if phenomena such as the resolution of the lesions are to be evaluated objectively.

The decreased viability of the metacestodes and the rapid resolution of the lesions would suggest that albendazole could be a suitable drug to use in the field to treat cysticercosis in cattle, sheep and swine.

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The level of action of 2,4-D on transcription

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Summary. In mature cells, 2,4-D retards transcription when it is applied before ^{3}H-uridine incorporation. But transcription is accelerated when it is applied after feeding with ^{3}H-uridine. It has been suggested that the action of 2,4-D on transcription is only at the level of initiation.

It has been shown[2,3] that 2,4-D accelerates replication as well as histone synthesis in nuclei of mature tissue. Retarding effect of 2,4-D on transcription in endomitotic nuclei has been demonstrated[4], though normally they show heavy uridine uptake[5]. In the previous communication[4], the result of treatment of 2,4-D applied along with ^{3}H-uridine, was reported. In this case, it was observed that the endosperm and the root cells showed much lower uridine incorporation, as compared to the controls where 2,4-D was not applied in those tissues. It was later thought that the entry of uridine in the tissue might have been influenced by the presence of 2,4-D along with uridine. In that case, the observed low rate of transcription might have been due to the lesser uptake of uridine rather than to the retarding effect of 2,4-D.

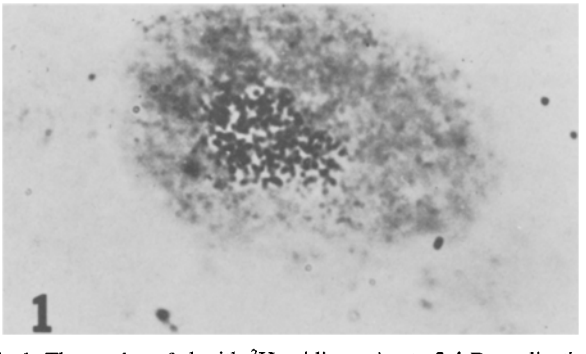

Fig. 1. The nucleus fed with ^{3}H-uridine prior to 2,4-D application showing heavy uridine incorporation.

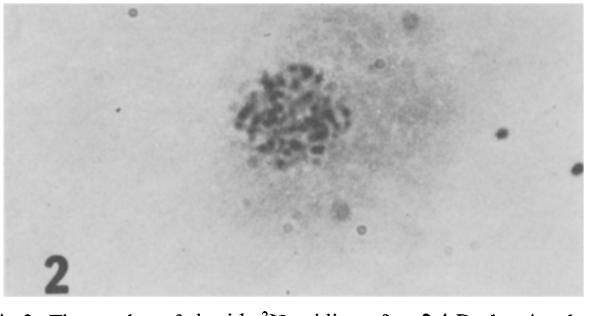

Fig. 2. The nucleus fed with ^{3}H-uridine after 2,4-D showing less uridine incorporation.

In order to ascertain precisely the accelerating or retarding effect (if any) on transcription, this experiment was planned involving application of 2,4-D before and after treatment with uridine, in mature nuclei of root cells.

Material and methods: For root cells, rooted bulbs of *Allium cepa* and for endosperm, inflorescence stalk bearing fertilized ovary of *A. tuberosum* were taken. The experiments were set up in 2 sets. In the 1st set, bulbs and inflorescence stalks immersed initially in 5 µCi uridine (sp. act. 500 mCi/mM) for 24 h were followed by treatment in 0.01% 2,4-D solution for the next 24 h. In the 2nd set, 0.01% 2,4-D was applied for the initial 24 h, followed by feeding with 5 µCi uridine for the 2nd 24 h. The material was then thoroughly washed in running water, fixed in acetic ethanol and stained in Feulgen solution. The mature cells of the root and endosperm were squashed on a clean slide. Stripping film autoradiography with Kodak AR10 film was adopted, and the observations were carried out on 100 nuclei from roots and endosperm cells of the same age.

Results and discussion: The mature nuclei of root cells and endosperm show an interesting effect of 2,4-D on uridine uptake and consequently RNA synthesis. The uptake was found to be very heavy when the tissue was treated with uridine prior to the application of 2,4-D (figure 1). The incorporation was found to be significantly low in similar mature nuclei when 2,4-D was applied before feeding with uridine (figure 2). The 2nd set of results clearly suggest that transcription is affected in mature tissue following 2,4-D application. It is likely that 2,4-D accumulates in the tissue during initial phase and exerts its retarding effect on transcription indicated by low uridine incorporation. Heavy uptake of uridine in tissue fed with labelled precursor prior to 2,4-D treatment suggests that the process once initiated cannot be retarded by 2,4-D. This is indicated also in control set up[4] without any 2,4-D treatment, where a quantitatively equal incorporation was found. The action of 2,4-D on transcription may possibly lie at the level of initiation of RNA polymerase activity. Once transcription is initiated, 2,4-D is unable to exert its retarding effect.

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