman serangga kelapa sawit, lahan Tanaman Belum Menghasilkan (TBM), lahan Tanaman Menghasilkan (TM), kelayakan isi, kelayakan penyajian, respon guru dan peserta didik, uji efektivitas buku.

## ABSTRACT

**Irda Maya Farinsza.** Development of Nontext Book on Insect Diversity in Oil Palm Area Based on Science Literacy as a Source for Students Biology Learning in North Labuhanbatu. Thesis. Postgraduate Program State University of Medan. 2021.

This study aims to: (1) determine the diversity of insects in the palm oil area in Marbau, North Labuhanbatu; (2) Knowing the level of feasibility of the content of non-text books on the diversity of oil palm insects based on scientific literacy according to material experts; (3) Knowing the level of feasibility of presenting non-text book learning on oil palm insect diversity based on scientific literacy according to design experts; (4) Knowing the responses of Biology teachers and students to non-text books on the diversity of oil palm insects based on scientific literacy; and (5) Knowing the effectiveness of non-text books on the diversity of oil palm insects based on scientific literacy that have been developed in increasing the biological science literacy of high school students.

This research was conducted on a private plantation in Marbau, North Labuhanbatu. The method of collecting data is through direct observation in 2 different oil palm fields, namely Immature Plantation and Mature Plants fields using three types of traps, namely Pitfall Trap, Light Trap, and Sweep Net. The book developed based on Thiagarajan's theory is 4-D (Four-D Models). The research instrument was in the form of a material expert validator assessment sheet, learning design expert, and an assessment of Biology teacher responses and student responses. The results of the research on TBM land were grouped into 8 orders, namely Coleoptera, Hemiptera, Orthoptera, Hymenoptera, Homoptera, Diptera, Lepidoptera and Isoptera. The order Hymenoptera (Formicidae) was the most common species with 393 individuals with the highest relative abundance of 76.2%. The results of the research on TM land were grouped into 6 orders, namely Coleoptera, Himeptera, Orthoptera, Hymenoptera, Lepidoptera, and Odonata. order Hymenoptera (Formicidae) also has the most species, namely 471 individuals with the highest relative abundance of 102.2%. The results of the feasibility assessment of the contents of the book from material experts get a percentage of 90.9% in the "Very Good" category. The results of the assessment of the feasibility of presenting books from design experts get a percentage of 90.6% in the "Very Good" category. The results of the responses of Biology teachers and students to books get a percentage of 90.8% and 90.1% in the "Very Good" category. The results of the test of the effectiveness of non-text books on the diversity of oil palm insects based on scientific literacy are included in the criteria of being quite effective with the acquisition of an n-gain percentage of 64.02%.

**Keywords:** Non-text book on the diversity of oil palm insects, Immature Plantation, Mature Plantation, content feasibility, presentation feasibility, teacher and student responses, book effectiveness test.