

Name: Dr. Motilal Madan,

Currently:

President, Society of Animal Physiologist of India.
Chairman, Sub-Group on Livestock, Haryana Farmer's Commission, Govt. of Haryana.
Member, Expert Committee for National Project on Cattle & Buffalo Development, Ministry of Agriculture, DAHD, New Delhi.
Hon. Advisor, Livestock Development, Govt. of Sikkim.
Chairman, Research Advisory council, Indian Veterinary Research Institute, Izatnagar. UP
Chairman, QRT for Project Directorate on Cattle, (ICAR) Meerut, UP.
Chairman, National Committee to review format for Research projects and their evaluation under Agriculture Research Service of ICAR, New Delhi.
Member, Search Committee for National Professorial Chairs Under ICAR, New Delhi.

Former:

Vice chancellor, Pt Deendayal Upadhyaya University of Veterinary sciences, Mathura, UP.
Vice Chancellor, Dr. Panjabrao Deshmukh Agriculture University, Akola, Maharashtra.
Deputy Director General (Animal Sci.) ICAR, New Delhi.
Joint Director Research and Project Director Biotech NDRI, Karnal.
Expert Member (Animal Sciences & Fisheries), Parliamentary Committee to evaluate research work of ICAR Institutes, DARE, New Delhi.
Expert Member, Swaminathan Committee for Developing Agricultural Policy for Maharashtra.
Member, National Task Force for Revamping Agricultural Education and Research, Planning Commission, Govt. of India, New Delhi.
Chairman, National Task Force in Animal Biotechnology. Dept. of Biotechnology, Govt. of India, New Delhi
Member Executive, National Academy of Agriculture sciences, New Delhi.
Chairman, Education Committee, Veterinary Council of India, New Delhi.
Member, Expert Committee for Restructuring Academic & Research Program of GB Pant Univ. of Agriculture & Technology, Pantnagar.
Member, Board of Management, Maharashtra Animal & Fishery Sciences Univ. Nagpur, (Maharashtra), Punjab Agriculture Univ. Ludhiana, Punjab. Ind. Vet. Res. Inst. Bareilly (UP), Nat. Dairy Res. Inst. Karnal (Haryana).
Secretary, National Academy of Agriculture sciences, New Delhi.
Secretary, Indian Association of Agriculture Universities, New Delhi
Chairman, QRT for Central Research Institute for Buffaloes, Hisar, ICAR.
Chairman, QRT for Central Institute for Fisheries Education & Research, ICAR.

Education:

B.V.Sc. & A.H., Gold Medalist
(Punjab College of Veterinary Science & Animal Husbandry, 1959)
M.Sc., Gold Medalist (National Dairy Research Institute, Karnal,
Punjab University, 1965, Punjab)
Ph.D. (University of Columbia, Missouri, USA, 1971)
Doctor of Science (Chandra Shekhar Azad University of Agriculture
& Technology, Kanpur, Uttar Pradesh, 2001) 'Honoris Causa'.

Date of Birth: 1st of January 1939.

Place of Birth: Srinagar, Kashmir, India

Professional Experience:

Professional Veterinarian with a total experience of over 50 years in National Agricultural Research System (NARS) in India and other developing countries in the areas of Research, Teaching, Extension, Research Management, (planning, coordination and direction) and Infrastructure Development in the broad fields of Agriculture, Livestock, Veterinary and Agricultural Production Systems; National and international coordination of agricultural research among Ministries, Departments, Universities and Research Institutions in Public/Private Sectors; Research, Teaching, Extension and media reporting in the area Veterinary Science, Natural resource management and Human resource development.

A research investigator, a Reproductive Biologist and Biotechnologist with Science Innovation in the production of **First In-Vitro fertilized Buffalo Calf in the world.**

Initiated and developed National and International Research and Development programs in the country and within ICAR Institutes, Agricultural Universities and Non-governmental organizations. Managed funding and evaluation of national biotechnology research projects in Animal biotechnology.

Positions Held:

Vice chancellor, Pt Deendayal Upadhyaya University of Veterinary sciences, Mathura, UP, Illustrious Institution with veterinary college of over 60 years of standing (Oct 2006 to Oct 2009).

Chairman, National Task Force in Animal Biotechnology. Dept. of Biotechnology, Govt. of India, New Delhi (1999 to 2004).

