Saccharomyces cerevisiae "D1"

Devleela
Lifesciences Pvt. Ltd.

Devleela
GROUP

Devleela Group of companies is based at Raipur, the capital of Chhattisgarh state of India. The group has emerged and spread its wings in the niche sector of microbial biotechnology. It has forayed into major key area of Commercial Tissue Culture and Research and Development of microbial products to be used as an alternate source of energy. Group also owns a Pulse Mill, Food Processing unit and Cold Storages. The group also has a lateral interest in Real Estates.

The Group is headed by Mr. Rajendra Surana, a venerable entrepreneur connected with various social and charitable organisations of the state and beyond.

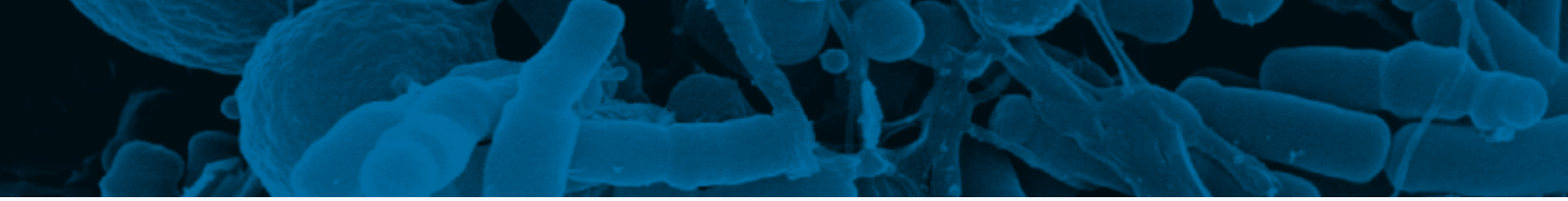
He is ably assisted by two directors Piyush and Rajdev, who are looking after the functioning and organisational management.

Devleela
Lifesciences Pvt. Ltd.

A group company **Devleela Lifesciences Pvt. Ltd.** was established in the year 2013 to augment Research and Development activities. The company is recognized by the Department of Scientific and Industrial Research (DSIR), Ministry of Science & Technology, Government of India.

The company is involved in research and development on natural sciences and engineering (NSE). Presently a collaborative research project is under progress with The Indian Institute of Technology (IIT) Kharagpur, on 'Pilot Scale production of ethanol from lignocelluloses feedstock', sanctioned under Uchchatara Avishkar Yojna, Government of India.

Devleela Lifesciences Pvt. Ltd. has standardized the micro-propagation method for the commercial production of banana, bamboo, sugarcane, eucalyptus and currently working on *Dalbergia sissoo* (Sheesham).



OUR PRODUCT

Saccharomyces cerevisiae "D1"

We are aware that distilleries in India are not able to produce enough industrial ethanol to meet huge demands; as a result, there is a gap between demand and supply. To the best of our knowledge, some of the major reasons are that the yeast strain used by these distilleries are (1) poor producers, (2) fermenters are prone to contaminations which is one of the major problems especially in cane molasses based distilleries and (3) ethanol production is low as currently used yeast strains do not work at high temperature. Therefore, in an effort to overcome, the above problems, we at **Devleela Lifesciences Pvt. Ltd. Raipur**, have developed a strain of *Saccharomyces cerevisiae* "D1" which is an answer to all the above problems.

The *Saccharomyces cerevisiae* "D1" is protected by an Indian and Three International Patents.

The strain "D1" works efficiently at higher temperature and is a high ethanol producer. It also ensures effective fermentation even in the presence of common contaminants found all over the distilleries.

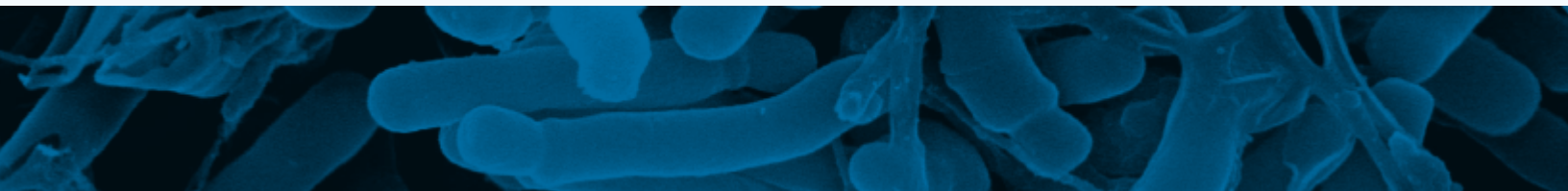
Key USP of our product is:

