

## 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

### 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 antiamoebin on digestibility of nutrients and growth rate in Sahiwal female calves	1974	Dr. B. S. Thakur
2	S. K. Auradkar	Effect of antiamoebin 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

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

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

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

		meat cholesterol and serum lipid profile in broilers		
<b>58</b>	Miss Shweta Lende	Comparative efficacy of gut acidifier and Lactobacillus sporogenes on the performance of broilers	2007	Dr. B. N. Ramteke
<b>59</b>	Miss Lalmuanpuii	Effect of various growth promoters on the performance of Japanese quails	2008	Dr. A. A. Zanzad
<b>60</b>	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
<b>61</b>	R. B. Patankar	Comparative efficacy of herbal antioxidants in amelioration of summer stress in broilers	2009	Dr. S. B. Kawitkar
<b>62</b>	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
<b>63</b>	C. D. Malapure	Influence of dietary supplementation of Phospholipids and Lysophospholipids on performance of broilers	2010	Dr. S. B. Kawitkar
<b>64</b>	Miss Kavita Shende	Effect of gut acidifier and prebiotic on growth performance and gut morphology of broilers	2011	Dr. B. N. Ramteke
<b>65</b>	L. N. Bendale	Effect of dietary supplementation of different organic Chromium sources on performance of broilers	2011	Dr. S. B. Kawitkar
<b>66</b>	M. D. Rainchwar	Utilization of Soybean hulls as an energy source in the concentrate mixture of Buffalo calves	2012	Dr. G. B. Deshmukh
<b>67</b>	Komal Kale	Effect of dietary supplementation of organic chromium on immune response in broilers under nutritional stress	2012	Dr. S. B. Kawitkar
<b>68</b>	Miss Gauri Sewatkar	Effect of dietary supplementation of Garlic powder (Allium sativum) on performance of broiler chicken	2013	Dr. A. D. Deshmukh

<b>69</b>	S. K. Jadhav	Effect of replacement of maize with soybean hulls in the concentrate mixture of growing buffalo calves	2013	Dr. A. P. Dhok
<b>70</b>	Y. G. Deshmukh	Supplementation of Protease enzyme in broiler diet with varying protein levels	2014	Dr. A. P. Dhok
<b>71</b>	Miss Rupali Dhonge	Supplementation of Xylanase enzyme in broiler diet with varying energy levels	2014	Dr. A. D. Deshmukh
<b>72</b>	N. A. Dongre	Supplementation of Protease and Xylanase enzyme in broiler diets with varying protein-energy levels	2015	Dr. A. D. Deshmukh
<b>73</b>	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
<b>74</b>	Miss Priyanka Tonde	Utilization of soybean hulls replacing maize in the concentrate mixture of lactating buffaloes	2016	Dr. A. P. Dhok
<b>75</b>	Miss Soniya Dhawale	Effect of replacement of concentrate mixture by Maize hydroponic fodder on performance of goat	2017	Dr. A. D. Deshmukh
<b>76</b>	Syed Bilal Ali	Growth performance of goat fed Moringa Oleifera leaf meal incorporated in concentrate mixture	2017	Dr. S. B. Kawitkar
<b>77</b>	C. R. Pedapalli	Studies on utilization of bypass proteins & yeast in growing buffaloes calves	2018	Dr. A. D. Deshmukh
<b>78</b>	N. B. Parihar	Effect of supplementation of rumen protected fat & methionine on performance of lactating buffaloes	2018	Dr. S. B. Kawitkar
<b>79</b>	S. A. Jadhav	Utilization of cotton stalk in complete pelleted feed of growing goats	2019	Dr. A. D. Deshmukh
<b>80</b>	C. B. Shembekar	Studies on utilization of Ozone treated cotton stalk in pelleted complete feed of growing goats	2019	Dr. S. B. Kawitkar
<b>81</b>	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

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

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 Moringa oleifera 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

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

