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**Klorpirifos ve 2,4-Diklorofenoksiasetik Asit UygulamasÃ„Â±nÃ„Â±n  
SÃ„Â±Ã„Â±r KaraciÃ„Â±r Katalaz Aktivitesi Ã„Â¶zerine  
Etkilerinin Ã„Â°ncelenmesi**

**The Investigation of the Effects of Chlorpyrifos and  
2,4-Dichlorophenoxyacetic Acid Application on Bovine Liver Catalase  
Activity**

[Hasan KARADAÃ„Âž](#) <sup>111</sup>

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## Özet

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Bu çalışmada, organofosfat insektisit klorpirifos (CPF) ve sistemik herbisit 2,4-diklorofenoksiasetik asit (2,4-D) ile farklı konsantrasyonlar, sıklıkla karaciğer katalaz (CAT) üzerine herhangi bir inhibisyon ya da aktivasyona neden olup olmadıkları araştırıldı. Bu amaçla CPF ve 2,4-D'nin 25, 50, 100, 250 ve 500 ppm konsantrasyonları kullanılarak araştırmalar yapıldı. Her iki pestisit test edilen farklı konsantrasyonlar uygulanmasından itibaren CAT aktivitesi arttı. 25, 50, 100, 250 ve 500 ppm konsantrasyonların etkisinde % CAT aktivite artışları 10.0; 6.2; 4.6; 6.9 ve 6.0 olarak hesaplandı. Aynı şekilde 2,4-D uygulamalarında sıklıkla 13.1; 10.3; 17.0; 24.4 ve 18.8 olarak hesaplandı. Sunulan araştırmada CAT aktivitesi artışı 2,4-D uygulamalarında daha fazla olduğu görülmüştür. Bu 2,4-D'nin hidrojen peroksit üretimini CPF'ye göre daha fazla arttırdığı düşünülmektedir.

In this study, it was investigated whether different concentrations of organophosphate insecticide chlorpyrifos (CPF) and systemic herbicide 2,4-dichlorophenoxyacetic acid (2,4-D) on bovine liver catalase (CAT) activity cause any inhibitions or activations. For this purpose, 25, 50, 100, 250 and 500 ppm concentrations of CPF and 2,4-D were used. Following the applications of all tested concentrations of the both pesticides, the CAT activity elevated. Under the exposure of 25, 50, 100, 250 and 500 ppm concentrations, % CAT activity increases were calculated as 10.0; 6.2; 4.6; 6.9 and 6.0 in CPF applications, while these increases were calculated as 13.1; 10.3; 17.0; 24.4 and 18.8 in 2,4-D applications, respectively. The present research indicated the elevations in CAT activity with 2,4-D were higher compared to CPF. This means that 2,4-D may have increased hydrogen peroxide production more than CPF.

## Anahtar Kelimeler

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Katalaz, Klorpirifos, 2, 4-diklorofenoksiasetik asit, pestisit

Catalase, chlorpyrifos, pesticide, 2, 4-dichlorophenoxyacetic acid

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## Ayrıntılar

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