# Patent Granted Year-wise to ICAR-National Dairy Research Institute, Karnal

# (2000-June 30, 2024)

| Before 2000 (3) | | | |
|---|---|---|---|
| **S. No.** | **Title of Patent** | **Inventor (s)** | **Grant No. and date of Grant** |
| **1** | Process for producing bacterial rennet like enzymes (96317) | Inderjit Babar, Ramanuja Puram Appachar Srinivsan, Subhash Chandra Charavorty, Mandyam Krishna kumar, Krishna iyengar, & Arjun Thanwardas Dudani | On 15.02.1967 |
| **2** | Improvement in or relating to the preparation of khoa (112505) | Asmikumar Bannerzee, Inderpal Singh Verma, &Brojendra Chandra Bagchi | On 25.02.1969 |
| **3** | A process for the preparation of a beverage (69/DEL/1985) | D.N. Gandhi | 160280 on 04.07.1997 |
| **2013 (1)** | | | |
| **S. No.** | **Title of Patent** | **Inventor (s)** | **Grant No. and date of Grant** |
| **1** | A pcr based method for differentiating cow and buffalo milk(1385/DEL/2007) | Sachinandan De, Rameshwar Singh, K.P. Singh, T.K. Datta, & S.L. Goswami | 257958 on 22.11.2013 |
| **2014 (4)** | | | |
| **S. No.** | **Title of Patent** | **Inventor (s)** | **Grant No. and date of Grant** |
| **1** | A novel process of sporulation, activation and germination in thermophilic bacteria for rapid detection of antibiotic residues in milk (1479/DEL/2006) | Naresh Kumar, Sharmila Sawant, G.R. Patil,& R.K. Malik | 264145 on 09.12.2014 |
| **2** | Process for manufacture of spray dried cheddar flavour base/ concentrate(1181/DEL/2007) | D. K. Sharma, & B. D. Tiwari | 257068 on 30.08.2014 |
| **3** | A non-invasive dna isolation methodology in dairy animals (1366/DEL/2007) | Sachinandan De, Ashutosh Sharma, Paras Yadav, Tirtha Kumar Datta& S.L. Goswami | 258646 on 28.01.2014 |
| **4** | A process for commercial | G.R. Patil, Hilal Ahmad Punoo, & | 260553 on 07.05.2014 |

| | | | |
|---|---|---|---|
| | manufacture of kradi (2134/DEL/2008) | R. R. B. Singh | |
| **2015 (2)** | | | |
| **S. No.** | **Title of Patent** | **Inventor (s)** | **Grant No. and date of Grant** |
| **1** | A kit for detection of detergent in milk (1970/DEL/2006) | Y.S. Rajput, Rajan Sharma &Sumandeep Kaur | 264661 on 14.01.2015 |
| **2** | A process for the preparation of milk cake (641/DEL/2007) | Anil Kumar, G.R. Patil, A.A. Patel, & R.R.B Singh | 270312 On 10.12.2015 |
| **2016 (3)** | | | |
| **S. No.** | **Title of Patent** | **Inventor (s)** | **Grant No. and date of Grant** |
| **1** | A multipurpose device for concentration, dialysis and buffer exchange of protein solution and a process for the same (1703/DEL/2006) | Y.S. Rajput & M.P. Divya | 276077 on 29.09.2016 |
| **2** | Spore germination based detection kit for b-lactum group in milk (115/DEL/2009) | Naresh Kumar, Sougata Das &Manju G | 273160 on 20.05.2016 |
| **3** | A kit for detection of adulteration of 'soymilk' in milk (396/DEL/2009) | Y.S. Rajput, Rajan Sharma &Poonam | 275521 on 08.09.2016 |
| **2017 (1)** | | | |
| **S. No.** | **Title of Patent** | **Inventor (s)** | **Grant No. and date of Grant** |
| **1** | A process for the preparation of ready to reconstitute kheer mix (1076/DEL/2006*) | AA Patel, GR Patil, R.R.B. Singh, N. Tyagi, V Tripathi& A Jha | 284267 on 15.06.2017 |
| **2018 (4)** | | | |
| **S. No.** | **Title of Patent** | **Inventor (s)** | **Grant No. and date of Grant** |
| **1** | Estimation of tannin metabolitesin blood serum and cow milk using HPLC (1831/DEL/2004) | Keshab Barman & S.N. Rai | 301155 on 19.09.2018 |
| **2** | A process of preparing a spore inhibition-based enzyme substrate assay for monitoring aflatoxin mi in milk(3064/DEL/2010) | Naresh Kumar, Namita Ashish Singh, Vanai Kumar Singh, Sunil Bhand& R.K. Mailk | 292836 on 13.02.2018 |

