Influence of Olive Fruit Fly (*Bactrocera oleae*) Attack on the Chemical Quality and Oxidative Stability of Extra Virgin Olive Oils from Abruzzo Region (Italy) Produced with Industrial Mill

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One of the biggest enemies of the quality of olive oil is the olive fruit fly (*Bactrocera oleae*) that alters their chemical composition. *Bactrocera oleae* attack on olive fruits has been studied in order to evaluate its influence on the quality of olive oil (oxidative stability, free acidity, peroxide value, oxidized fatty acids, phenols, fatty acid composition). Several commercial virgin olive oils with different percentages of fly attack (0-85%) and produced during the same year (2006) in the Abruzzo region (Italy) have been analyzed. Analysis of the oxidative stability under forced conditions (OSI) has been carried out and correlated with water content of samples (by Karl Fischer titration) and with other chemical qualitative parameters. Furthermore, qualitative and quantitative analyses of phenolic compounds have been performed by CE-DAD. Samples with a high percentage of fly attack showed the highest values for the acidity and peroxide and the lowest phenolic content; this fact explains the diminution of the quality of olive oils and the rapid decrease of oxidative stability (evaluation performed after 3 months of storage). Also, it has been proved that percentage of attack was positively correlated with free acidity, oxidized products, and negatively with OSI and phenolic content, mainly with secoiridoids compounds.