List of patents filed year-wise by ICAR-NDRI

(2000-June 30, 2024)

Patent Filed Prior 2006 (3)							
S. No	**Division**	**Title of Patent**	**Inventors**	**Date of Filing**	**Patent Application No.**	**Grant date**	**Grant number**
1		Process for producing Bacterial Rennet Like Enzymes	Inderjit Babar, RamanujaPuram appachar srinivsan, subhash Chandra Charavorty, mandyam Krishnakumar, Krishna iyengar, & Arjun Thanwardas Dudani	31.10.1964	96317	15.02.1967	
2		Improvement in or relating to the preparation of khoa	Asmi kumar Bannerzee, Inderpal singh verma, & Brojendra Chandra Bagchi	26.07.1967	112505	26.07.1967	
3		A Process for the Preparation of a Beverage	D.N. Gandhi	30.1.1985	69/DEL/1985	04.07.1997	160280
Patent filled in 2006 (5)							
S. No	**Division**	**Title of Patent**	**Inventors**	**Date of Filing**	**Patent Application No.**	**Grant date**	**Grant number**
1	**ABC**	**A Kit for detection of detergent in milk**	**Y.S. Rajput, Sumandeep, Rajan Sharma**	**09-04-2006**	**1970/DEL/2006**	**14-01-2015**	**264661**
2	**DC**	**A process for the preparation of low cholesterol ghee.**	**Darshan Lal, Manoj Kumar, Vivek Sharma, Raman Seth, Amit Kumar**	**27-04-2006**	**1078/DEL/2006**	**11-01-2013**	**257783**
3	**DT**	**A Process For The Preparation of Ready to Reconstitute Kheer Mix**	**AA Patel, GR Patil, RRB Singh, N. Tyagi, V Tripathi and A Jha**	**27-04-2006**	**1076/DEL/2006**	**15-06-2017**	**284267**
4	**DM**	**A Novel Process of Sporulation, Activation and Germination in Thermophilic Bacteria for Rapid Detection of Antibiotic Residues in Milk.**	**Naresh Kumar, GirdhariRamdasPatil, SharmilaSawant, Ravinder Kumar Malik**	**23-06-2006**	**1479/DEL/2006**	**12-09-2014**	**264145**
5	**ABC**	**A multipurpose device for concentration, dialysis and buffer exchange of protein solution and a process for the**	**Y.S. Rajput & M.P. Divya**	**25-07-2006**	**1703/DEL/2006**	**29.09.2016**	**276077**

		same					
Patent filled in 2007 (4)							
S. No	**Division**	**Title of Patent**	**Inventors**	**Date of Filing**	**Patent Application No.**	**Grant date**	**Grant number**
1	DT	Process for manufacture of spray dried cheddar flavour base/ concentrate.	D. K. Sharma, B. D. Tiwari	06-01-2007	1181/DEL/2007	30/08/2013	257068
2	DT	A Process for the preparation of Milk Cake	Anil Kumar, G.R. Patil, A.A. Patel, R.R.B Singh	23/03/2007	641/DEL/2007	12-10-2015	270312
3	ABTC	A noninvasive DNA isolation methodology in Dairy Animals.	Sachinandan De, Ashutosh Sharma, ParasYadav, Tirtha Kumar Datta, Surender Lal Goswami	26/06/2007	1366/DEL/2007	28/01/2014	258646
4	ABTC	A PCR based method for differentiating cow and buffalo milk.	Sachinandan De, Rameshwar Singh, Karan Pratap Singh, Tirtha Kumar Datta, SurenderLalGoswami	28/06/2007	1385/DEL/2007	22/11/2013	257958
Patent filled in 2008 (1)							
S. No	**Division**	**Title of Patent**	**Inventors**	**Date of Filing**	**Patent Application No.**	**Grant date**	**Grant number**
1	DT	A Process for Commercial Manufacture of Kradi.	GirdhariRamdasPatil, Hilal Ahmad Punoo, R.R.B. Singh	09-10-2008	2134/DEL/2008	05-07-2014	260553
Patent filled in 2009 (7)							
S. No	**Division**	**Title of Patent**	**Inventors**	**Date of Filing**	**Patent Application No.**	**Grant date**	**Grant number**
1	DM	Spore germination based detection kit for B-lactum group in milk	Naresh Kumar, Sougata Das and Manju G	21-01-2009	115/DEL/2009	20/05/2016	272160
2	ABC	A kit for detection of adulteration of 'soymilk' in milk	Y.S.Rajput, Rajan Sharma and Poonam	03-02-2009	396/DEL/2009	08.09.2016	275521
3	DT	Enhancement of value addition of khoa production through herbal feed additives from cow milk.	Mayank Tandon and S. N. Rai	18.06.2009	1256/DEL/2009	abandoned	
4	DT	Enhancement of value addition of condensed milk through herbal feed additives from cow milk	Mayank Tandon and S. N. Rai	17.9.2009	1843/DEL/2009	abandoned	
5	DT	Enhancement of value addition of milk powder production through herbal feed additives from cow milk	Mayank Tandon and S. N. Rai	17.9.2009	1844/DEL/2009	abandoned	
6	DT	Process for the preparation of	Ramya Iyer and S. K. Tomar	13.11.2009	2345/DEL/2009	refused	

