

**PENGARUH DAUN MURBEI YANG TERPAPAR HUJAN ASAM TERHADAP  
BERAT KOKON SEGAR, PANJANG SERAT DAN DAYA GULUNG SERAT  
*Bombyx mori* L. RAS C-301 DAN BS-09**

**Jekti Prihatin<sup>1</sup>, A. Duran Corebima<sup>2</sup>, Ariffin<sup>3</sup>, Abdul Gofur<sup>4</sup>**

<sup>1</sup>Prodi Pendidikan Biologi, FKIP Universitas Jember

*e-mail:* [jekti\\_pr@yahoo.com](mailto:jekti_pr@yahoo.com)

<sup>2,4</sup>Jurusan Biologi FMIPA Universitas Negeri Malang

<sup>3</sup>Fakultas Pertanian Universitas Brawijaya

**ABSTRACT**

Aim of this research was to determine effect of mulberry plant exposed acid rain to: (1) fresh cocoon weight, (2) filament length, (3) cocoon reelability of *Bombyx mori* L. The research used Randomized Block Design, under factorial arrangement, having 6 treatments including a control with four repeats each. In this research, artificial rain were prepared using water demineralization which contained a variety of minerals that exist in polluted rain in Sidoarjo, East Java, and then added with sulfuric acid. Mulberry plant *Morus multicaulis* Perr. as many as 1,500 polybags, were watered using artificial acid rain pH of 6.2, 4.6 and control of well water (pH 7.0) 500 ml per 2 day for 5 weeks. The plants were sheltered to prevent rainfall from outside. C-301 and BS-09 silkworm races which is a double-cross F1 Chinese X Japanese races were used in this experiment. Eggs were obtained from sericulture germ plasm bank of PPUS Perhutani in Candirotto, Central of Java. Newly hatched silkworm as many as 720 individuals used in early research. Larvae feed mulberry leaves that had been treated with artificial rainwater with different level of pH. Fresh cocoon weight, filament length, and cocoon reelability were observed. Data were analyzed using Manova and followed by LSD 5%. The results showed that the treatments had significant effect ( $P < 0.05$ ) to the cocoon weight. While the cocoon weight and reelability were affected by the treatment interaction. BS-09 race has a larger cocoon weight ( $1.8505 \pm 0.6174$  g) than C-301 race ( $1.7173 \pm 0.0414$  g). BS-09 race has a better reelability (72.51%) than C-301 race (62.22%), in control. The treatments had not significantly effect to filament length. Filament length of C-301 and BS-09 were  $793.11 \pm 95.07$  m and  $801.62 \pm 166.71$  m, respectively. Acid rain treatment showed negative effect to cocoon weight, but it had generate better reelability, and better tendency in filament length.

Key words: Acid rain, mulberry, cocoon weight, filament length, cocoon reelability.

**PENGANTAR**

Persuteraan Indonesia dewasa ini sedang mengalami kemerosotan produksi, sehingga impor benang sutera mentah Indonesia meningkat tajam. Padahal potensi lahan dan sumberdaya manusia

asam juga didapati unsur-unsur makro yang sangat penting bagi pertumbuhan tanaman (Legge & Krupa, 2002; Santi dkk., 2008).

Hasil pembahasan penelitian Wang dkk. (2006) menyebutkan simulasi hujan asam dapat merangsang