

NOTES ON EFFECTIVENESS OF DIFFERENT WEEDICIDES AT HAMEL NURSERY - 1965.

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SUMMARY

a. Results of tested weedicides on *P. pinaster*.

1. "Banana Total" and "Graypon" show promise of ability to check weed growth without undue damage to pine seedlings.
11. Maximum rates of application at present acceptable.
 "Banana Total" - $\frac{1}{8}$ oz/gallon of water without sticker.
 "Graypon" - $2\frac{1}{2}$ ozs/3 gallons without sticker and are considered at present, complimentary aids to weed control only.

b. Results of tested weedicides on *P. radiata*.

Only "Graypon" has been tested on this species and $2\frac{1}{2}$ ozs/3 gallons seems acceptable as a complimentary measure at present to knock down and check growth of weed population to be contended with.

GENERAL

Heavy infestations of weeds in the 1965 pine crop at Hamel nursery made tests with various weedicides imperative in an endeavour to control weeds and bring tending costs to a reasonable level.

"Simazine" had been used in trials during 1964-65 but with disappointing results, mainly, it is thought because of soil type, cloddy clay soil being a difficult medium for this material to work in effectively, and because of the nature of weeds, one-check control is sought e.g. paspalum, crab grass, milk thistle, dock, chickweed and sorrel, the first two being the largest portion of the grass competition. P.R. 46 was less effective as a spray. Because of the poor results, other weedicides were tested. These were:-

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| (a) Primatol "A" (1) | (b) Agserv "Banana Total" | (c) Shell Weedkiller "E" |
| (d) Dowpon | (e) Agserv "Weedazol Total" | (f) "Graypon" (g) "Karmex". |

Rate of Application of Weedicides and Results (in terms of effect on pine seedlings and control of weeds).

1. Primatol "A" - this was applied at $\frac{1}{8}$ oz. per gallon of H₂O without a sticker about mid February 1966.

Result:- No effect on Paspalum sp. but was completely effective against Milk Weed (Sonchus sp.). No other species seemed affected by this treatment to any extent. Effect on Pines: *P. pinaster* suffered no apparent damage and was not tested on *P. radiata*.

2. Banana Total (Agserv).

Weeds were sprayed with pressure knapsack spray without sticker at $\frac{1}{8}$ oz/gallon of water about mid February 1966.

Result:- Severely checked all weed growth including chickweed, (*Portulaca* sp).
Effect on *Pinus pinaster* - damage to pines slight, some pinking of top leaves occurred but was not considered excessively damaged.

3. Shell Weedkiller "E".

Rate of application 1 teaspoon per $\frac{1}{2}$ gallon without sticker about mid February 1966.

Result:- Severe damage to tops of pines, the check to weed growth not being outstanding.

Effect on *Pinus pinaster*, serious damage, malformation and aberration of plants.

4. "Weedazol Total".

Rate of application 1 oz/gallon of water without sticker.

Result:- Kills crab grass (*Digitaria* sp.) superficially but did not effect a complete kill at this concentration. It also checked other species *Paspalum* included. Effect on *Pinus pinaster*: Slow whitening of top needles but appear to recover from this condition.

5. "Dowpon".

Rate of application: 1 oz/gallon of water without sticker during early February 1966.

Result:- Not outstanding at this concentration and time of application.

Effect on *Pinus pinaster*: not excessively damaged, but sufficient to preclude further tests due to top damage.

6. "Karmex".

Rate of application approx. 0.42 ozs/gallon of water. Deaths from this weedicide on both species were heavy and its use is not recommended.

7. "Graypon".

Rate of application.

- a. 1 oz/gallon of water without sticker, applied late December - early January 1966.

Result:- weeds of all species were knocked back heavily; some damage attributed to this agency was considered due to cut worm larvae attack.

Lack of follow up treatment to remove weeds manually lost the initial effectiveness of knock down. Effect on *Pinus pinaster*: no serious damage seems to have occurred although some losses may have happened of unknown magnitude.

Comment. More controlled application with a spray unit such as "Xpando" could improve results it is felt.

- b. 2 ozs/3 gallons of water without sticker, applied in late December 1965.

Result: no damage can be detected on these seedlings, losses which occurred are not necessarily weedicide deaths.

Comment: Use of the weedicide at an earlier stage of growth should be more effective.

- c. $\frac{2\frac{1}{2}}$, 3, $\frac{3\frac{1}{2}}$, 4 ozs/3 gallons of water, was tested but found injurious to seedlings.

Method of Application.

All weedicides were applied using 3 gallon Rega knapsack pressure spray with double Bordeaux type nozzles in such a way that leaves of weeds were moistened, till the mixture was seen to form running drops on leaves and stems. No attempt was made to shield pine seedlings in these tests.

Further Action.

It is proposed to carry out further tests in 1966 with "Dacthal" (reported to be effective further north) "Reglone" and "Paraquat" mixtures. (also effective at a Forrestfield Nursery).

The question of weed control has now reached such importance that an acceptable procedure has now to be evolved using chemical weedicides either with or without complementary hand weeding.

References:

1. Acknowledgement is made to Mr. McKinnell for his communication on weedicides.
2. "Advances in Agronomy, 1963"; ed. by A.G. Dorman. pp. 172-173.