

# Impact of Spent Wash on Black Soil Properties in Village, Natoli

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**Abstract:** Analysis of soil quality from Shirala area of Sangli District. Black soil Samples are collected from field for obtaining the information about soil quality, evaluation of fertilizer status, indigogenous soil fertility. The reuse of spent wash for such as agricultural improvement of properties, that needs to save the environmental pollution of soil, sample were taken from agriculture field in village Natoli. The experiment consisted initially before the sparing spent wash sample taken for testing of soil properties such as pH, E.C., Nitrogen, Phosphorus, Organic Matter as well as microelements was tested. After the few day spent wash sprayed on the same field after six day samples were collected as per the recommended procedure and testing should be carried out and to observed the same properties. Present study deals with application of spent wash and its effect on soil characteristics, it gives the beneficial impacts of spent wash on soil properties [7].

**Keywords:** Soil, fertility, micronutrients

## 1. Introduction

One of the challenges for modern society is the pursuit of alternative resources necessitated by depletion of the largely supply of artificial fertilizer it effect on natural resources and variety of broader ecological problems. One of the main approaches to solving this problem is to make greater use of unused industrial sources within the environment and convert these into useful form of fertilizer, on land application for sugar cane, maize, wheat, rice, ground nut, soyabin will increased [10,11]. Today soil analysis is important due to the fast development of industrial area. Because industrial effluents are normally considered as toxicants due to the presence of organic and inorganic compound acids, alkaline and suspended solids [14,15]. Such industrial effluents destroyed the organism in soils as well as living organism disturb fragile ecosystem during disposal earlier literature on physicochemical analysis of alcohol industry effluents should pH chlorides, potassium, sodium, sulphates, nitrates and phosphorous are seen in significant amount [12,13]. The present study deals with the effect of effluent from alcohol industry after giving the spent wash to the land are observed and maintained into this paper.

## 2. Methods of Analysis

- 1) Collection of the Sample: Sample is collected as per the recommended procedure.[1,2]
- 2) Required Chemicals: All of the chemicals are prepared as per the recommended procedure. All of the chemicals are used AR grade.[2,3,4].
- 3) Instruments: [1]
  - a) PH meters- Model EQ-610
  - b) Conductivity Meter- Model EG-660
  - c) Atomic Absorption Spectro Photo Meter-Model
  - d) Spectro Photo Meter

## 3. Analyzed Results

The samples are collected as per the recommended procedure and obtained from collected samples from natoli

before using spent wash are summarized as follows original sample analyzed the results are summarized as follows–

**Table 1:** Name of Village: Natoli, Tal- Shirala, Dist- Sangli.[8,9,14,15].

Sr. No.	Parameter	Unit	Limit	Analysis of Soil before spent wash.
1	pH	-	6.5-8.5	6.56
2	E-Conductivity	mhos/cm	<4.0	0.44
3	Nitrogen	Kg/ha	100-200	204.00
4	Phosphorous	Kg/ha	30-40	42.00
5	Potassium	Kg/h	110-280	971.00
6	Organic Carbon	%	>0.50	0.93
7	Calcium	%	0.1-3.2	4.25
8	Copper ( Cu)	Ppm	0.3-0.5	0.42
9	Iron (Fe)	ppm	2.5-4.5	2.50
10	Manganese (Mn)	ppm	1.0-2.0	0.94
11	Zinc (Zn )	ppm	0.5-1.2	1.55

In the selected village on field spent wash was given on it and then after one month's sample collected and analyzed the following results are observed

**Table 2:** Name of Village: Natoli , Tal- Shirala, Dist- Sangli.[8,9,14,15]

Sr. No.	Parameter	Unit	Limit	Analysis of Soil after spent wash.
1	pH	-	6.5-8.5	7.46
2	E-Conductivity	mhos/cm	<4.0	3.93
3	Nitrogen	Kg/ha	100-200	598.00
4	Phosphorous	Kg/ha	30-40	77.00
5	Potassium	Kg/h	110-280	3897.00
6	Organic Carbon	%	>0.50	2.68
7	Calcium	%	0.1-3.2	10.00
8	Copper ( Cu)	ppm	0.3-0.5	3.95
9	Iron (Fe)	ppm	2.5-4.5	13.00
10	Manganese (Mn)	ppm	1.0-2.0	18.90
11	Zinc (Zn )	ppm	0.5-1.2	3.10

The results of original sample table 1 and results of sprayed sample table 2 and standard value results all of these results are compared as given below

Sprayed sample results comparing the results of original sample as well as standard limit value. In these results some difference is observed in these values. This difference is maintained on table no.3.

**Table 3:** Name of Village: Natoli, Tal- Shirala, Dist- Sangli.[8,9,14,15].

Sr. No.	Parameter	Unit	Limit	Sample (28-1)
1	pH	-	6.5-8.5	0.9
2	E-Conductivity	mhos/cm	<4.0	3.49
3	Nitrogen	Kg/ha	100-200	394
4	Phosphorous	Kg/ha	30-40	35
5	Potassium	Kg/h	110-280	2926
6	Organic Carbon	%	>0.50	1.75
7	Calcium	%	0.1-3.2	5.75
8	Copper ( Cu)	ppm	0.3-0.5	3.53
9	Iron (Fe)	ppm	2.5-4.5	10.5
10	Manganese (Mn)	ppm	1.0-2.0	17.96
11	Zinc (Zn )	ppm	0.5-1.2	1.55

#### 4. Conclusion

As per in the observation table parameters, initially all parameters of soil sample are analyzed .These observed parameters and its value are pH, E-conductivity, nitrogen, .Phosphorous, potassium. 6.56, 0.44, 204.0, 42.0, 971.0, kg/ha and organic carbon ,calcium .0.93, 4.25 % as well as microelements are saw copper, iron, manganese, zinc its value 0.42, 2.50, 0.94, 1.55 ppm (table no.1)

In the second stage spent wash was given in to the plot and after one month sample was collected and then analyzed all of these parameters values are pH, E-conductivity, nitrogen, phosphorous, potassium, 7.46, 3.93, 47.75, 598.0, 77.0, kg/ha and calcium, organic carbon, 10.0; 2.68 0% as well as microelements are analyzed copper, iron, manganese, zinc the value was found 3.95, 13.00, 18.90, 3.10, ppm. (Table no.2)

After observing properties before and after giving spent wash large difference was observed these differentiated value pH of soil increases(0.9), E-conductivity increases (3.49mmhos/cm) nitrogen, phosphorous, potassium, 394.0, 35.0 , 2926.0, kg/ha calcium values increases 5.75 % organic carbon increases 1.75 % .The microelements was analyzed iron, manganese, zinc, copper content of these elements was increased 10.50, 17.96, 1.55, 3.53, ppm. The increasing values were compared with std limiting value. Then it observed analyzed values very low than that of limiting value some are near about this values but initial before giving spent wash value are increases by maximum amount it means improve quality of soil.

But all values of elements are increased. Increased value compared with std limiting value. Initial original analyzed sample value already less than limiting value and spent wash sprayed sample again value decreases than that of the original sample value this effect was observed on the soil. But chlorides increases larger quantity but less than limiting value.

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