

- 7) Lindquist, D. A., J. Hackskaylo and T. B. David: *J. Econ. Entomol.*, 54, 379~382 (1961).
- 8) Metcalf, R. L. and R. B. March: *J. Econ. Entomol.*, 45, 988~997 (1952).
- 9) Metcalf, R. L.: Second international plant protection conference, Furnhust. 23 (1956).
- 10) Metcalf, R. L., T. R. Fukuto., and R. B. March: *J. Econ. Entomol.*, 50, 338~345 (1957).
- 11) 宮田 正: 関西病虫害研究会報. 第7号, 40~52 (1965).
- 12) 野村健一・長田 巖・小林宏中: 千葉大学園芸学部学術報告. 第8号. 33~38 (1960).
- 13) Reynolds, H. T., T. R. Fukuto., R. L. Metcalf and R. B. March: *J. Econ. Entomol.*, 50, 527~539 (1957).
- 14) Reynolds, H. T., L. D. Anderson and J. B. Swift: *J. Econ. Entomol.*, 46, 555~560 (1953).
- 15) Ripper, W. E., R. Mreemslade and G. S. Hartley: *Bull. Ent. Res.*, 46, 481~501 (1950).
- 16) 岡谷一郎・柳 武・呉羽好三・早河広美・柴本 精・山岸義男: 長野農業試験場研究集報. 第2号 116~126 (1959).

### Summary

Absorption, translocation and persistence of vamidothion, *O, O*-dimethyl-*S*-(*N*-methyl carbomoyl ethyl thioethyl) phosphorothioate, in the rice grain and rice plant were studied by using  $^{32}\text{P}$ -labeled compound. Formulations of  $^{32}\text{P}$ -vamidothion to be tested were: (1) 25% emulsifiable

concentrate, (2) 40% solution in methyl ethyl keton, and (3) 44% in active carbon for seed dressing.

In the absorption tests in rice grains, more rapid penetration of vamidothion was observed when treated with the emulsifiable concentrate than the other two treatments, and the slowest penetration was observed in the seed dressing. Active ingredients recovered in the rice grains after 24 hours were 6.5% in the seeds treated with the emulsifiable concentrate, 5.5% in the seeds treated with the solution, while only 2.8% in the seeds treated with the seed dressing.

The germination of rice seeds was strongly inhibited by treatment with the emulsifiable concentrate, and moderately with the solution, whereas it was almost negligible with the seed dressing.

The persistence of vamidothion in rice plants treated with the seed dressing and the foliage spray was studied. Amount of vamidothion in the plants was increased up to 14~28 days after the treatment with the seed dressing, while residue of it decreased rapidly when applied by foliage spray.

A considerable correlation was found between the persistence of vamidothion and the residual effect of it against the green rice leaf-hopper, *Nephotettix cincticeps* Uhler.

## 抄 録

### Western Corn Rootworm のダイアジノンに対する感受性の日周性

Diurnal Rhythm of Sensitivity to Diazinon in Adult Western Corn Rootworms. H. J. Ball, *J. Econ. Entom.* 62 (5) 1097-98.

Western corn rootworm *Diabrotica virgifera* LeConte に対し、ダイアジノンの一定量を3時間おきに1日局所施用し、薬剤に対する感受性の日周変化を検討した。その結果  $\text{LD}_{50}$  には日周性があり、薬剤

に最も感受性の高い時刻は暗期に入り初めの時で、夜間は抵抗力が大きい。夜明に近くなると、抵抗力は次第に弱くなり、午前10時~午後8時は感受性が高く、しかも比較的振れが少ない。したがってネブラスカ州リンカーン地方で Western corn rootworm の薬剤に対する感受性の年次変動を調べるには、殺虫試験の時刻を午前10時~午後8時の間で定めて施行するのがよい。(石井象二郎)