

Technology Developed & Commercialization

Technology Developed for Mass Production of Biofertilizers Liquid Formulations
Anubhav Brand products: 7

- Nitrogen fixers
 - *Azotobacter chroococcum* ABA-1 (For all crops)
 - *Azospirillum lipoferum* ASA-1 (For cereal crops)
 - *Rhizobium* sp. (Crop specific for leguminous crops and oil seeds)
- Phosphate solubilizer (For all crops)
 - *Bacillus coagulans* PBA 16
- Potash mobilize (For all crops)
 - *Enterobacter asburiae* AAU KMBW1
- Bio NP Consortium (For all crops):
 - Nitrogen fixer (*Azotobacter* /*Azospirillum*/*Rhizobium* + PSB)
- Bio NPK Consortium (For all crops):
 - Nitrogen fixers (*Azotobacter* & *Azospirillum*) + PSB and KMB (3 different *Bacillus* sp.)



Nitrogen Fixer
(*Azotobacter*/*Azospirillum*/*Rhizobium*)

P and K
Solubilizer/Mobilizer



Bio NP and Bio NPK
Consortium

Biodecomposer Bacterial Cultures: Total six (6) ligno-cellulytic bacterial strains

Name of culture	NCBI (USA) Accession No.
<i>Pseudomonas stutzeri</i> AAU BDCT 1	MK801245
<i>Pseudomonas aeruginosa</i> AAU J2	MH591221
<i>Lactobacillus plantarum</i> AAU L2	KJ396071
<i>Bacillus subtilis</i> AAU B3	MH591228
<i>Bacillus velezensis</i> AAU BDCT 2	MK801267
<i>Cellulomonas</i> sp.	--

Methylotrophic Bacterial Cultures: Total six (6) rhizospheric and phyllospheric methylotrophic bacterial strains

Name of culture	NCBI (USA) Accession No.
Rhizospheric	
<i>Bacillus aerius</i> AAU M8	KC787582
<i>Paenibacillus illinoisensis</i> AAU M 17	KJ 577634
<i>Bacillus megaterium</i> AAU M29	KC787585
Phyllosphere	
<i>Staphylococcus saprophyticus</i> strain M 3	KY090784
<i>Bacillus subtilis</i> subsp. <i>spizizenii</i> strain M 10	KY090785
<i>Bacillus methylotrophicus</i> strain M 15	KY090786

Mass production technology developed for *Azolla* and disseminated to farmers. Providing seed culture for mass multiplication at their own field



Liquid Biofertilizer Technology Commercialization (PPP)

No.	Details
1	<p>MOU has been signed for AAU's Bio NPK liquid biofertilizer production technology transfer between AAU and AMUL Dairy, Anand, Gujarat on 09-05-2022.</p> 
2	<p>MOU for Bio NPK liquid biofertilizer production technology between AAU and Indore Smart City Development Limited, Indore, MP, signed on 27-08-2021. Indore city has ranked first as the cleanest (<i>Swachh</i>) City in the country and have sludge radiation unit plant supported by Bhabha Atomic Research Station as a part of environment conservation and now AAU technology licensing will support them to fortify and recycle hygienised sludge as good quality manure as well as production of liquid biofertilizers for farmers. The signed MOU handed over by CEO of Smart City Development project, Shri Rishav Gupta and team to Dr R V Vyas during his visit to Indore sludge plant on Sept 20, 2021.</p> 

3 MOU for Bio NPK liquid biofertilizer technology transfer between AAU and M/s Narmada Bio-chem Ltd., Ahmedabad signed on 18-10-2020 in esteemed presence of honorable Minister, Agriculture, Farmers' Welfare and Cooperation, Government of Gujarat, Shri R. C. Faldu and Secretary, Department of Agriculture Shri Manish Bhardwaj. Liquid biofertilizer product launched with the name "**Narmada Bio-NPK** "



Narmada Bio-chem Limited



4 MOU for Bio NPK liquid biofertilizer production technology between AAU and M/s GUJCOMASOL, Ahmedabad signed on 10-07-2018.



5 MOU for Bio NPK liquid biofertilizer production technology between AAU and M/s Margosa Biogrow India Pvt. Ltd. Vadodara signed on 01-06-2018 in esteemed presence of presence of Shri Parshottam Rupalaji, Hon. Minister of State, Dept of Agricultural Cooperation and Farmers Welfare, Government of India and Shri Jaydrathsinh Parmar, Hon. Minister of State (Dept of Agriculture), Govt of Gujarat. Liquid biofertilizer product launched with the name "**Phyton NPK** "



6 MOU for Bio NPK liquid biofertilizer production technology between AAU and Ahmedabad Municipal Corporation, Ahmedabad signed in vibrant Gujarat Programme on 11-01-2017. Product of hygienized sludge fortified with Bio NPK liquid biofertilizer named “**BIO GOLD**”



7 MoU of Anubhav Bio-NPK Liquid biofertilizer consortium between Anand Agricultural University and Gujarat Agro Industries Corporation Ltd., Gandhinagar signed on 30-04-2015 in esteemed presence of Hon'ble CM of Gujarat Mrs. Anandiben Patel on the occasion of Krushi Mahotsav-2015



8 MoU for liquid biofertilizer production technology for Nitrogen fixers (*Azotobacter* and *Azospirillum*) and Phosphate solubilizer signed between AAU and Gujarat Agro Industries Corporation Limited (Ahmedabad) on 22/11/2011. Liquid biofertilizer product launched with the name “**Agro Jaivika**”



9 MoU for liquid biofertilizer production technology for Nitrogen fixers (*Azotobacter* and *Azospirillum*) and Phosphate solubilizer signed between AAU and Gujarat State Fertilizers and Chemicals Limited (Vadodara) on 29/06/2011. Liquid biofertilizer product launched with the name "**Sardar**"



10 MoU for liquid biofertilizer production technology for Nitrogen fixers (*Azotobacter* and *Azospirillum*) and Phosphate solubilizer signed between AAU and Kemrock Agritech Private Limited (Asoj,Vadodara) on 19/01/2011. Liquid biofertilizer product name "**Tapak Bund**".