Vice-Chancellor, Dr. Panjabrao Deshmukh Agricultural University, Akola, Maharashtra (May, 1999 to May, 2002). One of the leading multi-faculty Agricultural University of the country responsible for Agricultural research, teaching, extension, seed production and Agribusiness.

Deputy Director General (Animal Sciences), Indian Council of Agricultural Research, New Delhi (4th Dec.1995 to 1999) An Apex Research Organization for the Country.

Joint Director (Research), National Dairy Research Institute (NDRI), Karnal. 1994 to 1995.

Project Director, Embryo Transfer Technology (S & T Mission Project - 1987 to 1994).

Professor and Head, Animal Physiology and Head, Dairy Cattle Physiology Division, NDRI, Karnal (1979-1990)

Associate Professor, Animal Production Physiology, Haryana Agriculture Univ. (HAU), Hisar (1972-79).

Assistant Professor, Animal Production Physiology, HAU, Hisar, (1966-72)

Demonstrator, Dairy Husbandry, National Dairy Research Institute, (1965-1966).

Veterinary Assistant Surgeon & Animal Husbandry Extension Officer, J&K State Government, (1959-1963).

Major Responsibilities in Education, Research, Development and Management

Direct, coordinate, monitor and initiate Research programme in the area of Veterinary/Agriculture including livestock production in India under National Agricultural Research system at National level and at the State level. Develop National Research programs and international research co-operation/ linkages. Formulate and implement different States government and Central Agriculture R & D programme. Produce policy

documents for various aspects of Agriculture, veterinary science & Animal Husbandry development at Central and State level.

Research prioritization, project formulation and sanction of competitive grants among ICAR Institutes and Agricultural Universities in the country and also within different Departments in the Agricultural Universities. Directly responsible for management of 16 Animal Science Institutions in the country having about 1500 Scientists including 2 deemed Universities (Indian Veterinary Research Institute, National Dairy Research Institute). Responsible for the total management of different faculties of Agriculture, Veterinary Science, Dairy Science, Horticulture, Forestry in the Agriculture University and 21 Sub-centers of All India Coordinated Programme.

Management of State Agricultural Universities/Institutes and its regional Stations. Collaboration at National and international level among Research Scientists / Institution. Research, Education and Extension Programme for Dry land Agriculture.

Direct and manage research programme under the Dept. of Biotechnology Ministry of Agriculture, Department of Animal Husbandry and Dairying and Research, Teaching & Extension activities at the National Dairy Research Institute, Punjab Agricultural University, Ludhiana and Haryana Agricultural University, Hisar.

Research Specialization:

Veterinary/Animal Sciences, Livestock Production, Reproductive biology and Biotechnology.

Honors, Awards, Recognitions:

a) National / International Awards:

Life Time Achievement Award (2011): Indian Society for Study of Reproduction and Fertility for outstanding contribution in the field of Reproductive Health.

Dr B.P.Pal Award (2006): conferred by National Academy of Agriculture Sciences for singular overall contribution to Agriculture.

Bhasin Award (2002): The prestigious National Science and Technology Award given in the area of "Agriculture and Allied Sciences" for significant achievements and outstanding scientific leadership in Science and Technology contributing to a significant impact on National Development.

Doctor of Science (Honoris Causa) 2001: CSA University of Agriculture and Technology, Kanpur.

Rafi Ahmed Kidwai Award (1992): The prestigious National award in Agricultural Sciences conferred by Indian Council of Agricultural Research, New Delhi for outstanding research contribution in the area of Animal Production.

Hari Om Award (1990): Prestigious National Award conferred by Indian Council of Agricultural Research for outstanding contributions in the area of Animal Sciences (work Physiology).

Distinguished Veterinarian Award (DIVA) (2002): Indian Association for the Advancement of Veterinary Research Distinguished Veterinarian Award (DIVA)-2002 for outstanding contribution to Veterinary Profession and the Contemporary Society.

AGOURI Award (1995): Honoured by Japanese Society of Animal Reproduction for contribution towards advancement of Animal Reproduction Bio-technology.

Alumni Excellence Award (2004): in recognition of Contributions to the Growth of Animal Biotechnology and bringing the name and fame for National Dairy Research Institute, Karnal.

SAPI Honorific Award (2002): Society of Animal Physiologists of India Award for distinctive contribution in Animal Physiology.

Malika Trivedi IAAVR Award (1997): Presented by the Indian Association for advancement of Veterinary Research in recognition to contributions to Veterinary Research.

