

Research:

1. List of Research Projects: Completed& Ongoing

| Sr. No. | Title of the Project | Name of PI/ Major Advisor/ Research Worker | Funding Agency | Total Cost of the project (Rs in Lakh) | Extra-mural (Funding agency)/ Intra-mural | Status (Completed /Ongoing) | Duration |
|---------|---|--|----------------|--|---|-----------------------------|-----------------------|
| 1 | NAIP-MM project on mechanization of experimental plots | Dr. G.B. Deshmukh | NAIP, ICAR | 38.40 Lakh | Extramural | Completed | March-Dec 2004 |
| 2 | Assessment of mineral profile relationship of animals, soils, feeds & fodder in Maharashtra for improvement of Livestock production potential | Dr. S. B. Kawitkar | MLDB (MS) | 9.91 Lakh | Extramural | Completed | 2008-2012 |
| 3 | DBT Star College Project | Dr. M. R. Jawale | DBT, N. Delhi | 82.00 Lakh | Extramural | Completed | 2019-Ongoing |
| 4 | Scale-up and techno economic feasibility studies on complete feed for animals using ozonated cotton stalk as roughage | Dr. A. P. Dhok | RGSTC, Mumbai | 152.47 Lakh | Extramural | Completed | 2019-2023 |
| 5 | Millet bio-refinery for food, feed, fodder, fertilizer and fuel design to demonstration | Dr. A. P. Dhok | DST, New Delhi | 22.30 Lakh | Extramural | Ongoing | From May 2024 ongoing |

2. List of Private Agency Projects:

| Sr. No. | Title of the Project | Name of PI/ Major Advisor/ Research Worker | Funding Agency | Total Cost of the project (Rs in Lakh) | Extra-mural (Funding agency)/ Intra-mural | Status (Completed /Ongoing) | Duration |
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| 1 | Efficacy of feed boost on nutrient utilization, rumen profile and milk yield of cattle | Dr. A. P. Dhok | Virbac Animal Health India Pvt. Ltd. | 1.20 Lakh | Extramural | Completed | 2014-15 |
| 2 | Studies on supplementation of chelated mineral mixture (Prathinmin) at various stages in cattle under field conditions | Dr. A. P. Dhok | Prathin Foods Private Limited | 1.50 Lakh | Extramural | Completed | 2015-16 |
| 3 | Effect of bio-methionine on growth performance and various parameters in broilers | Dr. S. V. Chopde | Vamso Biotech Pvt. Ltd. | 1.30 Lakh | Extramural | Completed | 2016-17 |
| 4 | Studies on supplementation of protein C on milk production and milk composition in buffaloes | Dr. A. P. Dhok | Hester Bio-Science | 1.22 Lakh | Extramural | Completed | 2021-22 |
| 5 | Comparative efficacy of calcium supplements on egg quality and production in late layers | Dr. A. P. Dhok | Ayurved | 1.64 Lakh | Extramural | Completed | 2021-22 |
| 6 | Studies on supplementation of Hi-FCR powder on nutrient utilization, rumen fermentation, milk production and milk composition in cattle | Dr. A. P. Dhok | Hester Bio-Science | 1.29 Lakh | Extramural | Completed | 2021-22 |
| 7 | Efficacy evaluation of herbal pet food variants by assessing the nutrient digestibility in canines | Dr. A. P. Dhok | Ayurved Ltd., | 1.47 Lakh | Extramural | Completed | 2023-24 |
| 8 | Supplementation of Toxifree D and its effect on aflatoxin content of milk in cattle | Dr. A. P. Dhok | Nutrient Bio-Agro Tech Pvt. Ltd. | 3.47 Lakh | Extramural | Completed | 2024-25 |

3. Research Priorities:

| Sr. No. | Research Area | Aim | Objective | Benefits of Farmers |
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4. Thesis:

Master:

| Name of Department : | | | | |
|-----------------------------|---------------------|--|--------------------|----------------------|
| Sr. No. | Name of the Student | Title of Thesis | Year of Completion | Name of the Advisor |
| 1 | R. J. Kukde | Effect of antiamebin on digestibility of nutrients and growth rate in Sahiwal female calves | 1974 | Dr. B. S. Thakur |
| 2 | S. K. Auradkar | Effect of antiamebin on digestibility of nutrients and milk production in Sahiwal cows | 1974 | Dr. B. S. Thakur |
| 3 | S. B. Suklikar | Study of breeding and feeding practices of dairy animals in relation to milk production in Buldhana district | 1976 | Dr. P. B. Saigaonkar |
| 4 | P. N. Narkhede | Replacement of Maize by jowar in layer mash | 1980 | Dr. M. R. Kaduskar |
| 5 | K. P. Dhamale | Replacing Maize by grain Sorghum (Jowar) in broiler rations | 1981 | Dr. B. S. Thakur |
| 6 | P. R. Rothe | Effect of source, level of dietary protein and amino acid supplementation on the performance of laying Hens | 1981 | Dr. M. R. Kaduskar |
| 7 | V. H. Kalbande | Effect of non-cereal rations on the performance of layers and broilers | 1982 | Dr. M. R. Kaduskar |
| 8 | S. M. Nerkar | Study of the influence of zinc supplementation on the performance of broilers | 1982 | Dr. B. S. Thakur |
| 9 | M. N. Potbhare | Effect of supplementing Livomyn in broilers | 1983 | Dr. B. S. Thakur |
| 10 | Girish Kumar Tiwari | Influence of dietary energy and protein content and protein quality on growth of egg type pullets during hot weather | 1983 | Dr. M. R. Kaduskar |
| 11 | A. D. Deshmukh | Efficacy of layer rations based on Rice polish by partial substitution with Maize | 1984 | Dr. M. R. Kaduskar |
| 12 | C. R. Behl | Influence of Ascorbic acid and Calcium on the performance of laying pullets during summer | 1984 | Dr. M. R. Kaduskar |

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| 13 | V. A. Bhaskare | Effect of replacement of groundnut cake by soybean cake on the performance of laying hens and broilers | 1986 | Dr. M. R. Kaduskar |
| 14 | P. M. Bhojar | Performance of broilers on non -cereal rations replaced for conventional rations at various stages of growth | 1986 | Dr. M. R. Kaduskar |
| 15 | R. M. Mahajan | Studies on replacement of Maize with Rice polish and broken Rice premix on broiler production | 1986 | Dr. B. S. Thakur |
| 16 | S. B. Kawitkar | Performance of broilers on diets supplemented with magnetised Lactose | 1987 | Dr. B. S. Thakur |
| 17 | V. M. Rakshas | Effect of dietary protein quality and amino acid supplementation on the performance of laying hens | 1987 | Dr. M. R. Kaduskar |
| 18 | M. U. Kharat | Dolomitic Lime stone as a sole source of Calcium in broiler diets | 1989 | Dr. B. S. Thakur |
| 19 | V. U. Dhande | Effect of Livol on performance of broilers | 1990 | Dr. R. J. Kukde |
| 20 | S. V. Kherde | Studies on efficacy of homemade mineral mixtures and commercial mineral mixture on performance of broilers | 1990 | Dr. R. J. Kukde |
| 21 | R. M. Brahmankar | Studies on mineral mixture: effect of feeding different sources of Calcium on the performance of lactating Cows | 1990 | Dr. D. W. Khire |
| 23 | A. P. Gawali | Utility of Sunflower cake as major protein supplement in layer rations | 1993 | Dr. D. W. Khire |
| 24 | S. B. Jadhao | Effect of feeding dried poultry droppings and sand on broiler performance | 1993 | Dr. R. J. Kukde |
| 25 | B. N. Ramteke | Effect of inclusion of dried poultry droppings in place of the deoiled Rice polish in the diet of layer | 1993 | Dr. R. J. Kukde |
| 26 | R. S. Alone | Utilization of groundnut cake alone or in combination with other cake as protein source in layer ration | 1993 | Dr. D. W. Khire |
| 27 | A. S. Kuchewar | Nutritional evaluation of lactating buffaloes in rural areas of Nagpur district | 1993 | Dr. R. J. Kukde |

