ABSTRAK

Okvianti, Rosita, Fira. 2018. *Identifikasi potensi berbagai jenis sayuran penghasil listrik sebagai sumber belajar biologi*. Skripsi, Program Study Pendidikan Biologi, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Muhammadiyah Jember. Pembimbing: (1) Dra.Sawitri Komarayanti, M.S (2) Ir. Elfien Herriyanto, M.P

Kata kunci: Identifikasi,sayuran lokal, penghasil listrik

Jember merupakan kota penghasil sayuran di Indonesia. Sayuran-sayuran lokal merupakan sayuran yang varietas tanamannya asli atau dari luar dan dibudidayakannya didalam daerah sendiri. Rumusan masalah dalam penelitian ini adalah bagaimana identifikasi potensi sayuran lokal Kabupaten Jember sebagai penghasil listrik dan bagaimana potensi hasil penelitian dapat dijadikan sebagai sumber belajar biologi. Tujuan penelitian untuk mengidentifikasi potensi sayuran lokal Kabupaten Jember sebagai penghasil listrik dan untuk mengetahui potensi hasil penelitian dapat dijadikan sebagai sumber belajar bologi.

Jenis penelitian deskriptif kualitatif. Penelitian dilakukan bulan Mei-Juni 2018. Lokasi penelitian dilakukan di Lab Kimia UPT Lab Dasar Universitas Muhammadiyah Jember. Data pada penelitian ini, yaitu pada primer dan data sekunder. Data primer diambil dari hasil uji pendahuluan, penelitian dan wawancara di Dinas Pertanian Jember sedangkan data sekunder diambil dari data hasil wawancara dan hasil identifikasi penelitian terdahulu. Tekhnik pengumpulan data yaitu observasi (uji pendahuluan dan pengujian) serta wawancara. Tekhnik analisis data menggunakan metode deskriptif dan di analisis menggunakan microsoft exel 2010.

Sayuran teridentifikasi 7 sayuran lokal yang berpotensi sebagai penghasil listrik dengan 5 pengukuran yaitu tegangan sayuran utuh, kuat arus sayuran utuh, pH, tegangan sayuran ekstrak dan kuat arus sayuran ekstrak. Masing-masing diukur selama 5 kali pengulangan setiap 5 menit. Urutan sayuran tersebut adalah sayuran utuh yaitu kubis (5,433,6,5 volt, 0,07 A) kentang (4,035,0,844 volt, 0,174 A), wortel (6,091,0,862 volt, 0,06 A), sayuran ekstrak, kangkung (5,889,0,686 volt, 1,094 A), sawi hijau (6,475,0,486 volt, 1,118 A), tomat (4,546,0,852 volt, 2,454 A), cabe (6,150,0,75 volt, 2,496 A) hasil penelitian dapat digunakan sebagai sumber belajar IPA SMP kelas IX dan sumber belajar biologi SMA kelas X.

Berdasarkan hasil tersebut, kesimpulan dari penelitian ini pH sayuran berbanding terbalik dengan tegangan dan kuat arus artinya apabila pH sayuran tinggi maka tegangan semakin rendah dan sebaliknya. Potensi jenis sayuran lokal Kabupaten Jember sebagai penghasil listrik dapat berpotensi sebagai sumber belajar IPA SMP dan biologi SMA.

ABSTRACT

Okvianti, Rosita, Fira. 2018. Identify the potential of various types of vegetables that produce electricity as a source of learning biology. Skripsi Biology Education Study Program, Teaching and Education Faculty, Muhammadiyah University Jember. Mentor. (1) Dra.Sawitri Komarayanti, M.S (2) Ir. Elfien Herriyanto, M.P

Keywords : Identification, local vegetables, producing electricity

Jember is a vegetable producing city in Indonesia. Local vegetables are vegetables that are native or from outside and cultivated in their own area. The formulation of the problem in this study is how to identify the potential of local vegetables in Jember Regency as a producer of electricity and how potential research results can be used as a source of learning biology. The purpose of the study was to identify the potential of local vegetables in Jember Regency as a producer of electricity and to find out the potential of research results can be used as a source of learning biology.

Qualitative descriptive research type. The study was conducted in May-June 2018. The location of the research was conducted at the Chemical Laboratory of the UPT Lab Basic Muhammadiyah University of Jember. Data in this study, namely on primary and secondary data. Primary data is taken from the results of preliminary tests, research and interviews at the Jember Agriculture Office while secondary data is taken from interview data and results of identification of previous research. Data collection techniques are observation (preliminary testing and testing) and interviews. Data analysis techniques using descriptive methods and analyzed using Microsoft Excel 2010.

Vegetables were identified as 7 local vegetables that have the potential to produce electricity with 5 measurements: whole vegetable voltage, intact vegetable currents, pH, vegetable extract voltage and strong current vegetable extract. Each is measured for 5 repetitions every 5 minutes. The order of vegetables is whole vegetables namely cabbage (5,433,6,5 volts, 0,07 A) potatoes (4,035,0,844 volts, 0,174 A), carrots (6,091,0862 volts, 0,06 A), vegetable extracts, kale (5,889,0,686 volts, 1,094 A), mustard greens (6,475,0,486 volts, 1,118 A), tomatoes (4,546,0,852 volts, 2,454 A), chilli (6,150,0,75 volts, 2,496 A) the results of the research can be used as sources studying science at junior high school class IX and learning resources biology class X high school.

Based on these results, the conclusion of this study vegetable pH is inversely proportional to the voltage and current strength meaning that if the vegetable pH is high, the voltage is lower and vice versa. The potential of local vegetables in Jember Regency as a producer of electricity can potentially be a source of junior high school science and biology learning.