

Protein estimation of healthy and mosaic affected corms of *Amorphophallus Campanulatus*

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Abstract

The corms of healthy and mosaic affected plants of *A. campanulatus* revealed a higher percentage of protein in diseased corms than in the healthy ones.

The present communication reports for the first time the percentage of protein in healthy and diseased corms of mosaic affected *A. campanulatus* plants, a common vegetable with medicinal properties. Corms from healthy and mosaic (C a p o o r and R a o, 1969) affected *A. campanulatus* plants maintained in an insectproof glasshouse, were collected and dried. The average weight of healthy and diseased corms was 20.50 g and 12.00 g respectively. Dry corms were ground uniformly in a 'Labconco' mill and passed through a sieve of 40 mesh. The whole meal was used for determining protein by macro-Kjeldahl method (P a d m a et al., 1976).

Table 1 indicates an increased percentage of protein in diseased corms as compared to healthy ones.

Table 1
Protein estimation of *A. campanulatus* (g per 100 g dry matter).
Means of 5 replications

Healthy corms	Diseased corms
10.22	15.87

LSD at 5%=3.26

R e d d y (1966) reported an increase in total nitrogen content in the leaves of cowpea with cowpea mosaic virus. P a d m a et al. (1976) observed an increase in the percentage of protein in the diseased cowpea

seeds in comparison to that healthy ones. In the present studies also there is an increase in the percentage of protein in the diseased corms as compared to healthy ones.

Increase in percentage of protein in diseased corms as compared to that in healthy ones is attributed to the faster rate of metabolism in diseased tissues, thus resulting in accumulation of these substances (Goodman et al., 1967 and Porter, 1959).

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REFERENCES

- Capoor S. P., Rao D. G., 1969. Observation on a mosaic disease of *Amorphophallus campanulatus*. Indian Phytopathology 22: 438.
- Goodman R. N., Kiraly Z., Zaitlin M., 1967. The biochemistry and physiology of infectious plant disease. D. Van. Nostrand Co. Inc., London, 354.
- Padma R., Singh Shamsheer, Verma V. S., Uprety D. K., 1976. Chemical composition of healthy and diseased seeds collected from mosaic affected cowpea plant. Zeits. Pflanzenkr. Pflanzensch. 83, 459.
- Porter C. A., 1959. Biochemistry of plant virus infection. Advances in Virus Research 6: 75-91.
- Reddy H. R., 1966. Metabolic changes brought about by cowpea mosaic virus infection in cowpea. Ph. D. Thesis. Indian Agricultural Research Institute, New Delhi, India.