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| 28 | S. A. Arbat | Effect on quality and quantity of milk of cross bred [J X S] cows fed with cereal - legume fodder combinations | 1993 | Dr. R. J. Kukde |
| 29 | P. P. Nemade | Influence of feeding of cereal - legume fodder combinations on milk yield of crossbred Cows | 1993 | Dr. R. J. Kukde |
| 30 | B. G. Gadge | Studies on Khesari seed (Lathyrus Sativus) as a source of poultry feed | 1996 | Dr. R. J. Kukde |
| 31 | V. A. Itankar | Effect of different levels of dietary aflatoxin on the performance of broilers | 1996 | Dr. R. J. Kukde |
| 32 | N. B. Patil | Trends of Lathyrus Sativus (Khesari seeds) in chick nutrition | 1997 | Dr. R. J. Kukde |
| 33 | P. R. Wankhede | Package of feeding practices of Gaolao cattle in rural areas of Wardha district | 1997 | Dr. R. J. Kukde |
| 34 | U. V. Galkate | Effect of different levels of dietary Aflatoxin on production in layers | 1997 | Dr. R. J. Kukde |
| 35 | S. B. Panchbhai | Effect of feeding LathyrusSativus (Khesari seeds) on performance of layers | 1997 | Dr. S. B. Suklikar |
| 36 | Anthakala Hirwade | Efficacy of natural feed supplement [Nutrimark] on broiler production | 1997 | Dr. R. J. Kukde |
| 37 | S. P. Kalaskar | LathyrusSativus: a protein source in layers | 1998 | Dr. S. B. Suklikar |
| 38 | V. J. Pachghare | Study of goat nutrition and its potential in Nagpur region (Vidarbha) | 1999 | Dr. A. D. Deshmukh |
| 39 | R. V. Nimbalkar | Use of raw Soybean in the diet of broiler by replacing Fish meal | 1999 | Dr. R. J. Kukde |
| 40 | V. D. Gaokhare | Effect of various levels of probiotic (BiovetYc) on performance of broiler | 1999 | Dr. S. B. Suklikar |
| 41 | G. V. Gokhale | Studies on the effect of Liver Tonic (Valilivgranules) on performance of broiler | 2000 | Dr. S. B. Suklikar |
| 42 | R. U. Gadekar | Effect of different levels of herbal growth promoters on broiler chicks | 2000 | Dr. R. J. Kukde |
| 43 | Vikas Kumar Sinha | Efficacy of different natural Iron sources on the performance of broilers | 2000 | Dr. R. J. Kukde |

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| 44 | S. S. Phalke | Effect of enzyme Xylanase and Cellulase on production efficiency of broiler | 2001 | Dr. A. D. Deshmukh |
| 45 | Shailendrakumar Patel | Effect of Orange pomace on performance of broiler by partial replacement of Maize | 2001 | Dr. A. A. Zanzad |
| 46 | M. R. Jawale | Effect of partial replacement of Maize by Orange pomace supplemented with Xylanase and Cellulase in broilers | 2001 | Dr. A. A. Zanzad |
| 47 | R. S. Kambale | Effect of multienzymes with probiotics on production efficiency of broilers | 2002 | Dr. R. J. Kukde |
| 48 | Murtuza Ali | Effect of different growth promoter (Spirulina) on performance of broiler | 2003 | Dr. B. N. Ramteke |
| 49 | A. N. Panchbuddhe | Effect of probiotics and multienzymes in low energy diet of Japanese Quail | 2003 | Dr. A. A. Zanzad |
| 50 | Anupkumar Rathi | Studies on supplementation of probiotics and multienzymes in low Protein diet of Japanese Quail | 2003 | Dr. R. J. Kukde |
| 51 | Miss Sapna Pedulwar | Effect of supplementation of different levels of Shatavari and Ashwagandha on performance of broilers | 2004 | Dr. A. A. Zanzad |
| 52 | S. F. Nipane | Feeding practices of nutritional status of Goats in Bhandara district | 2004 | Dr. G. B. Deshmukh |
| 53 | Miss Avanee Chaudhari | Effect of different levels of Ashwagandha with Vitamin C on performance of the Japanese Quails | 2005 | Dr. G. B. Deshmukh |
| 54 | P. E. Taksande | Effect of various probiotics with Vitamin C on growth performance of Japanese Quails | 2005 | Dr. A. A. Zanzad |
| 55 | R. R. Deshpande | Effect of dietary supplementation of Tulsi leaf powder (Ocimum Sanctum) on Egg yolk cholesterol and serum lipid profile in commercial layers | 2006 | Dr. A. A. Zanzad |
| 56 | Miss M. Sharmila | Effect of dietary Mannan Oligosaccharide on growth performance and immune status of broilers | 2007 | Dr. G. B. Deshmukh |
| 57 | Miss Rucha Lanjewar | Effect of dietary supplementation of Tulsi leaf powder (Ocimum Sanctum) on on the | 2007 | Dr. A. A. Zanzad |