D.Sundaresan Award (1989): Awarded in recognition of outstanding contribution in the field of Dairy Production Research in India for the biennium 1987-88

Nirmalan Memorial Award (1994-95): Awarded for distinguished contribution to the Science of Physiology by Society of Animal Physiologists of India.

International Science Pioneer Award (1985): Awarded for "Valuable scientific contributions in the domain of science and technology for the welfare of humanity" at the First World Buffalo Congress, Cairo, Egypt.

Nalis Lagerlof Award (1985 and 1997): Awarded twice for Outstanding Research publication in the field of Reproduction by Indian Society for the Study of Animal Reproduction.

Rotary Award (1988): Presented Rotary International Merit Award for contributions in the area of Science by Rotary Club.

AJAS Purina Award (1999): For outstanding research publication in Asian-Australasian Journal of Animal Sciences published by Asian Australasian Association (AAAP) (Award given once in Four years).

Rotary Service Excellence Award (2001): Rotary International Award for outstanding contribution and exemplary service in the field of Education and to the Course of Community at large.

Hon. Colonel Commandant, National Cadet Core (NCC), appointed by the Govt.of India, Ministry of Defence.

b) *Academic:*

S. Bahadur Mooll Singh Gold Medal, (1959) B.V.Sc. & A.H. (III Prof.) Punjab College of Vety. Science and Animal Husbandry, Hisar, for scholastic achievements.

All Round Best Student (1959) Punjab College of Veterinary Science & Animal Husbandry, Hisar for All round performance in sports, Academics, Extracurricular activities.

Gold Medal (1965) M.Sc. Dairying, First Class First : Punjab University, Chandigarh.

Best Speaker (1965) Awarded Silver Plaque for outstanding eloquence in debates and declamations, Dairy Science College, National Dairy Research Institute, Karnal.

Fellowship ICAR & CSIR Awarded ICAR Junior & Senior Fellowships (1963, 1965) and C.S.I.R. Senior Fellowship (1965).

Gamma Sigma Delta Membership (1970) Conferred membership of Honour, Society of Agriculture in recognition of high scholarship, outstanding achievement of service to Agriculture Science (U.S.A.).

Sigma XI Membership (1971) Awarded membership by the Society of Sigma XI Society devoted to the promotion of research in Science (U.S.A.)

Graduate Student Plaque (1971) Awarded University of Missouri, Centenary Plaque for being Outstanding graduate student of the Centenary year in the Department of Dairy Husbandry, University of Missouri, Columbia, MO USA.

Certificate of achievement (1971) Awarded Certificate of achievement by U.S. Department of State, Agency for International Development of the Govt. Of U.S.A. for successfully completing participation in technical cooperation programme in the field of Physiology.

c) *Fellowships of Professional & Scientific Organizations:*

Fellow, National Academy of Agriculture Science (1996) Fellow of the National Academy of Agricultural Science, New Delhi for outstanding contributions in the area of Animal Biotechnology.

Fellow, National Academy of Science (1993) Nominated Fellow of the National Academic of Sciences,

India.

Fellow, National Academy of Veterinary Sciences (India) (2004).

Fellow, Indian Association for the Advancement of Veterinary Research (2002) for outstanding contribution in the field of Veterinary and Animal Husbandry.

Fellow, Egyptian Veterinary Association (1985) Awarded for 'dedicating all efforts to promotion of buffalo production' by Egyptian Veterinary Association for Buffalo Production, Cairo, Egypt.

Fellow ISSAR (1984) Fellow 'Indian Society for the Study of Animal Reproduction in recognition of meritorious contributions in the field of Animal Reproduction and valuable services to Animal Reproduction.

International Assignments :

Member, Indian delegation to Netherlands under Indo- Netherlands Joint Commission on Agriculture for developing collaborative programs in the area of Animal Science (1982).

Member, Indian Dairy Genetic Mission to Canada on the invitation of Canadian Govt. for development of collaborative programs in the area of Animal Biotechnology (1989).

Member, Indian delegation to 23rd International Dairy Congress, Montreal, Canada, 1990 (Invitational Lecture on Embryo Biotechnology in Buffaloes).

Member, Government of India delegation to China for Developing Cooperation in the area of Biotechnology, 1994.

Member, Indian Delegation to OIE, France for Livestock Health, 1996.

Member, International Steering Committee for Assessment of Animal agriculture in Asia (ILRI – CGIAR Asian Livestock programme), 1996-97.

