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CARI-Brown



Salient features

- Japanese quails are highly prolific birds and suitable for different agro-climatic conditions in India

Performance

- Heavy body weight-cum-meat type
 - Plumage colour : completely brown
 - Age at sex maturity : 38-41 days
- Body weight at 5 week : 180 to 185 g
 - Daily feed consumption : 25-28 g
 - Hatchability on total egg set : 60-65%

Cost

- Germplasm pure line adult Japanese quails @ ₹ 45 (either sex)
- Germplasm pure line fertile eggs @ ₹ 15/egg (either meat or egg type)

Impact and benefits

- Indian quail cannot be bred in captivity for commercial farming. However, the Japanese quail can be reared in captivity; highly prolific birds for breeding and commercialization as an alternative to chicken
- Japanese quail (*Coturnix Japonica*) is not a wild quail and as such not a scheduled protected wild bird as defined under sub-section 36 of section 2 of the Wildlife (Protection) Act, 1972. Act schedule IV includes only Quails Rhasianidae (Indian quail) and not the Japanese quail, which was brought to India by CARI from abroad
- The variety is highly disease resistant without any routine immunization and vaccination. It is easy to manage quails as they require less feed, minimum space and affordable investment

Name and addresses of the firms/entrepreneurs to whom the technology has been transferred

- GraceFarm Innovations- Rural Employment & Educational Trust (GI-REET), Kayakumari district of Tamil Nadu; Agribusiness Management Centre,

Ghaziabad, Uttar Pradesh. The improved quail germplasm was also supplied to different organizations/poultry farmers/entrepreneurs in the different regions of the country which includes supply to United Poultry Farm, Gonda, Uttar Pradesh; U.P. State Government Poultry Farm, Chak Gajaria, Lucknow; BHU, Varanasi, Uttar Pradesh; M/s Cipra Associate, Jamalpur Road, Patna; Baba Poultry farm, Gaya, Bihar; Assistant Director, Puralia, West Bengal; Deputy Director ARO (PM), West Bengal; RAU, Pusa, Samastipur; Veterinary College, Ranchi (Jharkhand); CPDO, Bhuwneshwar; CSIR, AIIMS and Shriram Honda Research Institute, New Delhi.

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CARI-Ujjwal



Salient features

- Japanese quails are highly prolific and suitable for different agro-climatic conditions in India

Performance

- Heavy body weight-cum-meat type

- Body weight at 5 week : 175 g
- Feed efficiency : 2.80
- Daily feed consumption : 25-28 g
- Hatchability on total egg set : 65%

Cost

- Germplasm pure line adult Japanese quails @ ₹ 45 (either sex)
- Germplasm pure line fertile eggs @ ₹ 15/egg (either meat or egg type)

Impact and benefits

- Indian quail cannot be bred in captivity for commercial farming. However, the Japanese quail can be reared in captivity; highly prolific birds for breeding and commercialization as an alternative to chicken
- The variety is highly disease resistant without any routine immunization and vaccination. It is easy to manage quails as they require less feed, minimum space and affordable investment

Name and addresses of the firms/entrepreneurs to whom the technology has been transferred

- GraceFarm Innovations- Rural Employment & Educational Trust (GI-REET), Kayakumari district of Tamil Nadu; Agribusiness Management Centre,

Ghaziabad, Uttar Pradesh. The improved quail germplasm was also supplied to different organizations/poultry farmers/entrepreneurs in the different regions of the country which includes supply to United Poultry Farm, Gonda, Uttar Pradesh; U.P. State Government Poultry Farm, Chak Gajaria, Lucknow; BHU, Varanasi, Uttar Pradesh; M/s Cipra Associate, Jamalpur Road, Patna; Baba Poultry Farm, Gaya, Bihar; RAU, Pusa, Samastipur; Assistant Director, Puralia, West Bengal; Deputy Director ARO (PM), West Bengal; Ranchi Veterinary College, Ranchi (Jharkhand); CPDO, Bhuwneshwar; CSIR, AIIMS and Shriram Honda Research Institute, New Delhi.