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| | | meat cholesterol and serum lipid profile in broilers | | |
| 58 | Miss Shweta Lende | Comparative efficacy of gut acidifier and Lactobacillus sporogenes on the performance of broilers | 2007 | Dr. B. N. Ramteke |
| 59 | Miss Lalmuanpui | Effect of various growth promoters on the performance of Japanese quails | 2008 | Dr. A. A. Zanzad |
| 60 | Ajay Pratap Singh | Effect of dietary supplementation of Garlic powder (Allium Sativum) on performance, meat cholesterol and serum lipid profile in broilers | 2008 | Dr. B. N. Ramteke |
| 61 | R. B. Patankar | Comparative efficacy of herbal antioxidants in amelioration of summer stress in broilers | 2009 | Dr. S. B. Kawitkar |
| 62 | Miss Vaishali Misalkar | Effect of dietary supplementation of Tulsi (Ocimum sanctum) leaf powder with or without vitamin E on growth performance and immune response in broilers | 2010 | Dr. B. N. Ramteke |
| 63 | C. D. Malapure | Influence of dietary supplementation of Phospholipids and Lysophospholipids on performance of broilers | 2010 | Dr. S. B. Kawitkar |
| 64 | Miss Kavita Shende | Effect of gut acidifier and prebiotic on growth performance and gut morphology of broilers | 2011 | Dr. B. N. Ramteke |
| 65 | L. N. Bendale | Effect of dietary supplementation of different organic Chromium sources on performance of broilers | 2011 | Dr. S. B. Kawitkar |
| 66 | M. D. Rainchwar | Utilization of Soybean hulls as an energy source in the concentrate mixture of Buffalo calves | 2012 | Dr. G. B. Deshmukh |
| 67 | Komal Kale | Effect of dietary supplementation of organic chromium on immune response in broilers under nutritional stress | 2012 | Dr. S. B. Kawitkar |
| 68 | Miss Gauri Sewatkar | Effect of dietary supplementation of Garlic powder (Allium sativum) on performance of broiler chicken | 2013 | Dr. A. D. Deshmukh |

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| 69 | S. K. Jadhav | Effect of replacement of maize with soybean hulls in the concentrate mixture of growing buffalo calves | 2013 | Dr. A. P. Dhok |
| 70 | Y. G. Deshmukh | Supplementation of Protease enzyme in broiler diet with varying protein levels | 2014 | Dr. A. P. Dhok |
| 71 | Miss Rupali Dhonge | Supplementation of Xylanase enzyme in broiler diet with varying energy levels | 2014 | Dr. A. D. Deshmukh |
| 72 | N. A. Dongre | Supplementation of Protease and Xylanase enzyme in broiler diets with varying protein-energy levels | 2015 | Dr. A. D. Deshmukh |
| 73 | S. K. Diwate | Replacement of maize with soybean hulls in the concentrate mixture of growing buffaloe calves with or without enzyme supplementation | 2016 | Dr. A. D. Deshmukh |
| 74 | Miss Priyanka Tonde | Utilization of soybean hulls replacing maize in the concentrate mixture of lactating buffaloes | 2016 | Dr. A. P. Dhok |
| 75 | Miss Soniya Dhawale | Effect of replacement of concentrate mixture by Maize hydroponic fodder on performance of goat | 2017 | Dr. A. D. Deshmukh |
| 76 | Syed Bilal Ali | Growth performance of goat fed Moringa Oleifera leaf meal incorporated in concentrate mixture | 2017 | Dr. S. B. Kawitkar |
| 77 | C. R. Pedapalli | Studies on utilization of bypass proteins & yeast in growing buffaloes calves | 2018 | Dr. A. D. Deshmukh |
| 78 | N. B. Parihar | Effect of supplementation of rumen protected fat & methionine on performance of lactating buffaloes | 2018 | Dr. S. B. Kawitkar |
| 79 | S. A. Jadhav | Utilization of cotton stalk in complete pelleted feed of growing goats | 2019 | Dr. A. D. Deshmukh |
| 80 | C. B. Shembekar | Studies on utilization of Ozone treated cotton stalk in pelleted complete feed of growing goats | 2019 | Dr. S. B. Kawitkar |
| 81 | Miss Supriya Burghate | Replacement of gram straw with ozone treated cotton stalk supplemented with yeast & multienzymes in pelleted complete feed of growing goats | 2021 | Dr. A. D. Deshmukh |

