

# ULTRASOUND WAVE TRANSMISSION CHARACTERISTICS AND ITS RELATIONSHIPS WITH PHYSICO-CHEMICAL OF DRAGON FRUIT <sup>1)</sup>

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## ABSTRACT

Commonly the quality of dragon fruit in Indonesia is determined manually by using visual appearances and it gives un-uniformly results caused by human factors and the judgement is not reflected the internal quality of dragon fruit. Destructive method is usually used to determine of internal quality of dragon fruit that is unsuitable for quality control of fresh dragon fruit. So the non destructive method is require for evaluation the quality of dragon fruit. The objectives of the research were to determine the physico-chemical and ultrasound wave transmission characteristics of super red dragon fruit according to harvesting time, and to study the relationship between ultrasound wave transmission characteristics and physico-chemical characteristics of super red dragon fruit. Super-red dragon fruits were harvested at 30, 32, and 34 days after flower blooms (150 samples) from PT Wahana Cory, Ciapus, Bogor. The results show that the ultrasound velocity of super red dragon fruit ranged from 614,10 to 680,16 meter per second and the attenuation coefficient were 57,32 to 62,40 Neper per meter. The attenuation coefficient was significantly different according to maturity. There were significant correlations between ultrasound parameters (velocity and attenuation coefficient) and physico-chemical of super red dragon fruit (firmness, sugar content, total soluble solid, and total acid).

Keywords: dragon fruit, attenuation, ultrasound, velocity

## PENDAHULUAN

Buah naga adalah jenis buah yang relatif baru keberadaannya di Indonesia, namun beberapa daerah telah mulai mengembangkan tanaman buah ini. Prospek buah naga di pasar domestik cukup baik. Kegiatan budidaya buah naga di Indonesia sangat menguntungkan karena disamping memberi keuntungan secara ekonomi pada petani, juga akan mengurangi impor buah, bahkan ada kemungkinan untuk menembus pasar ekspor. Tahun 2006 total produksi buah naga dari perkebunan di Malang, Yogyakarta, Semarang, Pasuruan, Jombang dan Klaten sebesar 1,341 ton/tahun. Produksi buah naga terus meningkat seiring dengan meningkatnya permintaan konsumen.

Penanganan pasca panen buah naga hasil produksi dalam negeri meliputi sortasi, grading, pengemasan, dan transportasi. Sortasi dan grading buah masih dilakukan secara manual yakni menggunakan cara visual sehingga hasil sortasinya kurang seragam dan tidak sesuai dengan mutu dalam buah naga.

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