		folate rich functional 'Dahi'.					
7	DT	An improved and optimized process for manufacture of *Doda*.	G. R. Patil, Rekha Chawla and A. K. Singh	16.11.2009	2357/DEL/2009	withdrawn	

Patent filled in 2010 (2)

S. No	Division	Title of Patent	Inventors	Date of Filing	Patent Application No.	Grant date	Grant number
1	DE	Three stage thin film scraped surface heat exchanger for continuous manufacture of khoa	A. K. Dodeja, Dharam Pal and S. P. Agrawala	12.03.2010	583/DEL/2010	21.12.2018	304816
2	DM	A Process of preparing a spore inhibition based enzyme substrate assay for monitoring aflatoxin MI in milk.	Naresh Kumar, NamitaAshish Singh, Vanai Kumar Singh, Sunil Bhand, RK Mailk	22-12-2010	3064/DEL/2010	13/02/2018	292836

Patent filled in 2011 (3)

S. No	Division	Title of Patent	Inventors	Date of Filing	Patent Application No.	Grant date	Grant number
1	LPM	Method and system for automatic identification and estrous detection in buffaloes on their vocalization patterns	Yajuvendra Singh, S. P. Lathwal, T. K. Mohanty, A. P. Ruhil and Shiv Prasad	31.10.2011	3090/DEL/2011	30.09.2021	378373
2	DC	A qualitative and quantitative test for anionic detergent in milk".	Amit Kumar Barui, Rajan Sharma and Y.S.Rajput	16/12/2011	3677/DEL/2011	27/11/2019	325924
3	DM	A process of bioethanol production by immobilized thermotolerant yeast from whey"	Minakshi Dahiya and Dr. Shipa Viz	19.12.2011	3710/DEL/2011.		

Patent filled in 2012 (1)

S. No	Division	Title of Patent	Inventors	Date of Filing	Patent Application No.	Grant date	Grant number
1	DM	Real Time Detection of Enterococci in Dairy Foods using Spore Germination Based Bioassay.	Naresh Kumar, Gurpreet Kaur, HV Raghu, Namita Ashish Singh, Nishu Raghav, Vanai Kumar Singh.	01-12-2012	119/DEL/2012	27/11/2019	325986

Patent filled in 2013 (6)

S. No	Division	Title of Patent	Inventors	Date of Filing	Patent Application No.	Grant date	Grant number
1	DC	Casein hydrolysates	Bimlesh Mann,	02-05-2013	331/DEL/2013	09-04-2019	319794

		rich in caseinophosphopeptides	Prerna, Rajesh Kumar				
2	DC	Aptamers specific for aflatoxin M1 and B1	Shilpi Malhotra, Y. S. Rajput and Rajan Sharma	25/06/2013	1864/DEL/2013	11-11-2019	324848
3	DM	Two Stage Enzyme Assay for Detection of *Listeria Monocytogenes* in Milk Products.	MandeepBalhara, Naresh Kumar, Geetika Thakur, Hirikyathanahalli Raghu, Vinay Kumar, RamakantLawaniya, Alia Khan, Shabnam	07-05-2013	1357/DEL/2013	31.10.2022	410633
4	ABC	A peptide with osteoanabolic and antiresorptive activity.	Venkatesa Perumal Shanmugam, Suman Kapila, Rajeev Kapila	20/09/2013	2778/DEL/2013	NA	NA
5	DC	A strip based detection of added urea in milk and process for the same	Rajan Sharma , Panchal Bhavesh Kumar R. and Y. S. Rajput	29/11/2013	3472/DEL/2013	31/03/2021	363894
6	ABC	Aptamer specific for Betacasomorphin 7 (BCM7)	Y. S. Rajput, Abhishek and Rajan Sharma	18/12/2013	3703/DEL/2013	31/12/2020	354948