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| 82 | C. P. Patil | Effect of dietary supplementation of essential oils on performance and gut health of broiler chicken | 2021 | Dr. S. B. Kawitkar |
| 83 | O. P. Ingle | “Supplementation of fibre degrading enzymes And <i>Saccharomyces Cervisea</i> in gram straw based pelleted complete feed of growing Goats | 2021 | Dr. A. P. Dhok |
| 84 | O. S. Thorat | Replacement of gram straw with cotton stalk supplemented with yeast and multienzymes in pelleted complete feed of growing goats | 2021 | Dr. S. V. Chopde |
| 85 | Miss Pratiksha Bacche | Effect of dietary supplementation of phytosome conjugated carvacrol essential oil on performance and gut health of broiler chicken | 2023 | Dr. M. R. Jawale |
| 86 | R. L. Werulakar | Studies on utilization of Rice distillers dried grains with solubles in broiler chicken | 2023 | Dr. A. P. Dhok |
| 87 | G. A. Butle | Dietary inclusion of rice DDGS supplemented with protease through different growth phases in broiler chicken | 2024 | Dr. A. P. Dhok |
| 88 | Miss Jaishri Chaurasia | Effect of dietary supplementation of phytosome conjugated carvacrol and cinnamaldehyde essential oil on performance and gut health of broiler chicken” | 2024 | Dr. S. V. Chopde |

Doctoral:

| Name of Department: | | | | |
|---------------------|---------------------|--|--------------------|---------------------|
| Sr. No. | Name of the Student | Title of Thesis | Year of Completion | Name of the Advisor |
| 1 | Avinash Deshmukh | Effect of magnetized feed and water on performance of broilers | 1997 | Dr. B. S. Thakur |

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|---|-------------------|---|------|--------------------|
| 2 | Bhooshan Ramteke | Feeding practices and mineral status of buffaloes in relation to soil, feed and fodder in high rainfall zone of Vidarbha in Maharashtra state | 2009 | Dr. S. V. Deshmukh |
| 3 | Atul Dhok | Studies on methane production potential of different feedstuffs and mitigation through feed supplements in buffaloes | 2016 | Dr. A. D. Deshmukh |
| 4 | Miss Shweta Lende | Effect of supplementation of bypass proteins, bypass fat & their combination on performance of local goats | 2019 | Dr. A. D. Deshmukh |
| 5 | Suresh Nipane | Evaluation of fiber degrading enzymes in cotton stalk based pelleted complete feed of growing goats. | 2023 | Dr. S. B. Kawitkar |

