ABSTRAK

Daun teh hijau *(Camellia sinensis* L.*)* memiliki kandungan senyawa EGCG tertinggi. EGCG memiliki sifat yang tidak tahan panas, mudah mengalami oksidasi dan tidak stabil selama penyimpanan. Untuk mencegah terjadinya oksidasi maka dilakukan penambahan antioksidan alami yaitu vitamin C dan vitamin E. Penelitian ini bertujuan untuk mengetahui pengaruh penambahan vitamin C, vitamin E dan kombinasi vitamin C dan vitamin E terhadap stabilitas EGCG pada fraksi etil asetat ekstrak daun teh hijau *(Camellia sinensis* L.*)*.

Jenis penelitian ini adalah experimental dengan *post test only control group design.* Ekstrak daun teh hijau *(Camellia sinensis* L.*)* didekoktasi 90^{o}C selama 30 menit, kemudian dilakukan ekstrim dingin dan diberi vitamin C, vitamin E dan kombinasi vitamin C dan vitamin E yang di simpan pada hari ke-0 dan hari ke-15 pada suhu 2^{o}C, dilakukan fraksinasi dengan etil asetat. Kadar EGCG diuji menggunakan HPLC dan dianalisis menggunakan *One Way Anova* dengan taraf kepercayaan 95%.

Ekstrak daun teh hijau yang ditambah vitamin C menghasilkan kadar EGCG lebih tinggi dibanding vitamin E, kombinasi vitamin C dan vitamin E serta kontrol (23,82%w/w dibanding 23,56%w/w, 15,98%w/w, 13,65%w/w). Buffer solution pH-4 menghasilkan kadar EGCG paling tinggi (29,045w/w).

Ektrak daun teh hijau dengan metode ekstrim dingin dan penurunan pH-4 dengan penambahan vitamin C menghasilkan kadar EGCG lebih tinggi dibanding vitamin E atau kombinasi vitamin C dan vitamin E.

Kata kunci: *Camellia sinensis* L.*,* EGCG, vitamin C, vitamin E

ABSTRACT

Background: *Green tea leaf (Camellia sinensis L.) has the highest EGCG compound. EGCG is unstable in heating, easily oxidized and unstable in storage. Vitamin C and vitamin E have been shown to be able to prevent oxidation. The purpose of this study was to evaluate the effect of adding the vitamin C, vitamin E alone and in combination on the stability of EGCG ofethyl acetate fraction of green tea leaves extract.*

Methods: *an experimental with post test only control group design. Green tea leaves extracts (Camellia sinensis L.) were decocted in 90^{o}C for 30 minutes. After the treatment with cool extreme method, the extracts were added with vitamin C, vitamin E alone and in combination. All extracts were stored at temperature of 2°C and tested in day 0 and day 15. Afterthat, then the extracts were fractionated with ethyl acetate. The levels of EGCG were tested with HPLC and analyzed using One Way Anova at 95% confidence Interval.*

Results: *Green tea leaves extract added vitamin C had the highest (23,82%w/w) level of EGCG compared to that of vitamin E (23,56%w/w),combination of vitamin C and vitamin E (15,98%w/w) and control (13,65%w/w). pH-4 solution buffer resulted in the highest level of EGCG (29.045% w/w).*

Conclusion:*Green tea leaves extract added with vitamin C has the highest level of EGCG compared to that of vitamin E alone or combination of vitamin C and vitamin E.*

Keywords*: Camellia sinensis L., EGCG, vitamin C, vitamin E*