| | | | |
|---|---|---|---|
| **3** | Three stage thin film scraped surface heat exchanger for continuous manufacture of khoa (583/DEL/2010) | A. K. Dodeja, Dharam Pal & S. P. Agrawala | 304816 on 21.12.2018 |
| **4** | Value addition of paneer and dahi through herbal feed additives from cow milk (152/DEL/2009) | SachchidaNand Rai, & Deepak Kumar Dubay | 294928 on 26.03.2018 |
| **2019 (8)** | | | |
| **S. No.** | **Title of Patent** | **Inventor (s)** | **Grant No. and date of Grant** |
| **1** | Spectrophotometric method of estimation of Tannin acyl hydrolase activity in remendigesta (1120/DEL/2005) | Keshab Barman & S.N. Rai | 310997 on 09.04.2019 |
| **2** | Process for shelf stable low -fat tomato-wheysoup (714/DEL/2006) | Sudhir Singh, Kamavaram Sudheer, AlokJha, A. A. Patel & G. R. Patil | 306128 on 23.01.2019 |
| **3** | A formulation and process for ready-to reconstitute Basundi mix (2226/DEL/2007) | Prateek Sharma, R. R. B. Singh, G.R. Patil& A. A. Patel | 311005 on 09.04.2019 |
| **4** | A process for preparation of feta cheese from Buffalo milk using microbial rennet (128/ DEL/2011) | Sanjeev Kumar & S. K. Kanawjia | 305768 on 16.01.2019 |
| **5** | A qualitative and quantitative test for anionic detergent in milk" (3677/DEL/2011) | Amit Kumar Barui, Rajan Sharma & Y.S. Rajput | 325924 on 27.11.2019 |
| **6** | Real time detection of *enterococci* in dairy foods using spore germination based bioassay. (119/DEL/2012) | Gurpreet Kaur, Naresh Kumar, G. Thakur, Raghu, H.V., N. Singh, V. K. Singh, &Raghav N. | 325986 on 27.11.2019 |
| **7** | Aptamers specific for aflatoxin m1 and b1 (1864/DEL/2013) | Shilpi Malhotra, Y. S. Rajput &Rajan Sharma | 324848 on 11.11.2019 |
| **8** | Casein hydrolysates rich in caseinophosphopeptides (331/DEL/2013) | Bimlesh Mann, Prerna, & Rajesh Kumar | 319794 on 04.09.2019 |
| **2020 (3)** | | | |
| **S. No.** | **Title of Patent** | **Inventor (s)** | **Grant No. and date of Grant** |
| **1** | A process of bioethanol production by immobilized thermotolerant yeast | MinakshiDahiya&ShipaViz | 332454 on 19.02.2020 |