Patent filled in 2014 (8)

S. No	Division	Title of Patent	Inventors	Date of Filing	Patent Application No.	Grant date	Grant number
1	ABTC	Development of a Bubalusbubalis (Indian Water Buffalo) mammary epithelial cell line.	Tapas Mukhopadhyay, NilambraDogra, Ashok Kumar, Ashok K. Mohanty, Jai K. Kaushik, Ajay K Dang	10-01-2014	2806/DEL/2014	NA	NA
2	ABTC	Application of a mammary gland specific glycoprotein as a biomarker for detection of sub-clinical mastitis.	Ashok K. Mohanty, Jai K. Kaushik, Ajay K Dang, Surender Singh, Tushar K Mohanty	10-01-2014	2807/DEL/2014	NA	NA
3	DT	A Milk-Protein Based Nutritive Antacid and a Process for its Preparation.	Amit Kumar Jaylalbhai, Patek Ashok Kumar Ambalal Patel, Ram Ran Bijoy Singh	28/02/2014	574/DEL/2014	02/08/2022	402839
4	DC	Development of enzyme-spore based assay (s) for monitoring antibiotic residues in milk.	Naresh Kumar, Alia Khan, Shivani Arora, Falguni Patra, Meenakshi Dahiya, Mandeep Balhara, Preadeep Kumar Sharma, Suleman Shaikh	08-05-2014	2213/DEL/2014	21/04/2021	365074
5	DM	Marker enzymes and spore germination based	Naresh kumar, Ramakant Lawaniya,	08-05-2014	2214/DEL/2014	20/05/2021	367110

		assay for detection of E. coli in milk and milk products.	Ms.Avinash, BhawnaArora, Raghu HV, Mandeep Balhara, Saurabh Kadyan, Viani Kumar				
6	DC	Microencapsulated flaxseed oil powder and a method of preparation thereof	Vivek Sharma, Ankit Goyal, Sumit Arora and Darshan Lal.	18/07/2014	2030/DEL/2014	NA	NA
7	DC	A strip for detection of maltodextrin in milk and process for the same	Rajan Sharma, Y.S. Rajput, Bimlesh Mann, Prerna Narula, Rahul Thakur, Brajesh Kumar	24-07-2014	2097/DEL/2014	NA	NA
8	DT	Composition for Modulating Fertility.	Kaushik Kumar Jai, Mangottil Ayyappan, Shalini	15/12/2014	3703/DEL/2014	NA	NA
Patent filled in 2015 (9)							
S. No	**Division**	**Title of Patent**	**Inventors**	**Date of Filing**	**Patent Application No.**	**Grant date**	**Grant number**
1	ABC	A Strip based test for detection of detergent in milk	Y.S. Rajput, Gulab Singh, Rajan Sharma	19/03/2015	750/DEL/2015	NA	NA
2	DT	High fiber reduced calorie biscuits from dairy-multigrain composite.	Latha Sabikhi, Dipesh Aggarwal and Ashish Kumar Singh	20/03/2015	758/DEL/2015	NA	NA
3	ABC	A PCR based method for detection of a field strain of Urea plasma diversum.	Dheer Singh, Onnureddy Kaipa, Suneel Kumar Onteru, Sriram Kannan	24/03/2015	806/DEL/2015	NA	NA
4	ABC	Mangifera indica flower panicles' extract stablized gold nanoparticles and method for making the same.	VarijNayan, Suneel Kumar Onteru, and Dheer Singh	24/03/2015	807/DEL/2015	NA	NA
5	DC	Antimicrobial Nanoemulsion of Clove Oil stabilized with milk protein and a process thereof.	Bimlesh Mann, Minaxi, Rajesh Kumar and Rajan Sharma	31-03-2015	913/DEL/2015	25/07/2022	401941
6	DC	Aptamers specific for cefquinome.	Rajan Sharma, Amit Kumar Barui, Y.S. Rajput, Bimlesh Mann	15-06-2015	1775/DEL/2015	29/04/2022	395869
7	ABC	Novel Peptide sequence and polyclonal antibodies for the detection of cow and buffalo luteinizing hormone.	Varij Nayan, Suneel Kumar Onteru and Dheer Singh	23-06-2015	1854/DEL/2015	07/04/2021	364236
8	DM	Rapid spore enzyme based miniaturized assay (s) for detection of pesticide residues	Naresh Kumar, NimishaTehri, Rajesh Gopaul, Pradeep Kumar Sharma, Briejsh Kumar, SpurthiMorab	23.11.2015	3819/ DEL/ 2015		