FAO Resource person :

At the Workshop on "Biotechnology of Reproduction" held during III World Buffalo Congress at Varna, Bulgaria, 1991

For a special training on "Embryo Transfer Technology in Buffaloes" at the International Symposium on Prospects of Buffalo Production in the Mediterranean/ Middle East, Cairo, Egypt, November, 1992.

To write a Book on "Physiology of Reproduction in Buffaloes" by FAO Rome.

In International Consultancy Group for Buffalo development in Europe & Africa meeting at Sofia, Bulgaria (Oct., 1995).

FAO Consultant: Worked as consultant of Food and Agriculture Organization of the United Nations in 'Buffalo Husbandry at Islamic Republic of Iran' under UNDP/FAO project IRA/87/003. IETS Invitee: Invited by International Embryo Transfer Society for delivering an invited special lecture on "In vitro production and transfer of embryos in buffaloes" at the International Conference at Melbourne (Australia) in January 1994 to present work in area of IVF.

ARC Invitee: International Conference for Animal Reproduction Invited for 13th International Conference Animal Reproduction to present an invitation lecture on "Reproductive Technologies in buffaloes" at Sydney, Australia 1996.

OIE invitational paper on "Animal biotechnology: applications and economic implications in developing countries Rev. sci. tech. Off. int. Epiz., 2005, 24 (1), 127-139.

Invitational lecture on Reproductive endocrinology and biotechnology applications among buffaloes, at the International congress on Ruminant Reproduction held in New Zealand. Society of Reproduction and Fertility supplement 2007; 64:261-81.

International professional interaction :

USA, Mexico, England, Netherlands, U.S.S.R., Egypt, Pakistan, Japan, Thailand, Germany, Canada, Bulgaria, Iran, Australia, China, Brazil, Indonesia, Singapore, France, Nepal, Austria, New Zealand.

National Assignments:

Chairman, National Task Force for Animal Biotechnology of the Government of India, Department of Biotechnology, Ministry of Science and Technology (2000 -2005).

Secretary, National Academy of Agriculture sciences, New Delhi, 2006

Secretary, Indian Association of Agriculture Universities, New Delhi

Member, Standing Advisory Committee Overseas (SACO) DBT, Ministry of Science and Technology (2000 - 2004).

Member, National Project Steering Committee, National Project for Cattle and Buffalo Breeding (NPCBB) Dept. of Animal Husbandry and Dairying, Ministry of Agriculture, Govt. of India.

Member (Elected) of the National Executives of Veterinary Council of India 1999 and 2003.

Chairman, Education committee of the Veterinary Council of India

Chairman, Bureau of Indian Standards Committee on Standardization of equipments for Animal Reproductive AFDC: 65 (FAD:41)

Chairman, National Scientific Panel of ICAR in the area of Animal Sciences 1995 to 1999.

Chairman, Technical Managers Committee, Mission Project on Embryo Technology, Min. of Sci. & Tech., 1987 to 1992.

Chairman, Education committee of the Veterinary Council of India, 2003

Chairman of the Committee on Industrial Biotechnology (Animal Science/Health), Dept. Of Biotech., Min.of Sci. Tech., Govt. Of India, 1991.

Member, Board of Management, Indian Veterinary Research Institute, Izatnagar - U.P.

Member, Board of Management of the Yashwantrao Chavan Maharashtra Open University, Nashik, 22nd Sept. 2000 to 10th August, 2001.

Member, National Working Group for Animal Husbandry and Dairying during 10th Plan, Planning Commission, Government of India, New Delhi (2000-2001).

Member, Agriculture Policy Planning Committee for Maharashtra, Maharashtra Government, Mumbai (2001)

Member, Biotechnology Research and Promotion Committee BRPC of the Department of Biotechnology, Ministry of Science & Technology, Govt. of India.

Member, Working Group for the formation of Tenth Five Year Plan (2002-2007) of the Department of Biotechnology, Ministry of Science and Technology, Govt. of India, New Delhi.

Chairman, Finance Committee of the Veterinary Council of India, 2000 to 2003.

Coordinator, National Task Force for Draft Animal Improvement, ICAR, New Delhi, 1982-83.

Vice-President, Indian Society for Reproduction and Fertility 1995-98.

General Secretary, Society of Animal Physiologists of India, 1984-90.

Joint Secretary, Society for study of Animal Reproduction in India, 1983-84.

