

Faculty of Dairy Technology

A. Personal information

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|---|----------------------------|---|--|
| 1 | Name | : | Dr. P. G. Wasnik |
| 2 | Date of Birth | : | 15.06.1966 |
| 3 | Academic Qualification | : | M. Tech(Agricultural Process Engineering)
Ph.D. (Dairy Engineering) |
| 4 | Designation | : | Professor (Dairy Engineering),
Dean Faculty of Dairy Technology, MAFSU,
Nagpur
Associate Dean, CDT, Warud (Pusad) |
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B. Publication:

a. Research papers:

1. **Wasnik, P.G.**, Nikam, P.B., Dhotre, A.V., Waseem, M., Khodwe, N.M. and Meshram, B.D. (2013). Physico-chemical and textural properties of *Santra Burfi* as influenced by orange pulp content, Journal of Food Science Technology (DOI 10.1007/s13917-013-1044-5).
2. **Wasnik, P.G.**, Menon RR, Surendra Nath B, Balasubramanyam BV, Manjunatha M and Sivaram M (2017) Application of particle analysis and colour parameters for detection of adulteration of cow ghee with vanaspati derived from image analysis, Indian Journal of Dairy Science 70(2) 200-208.
3. **Wasnik, PG**, Menon RR, Surendra Nath B, Balasubramanyam BV, Manjunatha M and Sivaram M (2017) Application of pixel intensity, fractal dimension and skeleton parameters for detection of adulteration of cow ghee with vanaspati derived from image analysis, Indian Journal of Dairy Science 70(3) 331-337.
4. Changade SP, **Wasnik PG**, (2011) Process up gradation of bottle gourd and pumpkin kheer, J. Dairying, Food & Home Science, 31(01), 28-33
5. Changade SP, **Wasnik PG**, Waseem M (2011) Storage studies of bottle gourd and pumpkin kheer J. Dairying, Food & Home Science, 31(02), 99-103
6. **P.G. Wasnik**, P.B. Nikam, A.V. Dhotre, M. Waseem, N.M. Khodwe, B.D. Meshram (2011) Moisture sorption characteristics of Santra Burfi by DVS International Journal of Engineering & Science Research, 1(1), 31-43

7. B.D. Meshram, **P.G.Wasnik** (2011) Development of whey based soft drink. International Journal of Engineering & Science Research, 1(1), 44-50
8. Chapke J.S., Bhushan D Meshram, **Prashant G.Wasnik**, Goyal B.K.(2011) Utilization of Sawan (Echinochloa Frumentacea L.) for preparation of kheer International Journal of Engineering & Science Research, 1(1), 51-55
9. B.D. Meshram, **P.G.Wasnik** (2012) Formulation of Buttermilk Based Ready to Serve Fruit Beverage International Journal of Engineering & Science Research, 2(12), 2012 2173-81
10. B.D. Meshram, **P.G.Wasnik**, Dr. C.N. Pagote (2012) Optimization of Butter-Milk Based Soft Drink International Journal of Engineering & Science Research,2(12), 2167-72
11. A.B. Kadu, A.S. Khojare, **P.G. Wasnik**, M. Waseem (2006) Adsorption Refrigeration: An emerging approach to reduce energy cost. Indian Dairyman, 58(3), 41-44
12. B.D. Meshram, **P.G.Wasnik** (2007) Utilization of Butter milk in Ice cream making. Dairy Planner, 9(3),6-7
13. B.D. Meshram, **P.G.Wasnik** (2007) MAP-A new packaging technology in dairy and food industry Beverage and food world,34(10) 46-50
14. B.D. Meshram, **P.G.Wasnik** (2011) Development of whey based orange juice beverage Beverage and food world, 38(4),2011
15. **Wasnik,P.G.**,Waseem,M., Khodwe,N.M. and Meshram, B.D. (2011) Comparative study on Textural parameters of Gulabjamun prepared from commercial instant Gulabjamun mix. Beverage and food world, 38(11),2011
16. **Wasnik, PG**, Menon RR, Sivaram M,Surendra Nath B, Balasubramanyam BV and Manjunatha M (2019) Development of mathematical model for prediction of adulteration levels of cow ghee with vegetable fat using image analysis. Journal of food science and technology (<https://doi.org/10.1007/s13197-019-03677-x>)

b. Books

1. **Wasnik PG**, Menon RR (2017) Image analysis for detection of adulteration of cow ghee, Lambert academic publishing, Germany ISBN 978 3 330 34612 3
2. Wasnik PG, Chopde SS, Pawar N (2018) □□□□□ □ □□□□□□□□ □□□□□□' Vidya Prakashan Latur

c. Book Chapters

1. **Wasnik PG**, Menon RR & Meshram BD (2016) **Digital Image Analysis** : Tool for food quality evaluation. In book "Processing technologies for milk and milk products: Methods, applications and energy uses". Apple Academic Press, CRC press world wide distribution 2016 Hard copy ISBN:9781771885485.