			and Raghu H V.				
9	DT	A process for Iron Fortification of Paneer using Edible Coating	P.N. Raju, Jotarkar Parameshwar Sarangdhar, AshishKumer Singh, SumitArora	02.12.2015	3926/DEL/2015		

Patent filled in 2016 (1)

S. No	Division	Title of Patent	Inventors	Date of Filing	Patent Application No.	Grant date	Grant number
1.	DC	Oil in Water Curcumin Nanoemulsion and Method of Preparation Thereof	Bimlesh Mann, Rajan Sharma, Rajesh Bajaj	30-05-2016	201611018434	28.08.2020	Granted 345401

Patent filled in 2017 (4)

S. No	Division	Title of Patent	Inventors	Date of Filing	Patent Application No.	Grant date	Grant number
1	DC	Caseinophosphopeptides-divalent Metal (Iron/zinc) nanocomplexes and method of preparation thereof	Bimlesh Mann, Prabin Sarkar, Rajan Sharma, Rajesh Bajaj and Munmun Sen	28.03.2017	201711010975	31/12/2021	385768
2	DC	The Preparation of Buffalo Milk Casein Hydrolysates with enriched Antioxidative Peptides and the process thereof.	Rajesh Kumar, Rajeev Kapila, Nichal Mayur Ashok Rao, Sowmya, Gulshan Dass, Bimlesh Mann, Suman Kapila	07-04-2017	201711023424	na	na
3	DM	Construction of Mutant Strain of *Kluyveromyces marxianus* for Enhanced Galactose Utilization.	Shilpa Vij, Arun Beniwal, Priyanka Saini, S. De	31/08/2017	201711030808	na	na
4	ABC	A crosslinked membrane with flow-line capable of arresting free-flowing gold nanoparticles and the process for the same	Y.S. Rajput, D.K. Nanda and Rajan Sharma	13/10/2017	201711036404	na	na

Patent filled in 2018 (5)

S. No	Division	Title of Patent	Inventors	Date of Filing	Patent Application No.	Grant date	Grant number
1	SRS	Stabilization of non-ionic surfactant based Nanovesicles loaded with resveratrol using stearic acid and method of preparation thereof.	Surendra Nath Battula, Jaya Sravani Vankayala, Ruchmani Kandasamy, Grover Antoniraj, Mariya Antoniraj, Pushpadadass Heartwin Amaladhas, Naik	08-02-2018	201811004766	25.08.2022	404471

			Laxman Naik, Franklin Magdaline Eljeeva Emerald				
2	DM	A process for manufacture of low-fat chakka and Shrikhand by using exopolysaccharides producing bacteria	Pradip V Behare, , Sanket Borad, Harisha, SK Tomar	09-05-2018	201811033236	31/01/2022	388158
3	SRS	Design and development of nanofluids based extended surface module and milk cooling.	Ravi Prakash, Chikkamutharayappa, guruvanna Mahesh kumar, Kerekoppa Puttaiah Bhaatta Ramesha, Giriyapura Basavarajappa Darshan, Menon Rekha Ravindra, Battula Surender Nath, Pushpadass Heartwin Amaladhas	08.06.2018	201811021472		
4	DT	A biopolymer based electrospun Oxygen indicator for Dairy Products Packing	Narender Raju Panjagri, Shivam Panwar, Ashish Kumar Singh, Preashant Saurab Minz, Richa Badola, Gaurav Kr Deshwal	22.06.2018	201811023361		
5	DC	An Indicator and the indicator impregnated strip for detection of neutralizers in milk	Rajan Sharma, YS Rajput, GP Brath and Bimlesh Mann	08-10-2018	201811030055		