| | | | |
|---|---|---|---|
| | from whey (3710/DEL/2011) | | |
| **2** | Aptamer specific for betacasomorphin 7 (BCM7) (3703/DEL/2013) | Y. S. Rajput, Abhishek&Rajan Sharma | 354948 on 31.12.2020 |
| **3** | Oil in water curcuminnanoemulsion and method of preparation thereof (201611018434) | Bimlesh Mann, Rajan Sharma & Rajesh Bajaj | 345401 on 28.08.2020 |
| **2021 (7)** | | | |
| **S. No.** | **Title of Patent** | **Inventor (s)** | **Grant No. and date of Grant** |
| **1** | Method and system for automatic identification and estrous detection in buffaloes on their vocalization patterns (3090/DEL/2011) | Yajuvendra Singh, S. P. Lathwal, T. K. Mohanty, A. P. Ruhil& Shiv Prasad | 378373on 30.09.2021 |
| **2** | A strip based detection of added urea in milk and process for the same (3472/DEL/2013) | Rajan Sharma, Panchal Bhavesh Kumar R. & Y. S. Rajput | 363894on 31.03.2021 |
| **3** | Development of enzyme-spore based assay (s) for monitoring antibiotic residues in milk (2213/DEL/2014) | Naresh Kumar, Alia Khan, Shivani Arora, FalguniPatra, MeenakshiDahiya, MandeepBalhara, Pradeep Kumar Sharma, &Suleman Shaikh | 365074 on 21.04.2021 |
| **4** | Marker enzymes and spore germination based assay for detection of *e. Coli* in milk and milk products (2214/DEL/2014) | Naresh Kumar, RamakantLawaniya, Avinash, Bhawna Arora, Raghu HV, MandeepBalhara, SaurabhKadyan,&Viani Kumar | 367110 on 20.05.2021 |
| **5** | A strip based test for detection of detergent in milk (750/DEL/2015) | Y.S. Rajput, Gulab Singh, &Rajan Sharma | 363588 on 30.03.2021 |
| **6** | Novel peptide sequence and polyclonal antibodies for the detection of cow and buffalo luteinizing hormone (1854/DEL/2015) | VarijNayan, Suneel Kumar Onteru&Dheer Singh | 364236 on 07.04.2021 |
| **7** | Caseinophosphopeptides-divalent metal (iron/zinc) nanocomplexes and method of preparation thereof (201711010975) | Bimlesh Mann, Prabin Sarkar, Rajan Sharma, Rajesh Bajaj &MunmunSen | 385768 on 31.12.2021 |
| **2022 (8)** | | | |
| **S. No.** | **Title of Patent** | **Inventor (s)** | **Grant No. and date of Grant** |

| | | | |
|---|---|---|---|
| **1.** | A milk-protein based nutritive antacid and a process for its preparation (574/DEL/2014) | Amit Kumar Jaylalbhai, Patel Ashok Kumar Ambalal Patel & Ram Ran Bijoy Singh | 402839 On 02.08.2022 |
| **2.** | Antimicrobial nanoemulsion of clove oil stabilized with milk protein and a process thereof (913/DEL/2015) | Bimlesh Mann, Minaxi, Rajan Sharma & Rajesh Kumar | 401941on 25.07.2022 |
| **3.** | Aptamers specific for cefquinome (1775/DEL/2015) | Rajan Sharma, Amit Kumar Barui, Y.S. Rajput, &Bimlesh Mann | 395869 on 29.04.2022 |
| **4.** | A process for manufacture of low-fat chakka and shrikhand by using exopolysaccharides producing bacteria (201811033236) | Pradip V. Behare, SanketBorad, Harisha, & SK Tomar | 388158 on 31.01.2022 |
| **5.** | Stabilization of non-ionic surfactant based nanovesicles loaded wtih resveratrol using stearic acid and method of preparation thereof (201811004766) | Battula SurendraNath, Vankayala Jaya Sravani, KandasamyRuckmani, MariyaAntonirajGoverAntoniraj, PushpadassHeartwinAmaladhas, NaikLakshmanaNaik, & Franklin MagdalineEljeeva Emerald | 404471 On 25.08.2022 |
| **6.** | A peptide with osteoanabolic and antiresorptive activity (2778/DEL/2013) | VenkatesaPerumalShanmugam, SumanKapila, Rajeev Kapila | 405144 On 30.08.2022 |
| **7.** | Mangiferaindica flower panicles' extract stabilized gold nanoparticles and method for making the same (807/DEL/2015) | VarijNayan, Suneel Kumar Onteru, and Dheer Singh | 408952 on 12.10.2022 |
| **8.** | Two Stage Enzyme Assay for Detection of *Listeria Monocytogenes* in Milk Products (1357/DEL/2013) | MandeepBalhara, Naresh Kumar, Geetika Thakur, Hirikyathanahalli Raghu, Vinay Kumar, RamakantLawaniya, Alia Khan, Shabnam | 410633 on 31.10.2022 |
| **2023 (05)** | | | |
| **S. No.** | **Title of Patent** | **Inventor (s)** | **Grant No. and date of Grant** |
| 1 | A Strip for detection of neutralizers in milk (201811030055) | Rajan Sharma, Y.S. Rajput, Priyae Brath Gautam, and Bimlesh Mann | 421478 on 13.02.2023 |

