P: ISSN NO.: 2321-290X RNI : UPBIL/2013/55327 VOL-6* ISSUE-9*(Part-2) May- 2019
E: ISSN NO.: 2349-980X **Shrinkhla Ek Shodhparak Vaicharik Patrika**

Impact of Tannery Effluent on Yield of *Triticum Durum*, *Triticum Aestivum & Triticale.* Plants

Abstract

The present study deals with "Impact of tannery effluent in yield of *T. durum*, *T. aestivum & Triticale.* Plants," to three doses of tannery effluent concentration.

During the present study data revealed that 30 percent tannery effluent concentration is beneficial for *T.durum & T.aestivum.* The weight of 100 seeds isincreases in 30 percent treatments, It is evident that tannery effluent improves the size of grain resulting the increases of weight. The high percentage of tannery effluent decreases the weight of 100 seeds. The higher doses 60 & 100 percent tannery effluent decreases the size of grains. So that the weight of 100 seeds decreases with the increasing higher concentration. The maximum inhibition percentage of weight in 100 percent tannery effluent treatment was 14:01 in T. *durum &* 17.55 in *T. aestivum* which is significant.

The consistant inhibitory effect was exhibited by tannery effluent concentration. The inhibitory percentage was directly proportion to the increasing dose of tannery effluent. The maximum inhibition percentage was 20.

Keywords: Tannery Effluent, Inhibition, Irrigation, Exhibit stimulatory effect, *Triticum Durum, Triticum Aestivum, Triticale.*

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Introduction

In our country (India) industrial pollution ranks second to sewage problem. Now a day's safe disposal, utilization of factory effluents is gaining importance throughout the world. It may be paper, tannery, iron, opium, sugar, viscose, saree-printing, brewery, refinery, rubber, distillery or any other industry. The world is suffering from shortage of drinking water & irrigating water. So there is need to conserve & reuse of water, it makes mandatory to utilize tannery effluents for irrigation of potential crops.

The present trend is away from the concern of disposal & towards the concept of treatment & recuse of the waste water. This has increased the use of tannery effluents for irrigation purposes.During last five decades, studies relating to pollution effect of industrial waste on soils & plants have been made with diverse experimental approaches.

Aim of the Study

It is expected that tannery effluents irrigation might modify the soil microflora and affect the forms beneficial to the crops. Further it might encourage the yield and may increase the mutagenic activities of soil may cause an effect on the performance of crops.

Material and Method

The tannery effluent was collected from discharge of tannery industry located near Kanpur, India. Healthy and uniform seeds of *T. durum*, *T. aestivum & Triticale.* were sorted out & used in the experiments.

Five replication of 30 grains each for sowing in field, all the three taxa were used in all the experiments 30, 60 & 100 percent of tannery effluent conc.

The yield of plants was recorded of mature plant from the field experiment; the observations were recorded for weight of 100 seeds of main tiller of mature plants.

Table-1
Weight of 100 seeds of *Triticum Durum* sowing the yield

S.No.	Treatments	Weight of 100 seeds	Rate of inhibition or stimulation	Percentage of inhibition or stimulation
1.	Control	3.710	-	-
2.	30% T.E	3.980	+0.270	+7.27
3.	60% T.E	3.470	0.240	6.46
4.	100% T.E	3.190	0.520	14.01

Table-2
Weight of 100 seeds of *Triticum Aestivum* sowing the yield

S.No.	Treatments	Weight of 100 seeds	Rate of inhibition or stimulation	Percentage of inhibition or stimulation
1.	Control	3.645	-	-
2.	30% T.E	3.810	+0.165	+4.52
3.	60% T.E	3.500	0.145	3.97
4.	100% T.E	3.005	0.640	17.55

Table-3 Weight of 100 seeds of *Triticale*. sowing the yield

S.No.	Treatments	Weight of 100 seeds	Rate of inhibition or stimulation	Percentage of inhibition or stimulation
1.	Control	3.450	-	-
2.	30% T.E	3.300	0.150	4.34
3.	60% T.E	3.005	0.445	12.89
4.	100% T.E	2.760	0.690	20.00

Result and Discussion

To study the effect of tannery effluent on the yield of T. durum, T. *aestivum & Triticale*. The data of 100 seeds weight of various treatments of all the three taxa are given in table- 1, 2, 3. The data of 100 seed weight was recorded in all the treatments after harvesting of the crop.

It is interesting to note the data given in table- 1 & 2 reveals that lower concentration (30 percent tannery effluent) exhibit stimulatory effect in *T. durum & T. aestivum*, where the high percentage of tannery effluent concentration (100 & 60%) exhibit inhibitory effect, the stimulation percentage recorded in *T. durum* was 7.27 & 4.52 in *T. aestivum*. The highest inhibition percentage recorded in *T. durum* & T. *aestivum* was 14.01 & 17.55, In *Triticale*. the tannery effluent concentration exhibit inhibitory effect in all the treatments. The rate & percentage of inhibition was directly proportional to the increasing dose of tannery effluent concentration & the rate of inhibition was directly proportional to the increasing concentration of tannery effluent. The highest inhibition percentage was recorded in 100 percent treatment was 20.00 in *Triticale*. The present author expresses her opinion that lower concentration of tannery effluents may increase the yield of *T. durum* & *T. aestivum*.

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