Patent filled in 2019 (2)

S. No	Division	Title of Patent	Inventors	Date of Filing	Patent Application No.	Grant date	Grant number
1.	DC	A Preservative formulation for Milk and Milk Product Samples Stored for Analytical Purpose	Richa Singh, Bimlesh Mann, Sumit Arora, Mitul Bumbadiya, Priyanka Singh Rao, Diwas Preadhan	09.08.2019	201911032383		
2.	DT	"Gluten free pasta dough composition and method of preparation thereof"	Manoj Kumar C.T., Latha Sabikhi, A.K. Singh	26.11.2019	201911048192		

Patent filled in 2020 (9)

S. No	Division	Title of Patent	Inventors	Date of Filing	Patent Application No.	Grant date	Grant number
1	ABTC	Detection of A2 milk derived peptide (BCM9A2) by aptamers	AK Mohanty, Abhishek Parashar, Sudarshan Kumar	13.01.2020	202011001446		
2	DM	Paper strip based sensor for detection of heavy metals in Milk	Naresh Kumar, Karanpriya	14.02.2020	202011006420		
3	ABTC	Microfluidic device for enrichment of live and motile spermatozoa of	Ashok Kumar Mohanty Vinod Kumar Yata,Bhanu	27.02.2020	202011008229	na	na

		cattle	Prakash, Vibhav Katoch Neeraj Yadav , Dharmendra Kumar Gangwar, Sudarshan Kumar, Tushar Kumar Mohanty				
4	ABTC	Detection of BCM-7 peptide in urine sample by aptamers	AK Mohanty, Abhishek Parashar,	08.06.2020	202011023895		
5	ABTC	Development of PAG-7 based diagnostic kit for the early detection of pregnancy in bovine	AK Mohanty, Munna Lal Yadav, Sudarshan Kumar	22.06.2020	202011026145		
6	DC	Milk based spray Dried nanoencapsulated curcumin formulation and method thereof	Bimlesh Mann, Ankita Hooda, Rajan Sharma, Rajesh Kumar and Richa Singh	07.08.2020	202011033806		
7	SRS	A pail for cooling milk simultaneous to milking	Ravi prakash and Menon Rekha Ravindra	07.08.2020	202011033807		
8	DE	Development of pH - controller based automated endo-exo unit for dahi	Chitranayak, Prashant Sourav Minz, Ashish Kumar Singh, Jitender Kumar Dabas and Amita Dinkar Vairat	26.10.2020	202011046532		
9	DM	A paper strip sensor for detection of E.Coli and total Plate Count (TPC) in milk using PANIPeC	Raghu, Anjali M.K., Mohit Singh, Bharath G., Naresh Kumar	15.12.2020	202011054432		

Patent filled in 2021 (10)

S. No	Division	Title of Patent	Inventors	Date of Filing	Patent Application No.	Grant date	Grant number
1	DT	A process for preparation of milk protein fortified eggless muffins	Kasushik Khamrui, Rishi Kumar Puri and Writdhama G Prasad	03.02.2021	202111004592		
2	DT	Label for indicating freshness of Indian Dairy Products and preparation method thereof (Provisional Application)	P.N. Raju, Rakesh kumar raman, Karpurapu Uma, Ashish Kumar Singh and Sangita Ganguly	03.02.2021	202111004590		
3	DT	Label for indicating freshness of Milk Millet composite complent food and preparation method thereof (Provisional)	Narender Raju Panjagari, Lal Chand Sharma, Ashish Kumar Singh	03.02.2021	202111004587		
4	DM	A process for production of antimicrobial coagulant formulation for making extended self life Paneer	Pradip Vishnu Behare, Rallapalli Vembar Rajanikar, Sudhir Kumar tomar, Diwas Pradhan, Rajan Sharma	23.02.2021	202111007461		