| | | | |
|---|---|---|---|
| 2 | A strip for detection of maltodextrin in milk and process for the same (2097/DEL/2014) | Rajan sharma, Y.S. Rajput, Bimlesh Mann, Prerna Narula and Rahul Thakur | 427031 on 27.03.2023 |
| 3 | Microfluidic method for enrichment of live and motile spermatozoa of cattle (202011008229) | Ashok kumar mohanty, vinod kumar yata, bhanu prakash, vibhav katoch, neeraj yadav, dharmendra kumar gangwar, Sudarshan kumar, Tushar kumar mohanty | 436709 on 30.06.2023 |
| 4 | Rapid spores-enzyme based miniaturised assay (s) for detection of pesticide residues (3819/DEL/2015) | Dr. Naresh Kumar, Ms. Nimisha Tehri, Mr. Rajesh Gopaul, Mr. Pradeep kumar sharma, Mr. Brijesh Kumar, Ms. Spurti Morab, Mr. Raghu H.V. | 450906 on 12.09.2023 |
| 5 | The preparation of buffalo milk casein hydrolysates with enriched antioxidative peptides and the process therof ( 201711023424 | Rajesh Kumar, Rajeev Kapila, Nichal Mayur Ashok Rao, Sowmya, Gulshan Dass, Bimlesh Mann, Suman Kapila, | 460340 on 18.10.2023 |
| | | | |
| **S. No.** | **Title of Patent** | **Inventor (s)** | **Grant No. and date of Grant** |
| 1 | A biopolymer based electrospun Oxygen indicator for Dairy Products Packing ( | Narender Raju Panjagri, Shivam Panwar, Ashish Kumar Singh, Preashant Saurab Minz, Richa | 502210 on 23-01-2024 |

| | | | |
|---|---|---|---|
| | 201811023361) | Badola, Gaurav Kr Deshwal | |
| 2 | A process for production of antimicrobial coagulant formulation for making extended shelf-life paneer (202111007461) | Pradip Vishnu behare, Rallapalli Vembar Rajanikar, Sudhir Kumar Tomar, Diwas Pradhan, Rajan Sharma, Sanket Borad, | 504293 on 29/01/2024 |
| 3 | Construction of mutant strain of kluyveromyces marxianus for enhanced galactose utilization (201711030808) | Shilpa Viz, Arun Beniwal, Priyanka Saini, Sachinandan De | 511469 on 16-02-2024 |
| 4 | Design and development of nanofluid based extended surface module for milk cooling (201811021472) | Ravi Prakash, Chikkamutharayappa Manjunatha, Guruvanna Mahesh Kumar, Kerekoppa Puttaaiah Bhatta Ramesha, Giriyapura Basavarajappa Darshan, Menon Rekha Ravindra | 516796 on 28-02-2024 |
| 5. | A crosslinked membrane with flow-line capable of arresting free-flowing gold nanoparticles and the process for the same (201711036404) | Y.S. Rajput, Nanda Dhiraj Kumar, Rajan Sharma | 533338 on 16-04-2024 |
| 6. | LABEL FOR INDICATING FRESHNESS OF INDIAN DAIRY PRODUCTS AND PREPARATION METHOD THEREOF (202111004590) | Narender Raju Panjagari, Rakesh Kumar Raman, Karpurapu Uma, Ashish Kumar Singh, Sangita Ganguly | 534389 on 23-04-2024 |