1. The strain "D1" produces ethanol equally efficiently from sugarcane juice and molasses.
2. The strain "D1" is successfully used at commercial scale by existing sugarcane molasses based distilleries in the state of Maharashtra, India.
3. The strain "D1" produces Ethanol (>12%) at high temperature: 36°C to 40°C.
4. The strain "D1" is compatible to High Gravity Fermentation.
5. The use of strain "D1" saves water and electricity during fermentation at high temperature.
6. The strain "D1" also produces less foam during fermentation than other strains used in industries therefore the use of anti-foaming agent comes down by almost 50%.
7. The strain "D1" is flocculant.
8. The use of strain "D1"reduces the cost of affluent treatment due to efficient fermentation.

Notification of entry into the Brazilian national phase of the patent application was published in Brazilian Industrial Property Journal No: 2497 on 13th November 2018 and in the USA on 25th November 2018, Publication No. – US-2018-0327709-A1,

India Patent Number - 4425/MVM/2015
USA Patent Number - 15/776, 317

Brazil Patent Number - BR112018009863-9
China Patent Number - 201680068781.5



OUR OTHER BUSINESS
& BACKGROUND

DEVLEELA BIOTECHS

HISTORY AND BACKGROUND

Devleela Biotechs was established in 2006 as a tissue culture lab and is a well-known establishment in India to provide tissue cultured plants. It produces four million plants per annum and has a state-of-the-art Tissue Culture laboratory. One of the major sources of concern is to produce virus and other diseases free plant materials at commercial scale and to overcome the above problems, Devleela Biotechs uses its high-tech green houses facility.

Devleela Biotechs was and continues to remain a pioneering lab to introduce commercial production of tissue culture plants of various banana and bamboo varieties. The lab has gained varied and immense expertise in producing and supplying quality planting material. It is a matter of pride and honour to be at the forefront of developing innovative technology to benefit farmers, as also to boost overall qualitative and quantitative agricultural production.

PLANT TISSUE CULTURE

Plant tissue culture is documented, systematized, and regulated techniques used to grow, nourish, and maintain plant cells, tissues, or organs under sterile conditions on a nutrient culture medium of known composition. Plant tissue culture is widely used to produce clones of a plant in a method known as micro propagation. Plant tissue culture is the technique of maintaining and growing plant cells, tissues, or organs especially on artificial mediums in suitable containers under controlled environmental conditions. We are keeping the plants in high tech paper pots that can be used to export plants.






DEVLEELA BIOTECHS

CERTIFICATION

Devleela Biotechs lab is recognized and certified by the Department of Biotechnology (DBT) Government of India, New Delhi under National Certificate System for Tissue Culture Raised Plants (NSC-TCP) under certification system (TC2016/C150/1).

It has also been granted with ISO 9001:2008 Certificate i.e. the proof of excellent services to the specific niche. Banana (variety Grand Naine) is one of the important species multiplied on large scale followed by bamboo (Virat Bamboo) plants through Tissue Culture.

COLLABORATION

The company is also in the field trial, promotion and extension of the benefit of Tissue Culture raised plants through scientific growing process. A Research project on production of virus free garlic through tissue culture, a collaborative project between Indian Agricultural Research Institute (IARI), New Delhi (funded bySmall Business Innovation Research Initiative (SBIRI), Department of Biotechnology, Ministry of Science and Technology and Government of India New Delhi has been successfully completed. As an outcome of the research project, a patent has been filed for the technology 'Production of virus free garlic' vide Application No. 1517/EDL/2013.

As a recognition of its achievements has entered into an MOU with Rain Forest Research Institute, Jorhat, Assam for Procurement of clone of different bamboos species.

Devleela
GROUP

AWARDS

Devleela Biotechs has received multiple citations and recognition.
The industry has also bagged Best Industry Award in the year 2011-12 for its pollution free campus. The award was given by Honourable Chief Minister of the state.

Surana
Shree Devleela Cold & Foods
Gram - Kandarka, Tahsil- Berla, Distt. - Bemetara (C.G.)

Under the cold and foods, the Group operates **Shree Devleela Cold and Foods** with a cold storage of capacity 6,000 MT and seed production unit of capacity 2,000 MT. This firm provides turnkey solutions for post-harvest projects within Chhattisgarh. It is also involved in production of Jaggery (Gur) .

Devleela
Lifesciences Pvt. Ltd.

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