

EFFECT OF CRUED EXTRACTS FOR CINNAMUM (*Cinnamum zeylaicum*), SYZYGIUM (*Syzygium aromaticum*) AND THYMUS (*Thymus vulgaris*) ON GROWTH OF *Aspergillus flavus* WHICH PRODUCE AFLATOXIN B1.

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ABSTRACT

This study was carried at College of Education for Pure Science – Diyala university during 15-3-2011 to 20-6-2012, it had been used plant extracts of Cinnamon (*Cinnamom zylanicum*), *Syzygium* (*Syzygium aromaticum*) and Thymus (*Thymus vulgaris*). Four different methods of extraction to test their efficacy to inhibit growth of *Aspergillus flavus* which produces aflatoxin B1, Results of this study showed that the activity of plant extracts

For *Cinnamum*, *Syzygium* and *Thymus* against *Aspergillus flavus*

Which produced aflatoxin B1, Hexanes extract for *Cinnamum* and *Syzygium* and *Thymus* achieved a higher percentage of inhibition 100% at 110, 250 and 250 µg/ml. Also alcoholic extracts inhibited *A. flavus* at 220 , 500 and 1000 µg/ml with 100% inhibition percentage , Cold water extracts at 1250 , 850 , 1250 µg/ml concentration gave a higher percentage of inhibition 100% , Hot water extracts at 1300 , 1100 and 1350 µg/ml concentrations respectively (*Cinnamum* , *Syzygium* , *Thymus*) gave percentage of inhibition 100% . Also the results showed that the hexanes extracts for *Cinnamum*, *Syzygium* and *Thymus* were the best extracts in inhibition growth of *A. flavus* which produces aflatoxin B1 when they compared with other extracts. The average of inhibition concentrations to *A. flavus* from hexanes extracts was 203 µg/ml , and the average of inhibition concentrations of growth *A. flavus* from hexanes extracts was 166 µg/ml with inhibiting percentage 57% while the average of inhibition concentrations to *A. flavus* from alcoholics extracts was 573 µg/ml , So the average of inhibition concentrations of growth *A. flavus* from alcoholics extracts was 360 µg/ml with inhibiting percentage 47.8% , The average of inhibition concentrations to *A. flavus* from cold water extracts was 1116.6 µg/ml , and the average of inhibition concentrations of growth *A. flavus* from cold water extracts was 933 µg/ml with inhibiting percentage 60% . at last hot water extracts the average of their inhibition concentration to *A. flavus* was 1250 µg/ml and average of inhibition concentrations of growth *A. flavus* was 1166.6 µg/ml with inhibiting percentage 52.84% . So the results showed most active antifungal against *A. flavus* at 100 µg/ml concentration with inhibiting percentage

100% was Ketocanazol when it comparison with a highest inhibiting percentage for antifungal Flucanazol in which was 37.8% against *A. flavus* at 100 µg/ml concentration.

Key Word: Plants Extracts, Cinnamum, Syzygium, Thymus, *Aspergillus flavus*, Aflatoxin B1 and Growth Characterization.

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