

# Sebaran Penyakit Hawar Daun Bakteri di Beberapa Sentra Produksi Bawang Merah di Indonesia

## The Spread of Bacterial Leaf Blight Disease at Production Centers of Shallot in Indonesia

Asrul<sup>1\*</sup>, Triwidodo Arwiyanto<sup>2</sup>, Bambang Hadisutrisno<sup>2</sup>, dan Jaka Widada<sup>2</sup>

<sup>1</sup>Fakultas Pertanian Universitas Tadulako, Kota Palu

Jln. Soekarno Hatta KM 5 Palu Timur, Kota Palu

<sup>2</sup>Fakultas Pertanian Universitas Gadjah Mada

Jln. Flora 1, Bulaksumur, Yogyakarta 55281

E-mail: a\_ha120372@yahoo.com \*Penulis untuk korespondensi

### Abstract

The research was aimed to observe the regioned spread of the bacterial leaf blight disease at several shallot plantation centers in Indonesia and the shallot cultivars that can be infected and to identify its pathogens. Determination of the observation site and sampling were conducted in stratified purposive random sampling. The survey was conducted by interviews and observations on the field to the shallot cultivar and the disease symptoms suspected of being infected by the pathogenic bacteria. The samples were identified through a colony morphology observation, Koch postulate test, hypersensitivity reaction test and biochemistry properties test and physiology. The results indicated that the bacterial leaf blight disease had been spread evenly in the whole region of onion plantation in Indonesia, including Cirebon, Tegal, Nganjuk, Bantul and Sigi Regency, with the rate of attacks reached 62.5–100%. This disease infected the cultivar shallots of *Bima curut*, *Bauji*, *Blue-fields* and *Palasa*. The symptoms of bacterial leaf blight were found in the form of water soaking, leaves, leaf wrinkle, chlorosis and necrosis, died-bud, dwarf growth and plant death. The bacterial isolate found tend to have round, convex, slimy and yellow colonies. The characteristics of colony morphology, symptoms and characteristics of bacterial isolates were similar to the characteristics of *Xanthomonas axonopodis* pv. *allii* bacterium, the cause of the leaf blight disease on the shallots.

**Keywords:** Spreading, shallot, bacterial leaf blight, *Xanthomonas axonopodis* pv. *allii*

### Abstrak

Penelitian ini bertujuan mengetahui daerah sebaran penyakit hawar daun bakteri di beberapa sentra pertanaman bawang merah di Indonesia dan kultivar bawang merah yang dapat diinfeksi, serta mengidentifikasi patogen penyebabnya. Penentuan lokasi pengamatan dan pengambilan sampel dilakukan secara *stratified purposive random sampling*. Survei dilakukan dengan cara wawancara dan pengamatan di lapangan (observasi) terhadap kultivar bawang dan gejala penyakit yang terinfeksi oleh bakteri patogen. Sampel diidentifikasi melalui pengamatan morfologi koloni, uji postulat Koch, uji reaksi hipersensitif dan pengujian sifat-sifat biokimia dan fisiologi. Hasil penelitian menunjukkan bahwa penyakit hawar daun bakteri telah tersebar secara merata di seluruh daerah pertanaman bawang merah di Indonesia, yang meliputi Kabupaten Cirebon, Tegal, Nganjuk, Bantul, dan Sigi, dengan tingkat serangan mencapai 62,5–100%. Penyakit ini menginfeksi bawang merah kultivar *Bima curut*, *Bauji*, *Biru-sawah*, dan *Palasa*. Gejala hawar daun bakteri yang dijumpai berupa *water soaking*, terjadi lekukan daun, pengerutan daun, klorosis, nekrosis, mati pucuk, pertumbuhan kerdil, dan kematian. Isolat bakteri yang ditemukan mempunyai bentuk koloni bulat, cembung, berlendir, dan berwarna kuning. Ciri morfologi koloni, gejala dan karakteristik isolat bakteri mirip dengan sifat-sifat bakteri *Xanthomonas axonopodis* pv. *allii* penyebab penyakit hawar daun pada bawang bombay.

**Kata kunci:** Sebaran, bawang merah hawar daun bakteri, *Xanthomonas axonopodis* pv. *allii*