2. Meshram BD, **Wasnik PG**, Sande KK, Shakil Ajagar and Agrawal AK (2016) “Innovative techniques in milk processing : A review” In book “Processing technologies for milk and milk products: Methods, applications and energy uses”. Apple Academic Press, CRC press world wide distribution 2016 Hard copy ISBN:9781771885485.
3. Meshram BD, Vyawahare AN, **Wasnik PG**, Agrawal AK and Sande KK (2016) “Microwave processing of milk: A review” In book “Processing technologies for milk and milk products: Methods, applications and energy uses”. Apple Academic Press, CRC press world wide distribution 2016 Hard copy ISBN:9781771885485.
4. **Wasnik PG**, Waseen M., Dhotre AV & Khodwe NM (2016) “Recent advances in Dairy Processing” in book Recent Trends in Dairy & Food Processing, Edited by Khojare AS Paithani Prakashan Aurangabad, ISBN No. 978-81-924191-7-6.
5. **Wasnik PG**, Menon RR & Nath N (2019) “Physical Characterisation of Ghee Using Image Analysis” in book Recent Technologies in Dairy Science edited by Rani RR, Singh B, Dharaiya CN, Mani HA Today & Tomorrow’s Printers and Publishers ISBN 10: 81-7019-6402
6. Sawale PD, Rekha RR, Veena N, Mesharam, BD, Deosarkar SS & **Wasnik PG** (2019) “Technical Interventions in Development of Herbal Fortified Milk Products” in book Recent Technologies in Dairy Science edited by Rani RR, Singh B, Dharaiya CN, Mani HA Today & Tomorrow’s Printers and Publishers ISBN 10: 81-7019-6402
7. Kiran N., **Wasnik PG** & Menon (2019) “Thermophysical Properties of Frozen Foods” in book Recent Technologies in Dairy Science edited by Rani RR, Singh B, Dharaiya CN, Mani HA Today & Tomorrow’s Printers and Publishers ISBN 10: 81-7019-6402

C. LIST OF RESEARCH PROJECTS/SCHEMES:

Following Projects are competed under financial support from INDIAN COUNCIL OF AGRICULTURAL RESEARCH (ICAR), NEW DELHI

1. Kadu, A.B., **WASNIK, P.G.**, WASIM, M.W., CHANGADE, S.P.KHOJARE, A.S. AND PATIL, M.R. (2002-2004) ‘Establishment of Sorption Kinetics And Physical Properties of selected fruit base Milk Shake’ the adhoc research project worth Rs. 6.0 Lakhs.
2. Changade, S .P., **Wasnik, P.G.**, Kadu, A.B., Khojare, A.S Wasim, M.W., Shelke R.R. and Patil, M.R., (2003-2005):Studies on feasibility of innovative approaches for scaling of novel food systems the adhoc research project worth Rs. 6.17 Lacks.
3. Changade, S .P., **Wasnik, P.G.**, Kadu, A.B., Khojare, A.S., Shelke R.R. AND PATIL, M.R.(2003-2005): Identification and process up gradation of vegetable based milk products of Maharashtra’ the adhoc research project worth Rs. 4.01 Lacks.
4. Janbandhu T.J., Patil, M.R., Changade, S .P., **Wasnik, P.G.**, Kadu, A.B., Khojare, A.S and Wasim, M.W. (2002-2005): Extent of some toxic trace elements in milk supplied in Vidharbha region of Maharashtra. A adhoc research project worth Rs. 20.67 Lakhs

5. **P.G. Wasnik**, A.V. Dhotre, B.D. Meshram, G. N. Narnaware, N. M. Khodwe, H.M. Gawande(2009-2011): Rheological behavior and modeling of Sorption kinetics of Traditional Dairy Products. Research Project Sanctioned by **RGSTC**, Govt. of Maharashtra. (Completed) Worth Rs. **33.72 Lakhs**.

D. Recommendation :

It is recommended to prepare real santra burfi by blending 10% fresh santra pulp and 90% Khoa-sugar mixture by maintaining texture profile value of 1.357 N hardness, 0.149 cohesiveness, 0.277 N adhesiveness, 0.177 mm springiness, 0.202 N gumminess and 23.91% moisture content (DB), with initial water activity of 0.8 to 0.9 at 25⁰C to 40⁰C for maintaining excellent quality for consumption.

