

## Kultur in vitro daun *Physalis angulata* L. pada berbagai medium MS modifikasi = In vitro culture of *Physalis angulata* L. leaf in various MS modification medium

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### Abstrak

#### <b>ABSTRAK</b><br>

*Physalis angulata* L. merupakan tanaman yang banyak digunakan sebagai obat tradisional, oleh karena itu untuk menjaga ketersediaannya perlu dilakukan budidaya, salah satunya dengan kultur in vitro. Penelitian yang dilakukan bertujuan untuk mengetahui respons eksplan daun *P. angulata* pada medium MS vitamin MS + 2,4-D 0,3 mg l<sup>-1</sup> (M1); MS vitamin MS + 2,4-D 0,4 mg l<sup>-1</sup> (M2); MS vitamin MS + NAA 0,5 mg l<sup>-1</sup> & BAP 0,5 mg l<sup>-1</sup> (M3), MS vitamin B5 + 2,4-D 0,3 mg l<sup>-1</sup> (M4); MS vitamin B5 + 2,4-D 0,4 mg l<sup>-1</sup> (M5); MS vitamin B5 + kombinasi NAA 0,5 mg l<sup>-1</sup> & BAP 0,5 mg l<sup>-1</sup> (M6). Eksplan dikultur dengan fotoperiodesitas 12 jam. Terdapat 4 kategori respons, yaitu terbentuknya kalus (K), Akar adventif (A), kalus yang kemudian diikuti dengan tumbuhnya akar adventif (KA), serta kalus yang kemudian juga diikuti dengan tumbuhnya akar adventif dan tunas adventif (KAT). Eksplan dapat membentuk K dan KA diseluruh medium, sedangkan eksplan yang membentuk A saja hanya terlihat di medium M2. Sementara itu, eksplan yang membentuk KAT juga hanya terlihat di medium M3 dan M6. Secara keseluruhan, eksplan menunjukkan respons banyak terbentuk di medium M6. Pada penelitian ini, eksplan dapat merespons media perlakuan melalui tahapan kalogenesis dan organogenesis.

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#### <b>ABSTRACT</b><br>

*Physalis angulata* L. is plant widely used in traditional medicines, therefore to keep its availability the cultivation is required, one way to ensure its availability is by using in vitro culture. Research aims to know response of *P. angulata*'s leaves explant on medium MS supplemented with MS vitamins + 2,4-D 0,3 mg l<sup>-1</sup> (M1); MS supplemented with MS vitamins + 2,4-D 0,4 mg l<sup>-1</sup> (M2); MS supplemented with MS vitamins + NAA 0,5 mg l<sup>-1</sup> & BAP 0,5 mg l<sup>-1</sup> (M3), MS supplemented with B5 vitamins + 2,4-D 0,3 mg l<sup>-1</sup> (M4); MS supplemented with B5 vitamins + 2,4-D 0,4 mg l<sup>-1</sup> (M5); MS supplemented with B5 vitamins + kombinasi NAA 0,5 mg l<sup>-1</sup> & BAP 0,5 mg l<sup>-1</sup> (M6). The explant were cultured with photoperiodicity in 12 hours. The result show there are four categories response, the first, explant response to form a callus (K), explant response to form adventitious root (A), next is the callus formation that followed by the growth of adventitious root (KA), and the last one callus formation that followed by the growth of adventitious root and adventitious shoot. The explant could form K and KA in every medium, but the

one that form A only found in M2. However, the explant that form KAT only found in several medium, which are medium M3 and M6. Overall, the explant show response many formed in medium M6. By this research, the explant could response to several action, such as through organogenesis and calogenesis.