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HINDUSTHAN DISTILLERIES KARNATAKA PVT LTD

Article 12 Bond

AGREEMENT

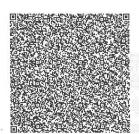
(Zero) HINDUSTHAN DISTILLERIES KARNATAKA PVT LTD

UNIVERSITY OF AGRICULTURAL SCIENCES

HINDUSTHAN DISTILLERIES KARNATAKA PVT LTD

(One Hundred only)





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AGREEMENT

This agreement entered on this 15th February, 2014 between

- 1. M/s Hindusthan Distilleries (Karnataka) Pvt. Ltd., located at Gauribidanur with an installed capacity of 30 kilo litres of rectified spirit per day using molasses as raw material represented by T.S.R. Khannaiyann, Managing Director on one part and
- 2. University of Agricultural Sciences, Bangalore here in after called (UAS (B)) an autonomous educational and R & D institution with its head quarters at GKVK Bangalore represented by its Registrar on the other part.



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Where as the former has sought the collaboration of the later for monitoring the quality of treated distillery spentwash for one time controlled land application to dry lands and its impact on crop growth, yield and ground water quality over a period of five years and the later has expressed its willingness for monitoring of

- a) The quality of treated spentwash used for one time land application
- b) The effect of one time application of distillery spentwash on soil properties
- c) The effect of one time application of distillery spentwash on crop growth and yield
- d) The effect of one time application of distillery spentwash on ground water quality and
- e) To provide training on one time land application of distillery spentwash to the concerned officials of the distilleries.

1.0 Terms and conditions of Agreement:

As per the agreement the UAS (B) will under take the monitoring work and extend technical support in respect of the items from (a) to (e) mentioned above.

- 1.1 The proposed activity will be handled by the following scientists- Director of Research, UAS (B) will be the Chairman, Dr. C.A. Srinivasamurthy, Professor, Department of Soil Science and Agricultural Chemistry as leader, Dr. S. Bhaskar, Professor of Agronomy and Dr. A. N. Balakrishna, Professor of Agricultural Microbiology as members.
- 1.2 The Scientists/ Project Technical staff will visit the distilleries and the farmers fields applied with distillery spentwash at least five times in a year for specific purposes as mentioned below.
 - i. For collecting spentwash samples from lagoons in the distilleries before transporting the effluent from the distillery (This will be done once a month).
 - ii. Random samples before application of spentwash on selected farmers fields in command area.
 - iii. Soil sampling after application in the field on selected farmer's fields in command area.
 - iv. Soil sampling at germination, knee height of crops on selected farmer's fields in command area.
 - v. At harvest on selected farmers fields in command area.

1.3	Simultaneously	the	team	will	collect	water	(bore	wells	/	open	well)	and	plant	(crop)
	samples for analysis.							Λ		. ^				

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2.0 The details of analysis and observations will be as given by the CPCB and reproduced below:

- 2.1 The stored spentwash in the lagoons shall be analysed once a month. The samples will be taken at the points from the where the spentwash will be drawn for land application for pH, EC, TDS, Ca²⁺, Mg ²⁺, Na⁺, K⁺, Cl⁻, SO²⁻, CO₃²⁻, BOD and TKN. Based on this analysis composite irrigation water quality parameters *viz.*, % Na⁺, adj. SAR and RSC will be calculated.
- 2.2 The characteristics of the soil under one time controlled land application with the distillery effluent shall be mentioned two times in a year, in April- May and October-November periods. Representative samples shall be collected for every 15-20 ha block, at 30 and 60 cm depths and analysed for EC (1:2.5 soil: water suspension), pH and Exchangeable Na.
- 2.3 The ground water quality will also be monitored two times a year in April- May and October- November periods from representative areas. Samples will be collected from the first water bearing strata from an existing hand pump or by installing one for sampling purpose only. Where a functioning open well is not there, a Piezometer will be installed to a depth of 2 meters. Samples will be analysed for EC, BOD, Nitrate-N, TDS and colour intensity.
- 2.4 At least 5 soil and water quality monitoring stations will be located in areas where spentwash irrigation is not practiced. These will be called control stations.
- 2.5 All identified stations shall be monitored regularly and continuously even in the years when the fields are under rest and the location of identified stations will not be changed.
- 2.6 The analysis will be carried out as per the norms and procedures adopted by CPCB / KSPCB and the interpretation of data will be as per the limits fixed by the CPCB.
- 2.7 In the event of any observations of the soil and ground water monitoring parameters exceeding the limits, prescribed by the KSPCB/ CPCB the UAS will inform the same to the distillery and KSPCB. The distillery shall be solely responsible for reclaiming the soil and water quality at their cost and make good of any damage.
- 2.8 The distillery should strictly adhere to recommended dose of spent wash for specific soil and crop based on research results. Where such information is not available, the distillery will approach the research team for suitable recommendation.

