

## 過氧硝酸乙醯酯對植物之危害與反應

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### 摘 要

利用大型連續式攪拌熏氣箱測試十五種草、木本植物對PAN之最低致病濃度，發現小米菊可在8-10 ppb下熏氣4小時出現病徵，劍葉高莖、龍葵、雙福番茄為12-14 ppb下熏氣4小時，牽牛花則在72-75 ppb下熏氣4小時，由此結果亦發現植物之敏感度與吸收力大小成正相關。另以小型熏氣箱進行PAN加臭氧之人工模擬熏氣，結果發現小米菊在100 ppb臭氧和8-10 ppb過氧硝酸乙醯酯下，可呈現PAN型病徵，且較單獨以過氧硝酸乙醯酯時更嚴重，顯示兩種汙染物對植物之為害似具有加成作用。

**關鍵詞：**室外植物；吸收；過氧硝酸乙醯酯；連續式攪拌熏氣箱。

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## Studies on the Effect of Peroxyacetyl Nitrate on Plant

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### Abstract

The PAN injury threshold concentrations were determined for fifteen grass and woody plants were in normal CSTR. Results showed that quickweed is the most sensitive with the threshold of 8~10 ppb for 4 hr. Lettuce, black nightshade and tomato are the second most sensitive, with 12~14 ppb for 4 hr. While the Morning glory needed 72~75 ppb for 4 hr. The other species didn't show any symptom after exposure to 110 ppb for 4 hr. There seemed to be a tendency that sensitive plants uptake more PAN than the resistant ones. A small fumigation system was designed for combination treatment both with for four indicator plants. PAN type symptom appeared on quickweed after exposure to 100 ppb ozone and 8~10 ppb PAN, which is more severe than that caused by PAN alone. There seemed to be a synergistic effect between the effects caused by these two pollutants.

**Key words:** uptake; Peroxyacetyl Nitrate; CSTR; response.

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