Member, National Task Force for "Animal Biotechnology" Min. of Science & Technology, Dept. of Biotech., Govt. of India, 1989-96.

Member, National Panel on 'Physiology and Nutrition Research' ICAR, 1984-1987, and on 'Physiology' 1988 to 1993.

Member, National Scientific Panel for Animal Sciences of ICAR 1993 to 1995.

Salient Research Achievements:

Reproductive Endocrinology:

- Procedures and Protocols developed for **Microquantitation** of protein and steroid hormones by Radioimmunoassay and enzyme Imm. Assay, Twelve such hormones estimated in plasma/milk of cattle, Buffaloes and goats. The facilities developed only of its kind in the country.
- **Antisera** for protein and steroid hormones developed and used in Assay system. An important import substitution and technology developments.
- Identification of endocrine causes and treatment of **anestrus** in bovine achieved.
- **Induction of parturition** and clinical termination of pregnancy-technology development.
- **Endocrine profile of buffaloes & cattle** during cyclicity parturition and post-partum period established.
- **Endocrine causes of poor super ovulation** among buffaloes defined.

Environmental Physiology

- **Direct Heat stress effects** on gonadotropin hormone and reproductive cycle quantified for the first time in bovines (First published report, and technology developed for RIA in bovines)
- **Season relation to Thyroid Physiology** (Hypophysial and hypothalamic control) and Prolactin function among Buffalo established.
- Elucidated 'for the first time' **Thermal physiology of buffalo neonate**.
- Development of "**Fatigue score**" and fabrication of large animal treadmill for work physiology.

Embryo Biotechnology

- **Embryo transfer cattle and Buffalo calves** produced. Optimization of superovulatory response in buffaloes.
- **In vitro maturation of oocytes** (buffalo, sheep, goat) and in vitro **capacitating** of sperms achieved.
- **Cryopreservation** of embryo of cattle, buffaloes and goats achieved.
- **Splitting of embryo** of cattle, buffaloes and goats achieved.
- Splitting of embryos and birth of calves from **bisected embryos**.
- In vitro fertilizations of oocyte and production of Morula & Blastula in buffaloes, goats and sheep successfully achieved.
- In vitro fertilization among buffaloes' with **production of worlds first IVF buffalo calf 'PRATHAM'**
- Quick and simple **kit "PRAMAN"** for pregnancy detection in milk of buffaloes developed kit evaluated on farm and in field with 100% efficiency detecting non-pregnant animals.
- Production of **Cloned Embryos** of buffaloes.

Technologies / products Developed As Research Scientist:

A. Technologies developed

- Quick microquantitation of hormones by RIA, ELISA in Buffaloes.
- Technique for treatment of anestrus in bovines particularly among buffaloes.
- Induction of parturition for clinical termination of pregnancy or reproductive management in cases of prolapse among buffaloes.
- Evaluation of draught and measurement of Fatigue among work animals.
- Embryo transfer in cattle and buffaloes and production of ET animal.
- In vitro maturation of oocytes and in-vitro fertilization, capacitation of semen in buffaloes.
- In vitro fertilization in buffaloes, goats and sheep.
- Production of IVF calves in buffaloes- Worlds' First.
- Quick pregnancy detection kit among buffaloes within 22 days of insemination.

B. Products developed.

- Specific antisera for hormone quantitation of protein hormone (LH,FSH) Prolactin, Supplied to several research institute/universities.
- Highly specific analysis for progesterone. Antisera used in several laboratories in the country.

Publications

Research articles (<i>Refereed, 124 National and 97 International</i>)	228
Research Abstracts/Seminars/Symposia presentations	191

Reports	21
Book/Bulletin/Chapter	28
Total	468

Languages Known : English, Urdu, Hindi, Kashmiri, German

Sports : College colour in Cricket, Represented College, University and State in Cricket. Played Badminton at College and University, won ICAR badminton championship.

Hobbies : Mountaineering and Trekking. Trekked extensively in Himalayas, specially in the State of Jammu Kashmir, Himachal Pradesh and Uttar Pradesh.
Lead Mountaineering/ trekking expeditions to Gangabal (Kashmir), Patalu (Manali), Gomukh (Uttarkashi).

Social Service : Member Rotary International & President of the Rotary Club, Karnal Mid Town, 1991-92, Associated with Deaf & Dumb, Mentally and Visually challenged Children institutions and Voluntary Social Organizations. Patron-In-Chief, Haryana Institute Of Fine Arts