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CARI-Uttam



Special feature

- Japanese quails are highly prolific birds and suitable to different agro climatic conditions in India

Performance

- Heavy body weight-cum-meat type
- Body weight at 5 week : 240 g
- Feed efficiency : 2.51
- Daily feed consumption : 25-28 g
- Hatchability on total egg set : 70-75%

Cost

- Germplasm pure line adult Japanese quails @ ₹ 45 (either sex)
- Germplasm pure line fertile eggs @ ₹ 15/egg (either meat or egg type)

Impact and benefits

- Indian quail cannot be bred in captivity for commercial farming. However, the Japanese quail can be reared in captivity; highly prolific birds for breeding and commercialization as an alternative to chicken
- The variety is highly disease resistant without any routine immunization and vaccination. It is easy to manage quails as they require less feed, minimum space and affordable investment

If commercialized, name and addresses of the firms/entrepreneurs to whom the technology has been transferred

- GraceFarm Innovations- Rural Employment & Educational Trust (GI-REET), Kayakumari district of Tamil Nadu; Agribusiness Management Centre,

Ghaziabad, Uttar Pradesh. The improved quail germplasm have also been supplied to different organizations/poultry farmers/entrepreneurs in the different regions of the country which includes supply to United Poultry Farm, Gonda, Uttar Pradesh; U.P. State Government Poultry Farm, Chak Gajaria, Lucknow; BHU, Varanasi, Uttar Pradesh; M/s Cipra Associate, Jamalpur Road, Patna; Baba Poultry Farm, Gaya, Bihar; RAU, Pusa, Samastipur; Assistant Director, Puralia, West Bengal; Ranchi Deputy Director ARO (PM), West Bengal; Ranchi Veterinary College, Ranchi (Jharkhand); CPDO, Bhuwneshwar; CSIR, AIIMS and Shriram Honda Research Institute, New Delhi.

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CARI-Sunheri



Special feature

- Japanese quails are highly prolific birds and suitable for different agro-climatic conditions in India

Performance

- Heavy body weight-cum-meat type
- Age at sex maturity : 43 days
- Body weight at 5 weeks : 182 g
- Feed conversion ratio : 2.8
- Average egg weight : 11 g
- Age at 50 per cent egg production : 8 weeks
- Age at peak egg production : 12-13 weeks
- Hatchability on total egg set : 68 %

Cost

- Germplasm pure line adult Japanese quails @ ₹ 45 (either sex)
- Germplasm pure line fertile eggs @ ₹ 15/egg (either meat or egg type)

Impact and benefits

- Indian quail cannot be bred in captivity for commercial farming. However, the Japanese quail can be reared in captivity; highly prolific birds for breeding and commercialization as an alternative to chicken
- This variety is highly disease resistant without any routine immunization and vaccination. It is easy to manage quails as they require less feed, minimum space and affordable investment

Name and addresses of the firms/entrepreneurs to whom the technology has been transferred

- GraceFarm Innovations- Rural Employment & Educational Trust (GI-REET), Kayakumari district of Tamil Nadu; Agribusiness Management Centre,

Ghaziabad, Uttar Pradesh. The improved quail germplasm was also supplied to different organizations/poultry farmers/entrepreneurs in the different regions of the country which includes supply to United Poultry Farm, Gonda, Uttar Pradesh; U.P. State Government Poultry Farm, Chak Gajaria, Lucknow; BHU, Varanasi, Uttar Pradesh; M/s Cipra Associate, Jamalpur Road, Patna; Baba Poultry Farm, Gaya, Bihar; RAU, Pusa, Samastipur; Assistant Director, Puralia, West Bengal; Deputy Director ARO (PM), West Bengal; Ranchi Veterinary College, Ranchi (Jharkhand); CPDO, Bhuwneshwar; CSIR, AIIMS and Shriram Honda Research Institute, New Delhi.

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CARI-Sweta



Special feature

- Japanese quails are highly prolific birds and suitable for different agro-climatic conditions in India

Performance

- Low body weight line or eggger type
 - Body weight at 5 week : 155 to 165 g
 - Feed efficiency : 2.70
- Daily feed consumption : 25 g
 - Hatchability on total egg set : 50-60%

Cost

- Germplasm pure line adult Japanese quails @ ₹ 45 (either sex)
- Germplasm pure line fertile eggs @ ₹ 15/egg (either meat or egg type)

Impact and benefits

- Indian quail cannot be bred in captivity for commercial farming. However, the Japanese quail can be reared in captivity; highly prolific birds for breeding and commercialization as an alternative to chicken
- This variety is highly disease resistant without any routine immunization and vaccination. It is easy to manage quails as they require less feed, minimum space and affordable investment

Name and addresses of the firms/entrepreneurs to whom the technology has been transferred

- GraceFarm Innovations- Rural Employment & Educational Trust (GI-REET), Kayakumari district of Tamil Nadu; Agribusiness Management Centre,

