

Note on Chrysophanic Acid in *Cassia tora* Seeds and its Removal by Different Treatments

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OIL from *Cassia tora*, *C. fistula*, *C. occidentalis* seeds contains chrysophanic acid (4: 5. dihydroxy 2 methyl anthraquinons). It has got adverse effect when seeds are being fed to the cattle. Removal of chrysophanic acid from *Cassia tora* seeds might be helpful in improving its feeding value. There is a severe deficiency of feeds and fodders in India (Ranjhan 1972). *Cassia tora* seeds are available in plenty. The study was undertaken to

get rid of chrysophanic acid from the seeds of *Cassia tora* to improve its feeding value.

Three different treatments were given viz. control (T_1), *Cassia tora* seeds soaked in cold water for about 24 hours decanted and dried (T_2) and in treatment T_3 , seeds were soaked in boiled water for about 24 hours and water was decanted and they were air dried. The estimation of chrysophanic acid was carried out from these treated *Cassia tora* seed oil by the method followed by Lewkowitsch (1921) improved by Bertram (1943).

The values of chrysophanic acid content for the different treatments are given in Table 1.

TABLE 1

Chrysophanic acid content of *Cassia tora* seeds after various treatments.

Treatments	E. Ext. %	Crude chrysophanic acid (% in oil)	Chrysophanic acid recrystallised by alcohol (% in oil)	Removal of chrysophanic acid by treat from oil (% of T_1)	Chrysophanic acid in seeds (Recrystallised %)
T_1 Seeds with out treat.	8	1.0688	1.042	—	0.0834
T_2 Soaked in cold water, decanted and dried	8	0.756	0.747	28.31	0.0598
T_3 Soaked in boiled water decanted and dried	8	0.666	0.651	37.52	0.0491

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The data presented in Table 1 revealed that ether extract content of *Cassia tora* seeds was found to be 8.0 per cent. The chrysophanic acid content of *Cassia tora* seed oil (No treatment) was 1.068 per cent. While after treatment with cold and boiled water it decreased to 0.756 and 0.666 per cent, respectively.

The crude chrysophanic acid was recrystallised with alcohol. The content of this pure recrystallised chrysophanic acid in *Cassia tora* oil in all the three treatments (T_1 , T_2 , and T_3) were found to be 1.042, 0.747 and 0.651 per cent respectively. With the cold water treatment 28.31 per cent chrysophanic acid was removed while with boiled water treatment the removal of chrysophanic acid was 37.52 per cent. Considering

8 per cent E. Ext. content of seeds, the pure chrysophanic content of seeds was 0.0834, 0.0598 and 0.0491 per cent respectively. From these results it can be concluded that treatment with boiled water is very efficient. However, under practical conditions cold water treatment is very simple and suitable for cattle owners to adopt under field conditions.

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