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3.0 General Conditions of the Agreement:

- 3.1 The scientist working in the project will not be held responsible for improper use / effects of effluent applications, if any, on soil/ crops/ ground water.
- 3.2 The monitoring team will carry out soil, water and plant analysis and provide a report to the distillery and Pollution Control Board with in a reasonable period of time.
- 3.3 The UAS (B) will make its own arrangements for the transport from HQ to the distillery and fields.
- 3.4 The distillery will deposit the monitoring fee of Rs. 4.00 lakhs (to meet the fellowships/wages of manpower three SRF's as per ICAR norms, one Assistant and one contract worker for laboratory work, lab expenses, travel, training and institutional charges) plus service tax @ 12.36 % amounting to Rs. 49,440 (Total of Rs. 4,49,440) in advance for each year no sooner the agreement is signed.
- 3.5 The schedule of the visits by the scientists will be prepared at the beginning of the each year and if any additional visits are required the distillery should intimate the dates and schedule to the scientists at least a week in advance. Extra costs for additional visits have to be borne by the distillery.
- 3.6 UAS (B) will provide a training of three days duration on field application of effluent during first and third year of the contract period. The programme covers classroom interaction, practical training, field visits etc. If additional trainings are needed it will be charged by the UAS (B) as per the actual expenses.
- 3.7 The distillery will prepare a comprehensive spentwash application management plan as per the guidelines of the KSPCB/ CPCB and provide a copy to the university well in advance. In the plan it should be ensured that the area would receive the spentwash only in alternate years.
- 3.8 In case the distillery deviates from the CPCB protocol interms of one time controlled application of spentwash, the University may with draw from the agreement forfeiting the amount deposited by the distillery.
- 3.9 Neither party shall be held responsible for non fulfillment of their respective obligations under this AGREEMENT due to the exigency of one or more of the force majuare events such as war, earthquakes, strikes, lockouts, epidemics, riots etc., provided on the occurrence and cessation of any such event the party affected thereby shall give a notice in writing to the other party within one month of such occurrence or cessation. If the

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conditions continue beyond 6 months, both parties shall jointly decide about the future course of action.

4.0 Arbitration:

Differences, if any, will be sorted out between the representative of the distillery and the Director of Registrar, UAS (B). The university will not be responsible for any legal disputes between distillery and farmers and distillery and KSPCB.

For Hindusthan Distilleries (Karnatalia) PVI. Liu.,

(C.V. Satyanarayana)

M/s Hindusthan Distilleries (Karnataka)Pvt. Ltd., Gauribidanur

Registrar

UAS, Bangalore

REGISTRAR

UNIVERSITY OF AGRICULTURAL SCIENCES G.K.V.K. CAMPUS, BANGALORE - 560 065.

PROFESSOR & UNIVERSITY HEAD

Dept. of Soil Science & Agril. Chemistry College of Agriculture, U.A.S., G.K.V.K.

Bangalore-560 065