			and Sanket Borad				
5	**DM**	**Rapid antimicrobial susceptibility assay for Detection of Extended spectrum**	**Naresh Kumar, Avinash Jaswal, Raghu H. Vishweshwaraiah**	**23.02.2021**	**202111007462**		
6	**SRS**	**Self stable Metal ion based Nano-Dispersion for Thermal Energy Storage and Exchange and Method of Preparation**	**Ravi Prakash, Menon Rekha Ravindra, Devaraja Hosapalya Chikkathimmaiah**	**15-06-2021**	**202111026625'**		
7	**AP**	**Peptide sequences and epitope specific antibodies for detection of bovine Anti-Mullerian hormone (bAMH)**	**Prasanna Pal, Anjali Aggarwal, Sachinandan De, Rajib Deb, Vinay Joshi and Avijit Haldar**	**25.08.2021**	**202111038528 (Provisional)**		
8	**SRS**	**In vitro Proteomic Analysis of the uterine fluid for detection of subclinical uterine infection**	**Arumugam Kumaresan, Kurati Sunny Praveen, KerekoppaPuttaiah Bhatta Ramesha, Sakthivel Jeyakumar, AyyasamyManimaran**	**28-08-2021**	**202111039076'**		
9	**AN**	**Novel probiotic formulations to improve the growth and health of buffalo calves**	**Sachin Kumar, A.K. Tyagi, Nitin Tyagi, Rashmi H. M., Vinay V V and Anukarna Singh**	**01.10.2021**	**202111044603**		
10	**SRS**	**A system device facilitating monitoring and prediction of calving process in dairy animals**	**S. Jeyakumar, A. Kumaresan, Mukund A Kataktalware, K.P. Ramesha**	**06-10-2021**	**202111045493'**		

Patent filled in 2022 (5)							
S. No	**Division**	**Title of Patent**	**Inventors**	**Date of Filing**	**Patent Application No.**	**Grant date**	**Grant number**
1	DT	Ghee-Residue powder and process of preparing the same	Ganga Sahay Meena, Aakash Gill, Yogesh Khetra, Ashish Kumar Singh, Sumit Arora	30.03.2022	202211019096'		
2		BullTraMin"-Formulation of a bull-specific trace mineral mixture and method of its preparation	Mondal, goutam Srivastava, rashika bhakat, mukesh mani, veena	20.04.2022	202211023368'		
3		Process for semi-hard ripened cheese from camel milk	Yogesh Khetra	16.06.2022	202211034642		
4	AP	Peptide sequences and epitope specific antibodies for detection of bovine Anti Mullerian Hormone(bAMH)	Prasanna Pal, Anjali Aggarwal, Sachinandan De, Rajib Deb, Vinay Joshi and Avijit Haldar	25.08.2022	202111038528		

5	DT	**A novel method for Ghee preparation with lesser energy requirement".**	**Writdhama G Prasad, Shubham Kumbhare, Kaushik Khamrui and Shaik Abdul Hussain**	**23.12.2022**	**202111060140**		
Patent filed in 2023 (02)							
S. No	**Division**	**Title of Patent**	**Inventors**	**Date of Filing**	**Patent Application No.**	**Grant date**	**Grant number**
1	**DC**	A multi-enzyme based method for preparation of low lactose milk powder	Sumit Arora, Payal Singh, Priyanka Singh Rao, Richa Singh, Ashish Kumar Singh, Vivek Sharma, Deepika Kathuria	**29.03.2023**	**202311023254**		
2	ABTC	Modification of gene structure of buffalo genome and a method thereof"	Naresh Lalaji Selokar, Dr. M.K. Singh, Dr. S.DE and Dr. M.M. Chauhan	03.08.2023	202311052265'		
Patent filed in 2024 (04)							
S. No	**Division**	**Title of Patent**	**Inventors**	**Date of Filing**	**Patent Application No.**	**Grant date**	**Grant number**
1	DT	METHOD OF PREPARING PROCESSED CHEESE FROM ULTRAFILTRATION RETENTATE OF COW MILK	Dr. Yogesh khetra	21-03-2024	202411021939	-	-
2	DM	A shelf-stable direct vat set liquid starter culture and a method of preparation thereof	Dr. Pradip Behare	27-03-2024	202411024415	-	-
3	ABTC	A Recombinant Polynucleotide comprising Goat Beta Casein Gene, Method of Producing	Dr. D. Malakar	23-03-2024	202411022771	-	-

		and Use Thereof					
4	DT	A process of producing *khoa* powder substitute using sweet cream butter milk and ghee-residue	G.S. Meena	02-05-2024	202411034793		