5. Research Recommendations

| Sr. No. | Recommendations | Release Year |
|---------|---|--------------|
| 1 | The use of probiotics (<i>S. cereviceae</i>) and multi enzyme @ 500 gram / T of feed with low energy (2600 and 2400 Kcal/ kg in starter and finisher mash, respectively) can be used beneficially and economically for improving the performance of the quails. | 2004 |
| 2 | It is recommended to supplement standard layer diet with 1% Tulsi (<i>Ocimum sanctum</i>) leaf powder to reduce egg yolk cholesterol and serum lipids, increase HDL cholesterol and maintain the performance. | 2008 |
| 3 | It is recommended that, the soybean hulls can replace corn upto 75 per cent as an energy source in the concentrate mixture for economical raising of growing buffalo calves. | 2014 |
| 4 | On assessment of mineral profile of animal, soil, feed and fodder, district wise area wise mineral mixture for 33 districts of Maharashtra State are recommended. | 2014 |
| 5 | Supplementation of protease and xylanase @200g/ton each with reduction of energy and protein levels by 5% is recommended for economical broiler production. | 2015 |
| 6 | It is recommended to use soybean hulls in place of corn as an energy source in the concentrate mixture with the addition of Cellulase enzymes@4 g/ d for economical raising of growing buffalo calves. | 2016 |
| 7 | It is recommended to replace corn up to 50% with soybean hulls as an energy source in the concentrate mixture of lactating buffaloes for economical milk production | 2016 |
| 8 | It is recommended to replace 25% concentrate mixture by hydroponic maize fodder on dry matter basis for economical rearing of growing goats. | 2017 |
| 9 | It is recommended to replace cotton seed cake with <i>Moringa oleifera</i> leaf meal (MOLM) upto 12.5 parts (50 percent) in concentrate mixture for economical rearing of growing goats. | 2018 |
| 10 | It is recommended to supplement bypass protein @ 2.5 percent of dry matter intake for economical rearing of growing buffalo calves. | 2018 |

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| 11 | It is recommended to add 3% linseed oil or soybean oil in concentrate mixture for significant inhibition of methane emission in buffaloes. | 2018 |
| 12 | It is recommended to add 1% linseed oil in concentrate mixture for economical milk production in buffaloes | |
| 13 | It is recommended to supplement rumen protected methionine @3g/day and rumen protected lysine @ 20g/ day is beneficial for economical rearing of cross-bred calves. | 2018 |
| 14 | It is recommended to replace 50% maize grains by soybean hulls (on dry matter basis) in concentrate mixture for economical production of goats. | 2019 |
| 15 | It is recommended to supplement a combination of bypass protein and bypass fat each at the rate of 2.5% of Dry Matter Intake in concentrate mixture for economical goat production. | 2019 |
| 16 | It is recommended to supplement thymol essential oil @ 100 mg/kg feed for improved gut health and profit in broiler production. | 2022 |
| 17 | It is recommended to use cotton stalk as a sole roughage source in pelleted complete feed of goats under stall-fed conditions for profitable goat farming. | 2023 |
| 18 | Ozone treatment of cotton stalk for 4 hrs under 5 LPM pressure is recommended for improving the nutritive value and its utilization in ruminants. | 2023 |
| 19 | Use of ozone treated cotton stalk in pelleted complete feed yields more body weight gain and profit under intensive rearing for commercial goat farming. | 2023 |
| 20 | It is recommended to include 15% good quality rice DDGS in broiler diet supplemented with 300 g protease enzyme (10000 EPU) per ton of feed for economical broiler production. | 2023 |
| 21 | It is recommended to include rice DDGS in broiler diet at 20% level during starter and finisher phase supplemented with protease enzyme (10000 EPU) @ 300 g/ ton of feed for economical broiler production | 2024 |
| 22 | It is recommended to supplement phytosome conjugated cinnamaldehyde essential oil @ 100 mg/kg in broiler chicken feed as a safe and potential natural growth promoter in place of antibiotic and also to improve growth performance, gut health and economical broiler production. | 2024 |

8. Research Priorities / Thematic areas: Department Wise

| Sr. No. | Thematic areas |
|---------|--|
| 1 | Exploration and Utilization of newer/alternate feed resources and agro- industrial by-products as livestock and poultry feed |
| 2 | Improvisation of nutritive value of poor quality roughages with technological interventions |
| 3 | Use of feed supplements and additives for improved animal performance |
| 4 | Development of nutritional strategies for methane mitigation in ruminants |
| 5 | Studies on Nutrigenomics and application of Nano and biotechnology in livestock and poultry production |
| 6 | To evolve on farm strategies for improved production with precise ration formulation using locally available feed resources |
| 7 | Studies on Nutrigenomics and application of Nano and biotechnology in livestock and poultry production |