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E. Details of the facility enhancement projects:

1. Kadu, A.B., **Wasnik, P.G** Khojare, A.S., Changade, S .P. Khedkar, C.D. Narnaware, G. N. and Patil, M.R. (2004) Assistance for creation of Infrastructure facilities under the scheme of Human resource development. A sanctioned project, worth Rs. 37.00 Lakhs from Ministry of Food Processing Government of India New Delhi.

F. Conference Publications

1. PG Wasnik, Menon Rekha R and B Surendra Nath Feasibility of image analysis in detection of adulteration of ghee with vegetable fat XIII Annual Conference of Indian Association of Veterinary Public health Specialists (IAVPHS) and the National Symposium on "Safety of Foods of Animal origin for Domestic and Export Markets: Legal Perspectives" held from 10th to 12th February, 2015 at Veterinary College, Bengaluru
2. Menon Rekha Ravindra and PG Wasnik (2014) Image processing and its application in quality control. Published in Proceedings of 9th National Convention of Dairy Engineers and National Seminar on "Engineering Interventions for Global Competitiveness of Indian Dairy Industry" during 8-9 September, 2014 at NDRI, Karnal.
3. Wasnik, P. G., Rekha R. Menon, Surendra Nath B., Balasubramanyam, B.V., Manjunatha, M., Sivaram, M., and Chitranayak 2015, Adulteration in ghee: Feasibility of using image analysis in its detection" Oral Presentation. Abstract published in the proceedings of 6th International Conference on Emerging Technologies in Food and Nutrition for Health Management (ICETF-2015).
4. *Menon Rekha Ravindra, P G Wasnik, S Varalakshmi* 2016. Computer Vision Technology and Food Quality. Paper published in the Compendium of National seminar on Innovations in Dairy and Food Sciences. CSDT, Mannuthy

5. PG Wasnik, Preeti Birwal and Menon Rekha Ravindra 2016. Image Analysis – a quality tool to detect adulteration of cow ghee with vegetable fat. Abstract Published in the proceedings of National Seminar on “Quality – A Tool for Value Addition of Dairy Foods” Bangalore.

G. Conference Prizes

1. Adulteration in ghee: Feasibility of using image analysis in its detection – Oral Presentation during ICETF 2015 (Best Research Prize)
2. Image Analysis – a quality tool to detect adulteration of cow ghee with vegetable fat. Poster Presentation during National Seminar on “Quality – A Tool for Value Addition of Dairy Foods” (Second Prize)

H. Extension:

a. Training programme and one day workshop organization:

- **{ks=h; izkR;f{kds %& 04 (2015-16)**
- **LoPN nq/k mRiknu o izfdz;k %& (One Day Workshop)**
30/11/2015 at CDT, Warud (Pusad)
- **'ksrd&;kP;k mRFkkuklkBh nqX/kO;olk; o nqX/k izfdz;k m|ksx %& (03 Days Training)**
14/12/2016 to 16/12/2016
at CDT, Warud (Pusad)
delivered lecture
- **LoPN nq/k mRiknu o izfdz;k %& (04 One Day Workshop)**
22/01/2016, 25/01/2016, 27/01/2016, & 28/01/2016
at CDT, Warud (Pusad) delivered lecture
- **nqX/k O;olk; mHkkj.kh djhrk vko';d ckch %& (06 Days Training)**
28/04/2016 to 03/05/2016
at CDT, Warud (Pusad)
- **ntsZnkj [kok fufeZrh %& (03 Days Training)**
23/06/2016 to 25/06/2016 at CDT, Warud (Pusad) delivered lecture
- **Acted as a resource person in various state govt. Programmes : NSS Camp, School and Colleges.**
- **Honoured from District Magistrate, Yavatmal for outstanding contribution during “Baliraja Chetana Abhiyan”.**

b. Extension Publications :

- **Popular articles** published for dissemination of innovative technologies. : 10
- **Booklet (Research & Extension) : 03**
- **Training Manuals : 03**

I. Other Activities :

- Cleared and streamlined pending GOI Scholarships 1997 onwards being an In-charge Scholarship.
- Construction of College building and student dairy plant being In-charge Building 2002.
- Strengthened infrastructure facilities of waiting hall, library reading room and computer lab.
- Purchase of Office Vehicle at CDT, Warud (Pusad).
- Strengthening facilities at College Library.
- Helped in organization of Alumni meet & National Seminar Dairy Industry: Technological Scenario and Career Prospects, from 23-24 April, 2016.
- Installation of Radio Frequency under NMICT, New Delhi.
- Organized campus placement 2015-16 to 2016-17.
- Organized 2 Hands on Trainings and students Earned Rs. 1.5 lakhs profit.