Ghaziabad, Uttar Pradesh. The improved quail germplasm was also supplied to different organizations/poultry farmers/entrepreneurs in the different regions of the country which includes supply to United Poultry Farm, Gonda, Uttar Pradesh; U.P. State Government Poultry Farm, Chak Gajaria, Lucknow; BHU, Varanasi, Uttar Pradesh; M/s Cipra Associate, Jamalpur Road, Patna; Baba Poultry Farm, Gaya, Bihar; RAU, Pusa, Samastipur; Assistant Director, Puralia, West Bengal; Deputy Director ARO (PM), West Bengal; Ranchi Veterinary College, Ranchi (Jharkhand); CPDO, Bhuwneshwar; CSIR, AIIMS and Shriram Honda Research Institute, New Delhi.

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CARI-Pearl



Special features

- Japanese quails are highly prolific birds and suitable for different agro-climatic conditions in India

Performance

- Low body weight line or eggger type
- Body weight at 5 week : 140 g
- Daily feed consumption : 20-25 g
- Age of 50 per cent egg production : 8 weeks
- Age of 80 per cent egg production : 10 weeks
- Hen day production : 285-295 eggs
- Hatchability on total egg set : 70-80%

Cost

- Germplasm pure line adult Japanese quails @ ₹ 45 (either sex)
- Germplasm pure line fertile eggs @ ₹ 15/egg (either meat or egg type)

Impact and benefits

- Indian quail cannot be bred in captivity for commercial farming. However, the Japanese quail can be reared in captivity; highly prolific birds for breeding and commercialization as an alternative to chicken
- This variety is highly disease resistant without any routine immunization and vaccination. It is easy to manage quails as they require less feed, minimum space and affordable investment

Name and addresses of the firms/entrepreneurs to whom the technology has been transferred

- GraceFarm Innovations- Rural Employment & Educational Trust (GI-REET), Kayakumari district of Tamil Nadu; Agribusiness Management Centre,

Ghaziabad, Uttar Pradesh. The improved quail germplasm was also supplied to different organizations/poultry farmers/entrepreneurs in the different regions of the country which includes supply to United poultry farm, Gonda, Uttar Pradesh; U. P. State Government Poultry Farm, Chak Gajaria, Lucknow; BHU, Varanasi, Uttar Pradesh; M/s Cipra Associate, Jamalpur Road, Patna; Baba Poultry Farm, Gaya, Bihar; RAU, Pusa, Samastipur; Assistant Director, Puralia, West Bengal; Deputy Director ARO (PM), West Bengal; Ranchi Veterinary College, Ranchi (Jharkhand); CPDO, Bhuwneshwar; CSIR, AIIMS and Shriram Honda Research Institute, New Delhi.

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CARI- Swetambari



Special feature

- The birds were developed through selective selection and breeding programme from a wide base stock. These birds have been improved for high disease resistance and better growth

Performance

- Pure white in colour
- Body weight at 12 weeks : 920-980 g
- Age at first egg : 230-250 days
- Egg weight : 38-40 g
- Egg production (March to September) : 100-115 eggs
- Fertility : 70-75%
- Hatchability : 70-80%
- Livability : excellent

Cost

- Adult female ₹ 130/bird
- Adult male ₹ 150/bird

Impact and benefits

- There is no requirement of elaborate and expensive housing. It has excellent foraging capabilities and consumes all non-conventional feed not used in chicken feed. It is more tolerant to mycotoxins
- Guinea fowl meat is rich in vitamins and low in cholesterol

Name and addresses of the firms/entrepreneurs to whom the technology has been transferred

- The germplasm has been supplied to different organizations / poultry farmers / entrepreneurs in the different regions of the country

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CARI- Chitambari



Special features

- The birds were developed through selective selection and breeding programme from a wide base stock. These birds have been improved for high disease resistance and better growth

Performance

- White spot on gray plumage
- Body weight at 12 weeks : 970-1,000 g
- Age at first egg : 232-251 days
- Egg weight : 38-40 g
- Egg production (March to September) : 105-125 eggs
- Fertility : 70-73%
- Hatchability : 70-80%
- Livability : excellent

Cost

- Adult female ₹ 130/bird
- Adult male ₹ 150/bird

Impact and benefits

- There is no requirement of elaborate and expensive housing. It has excellent foraging capabilities and consumes all non-conventional feed not used in chicken feed. It is more tolerant to mycotoxins. Guinea fowl meat is rich in vitamins and low in cholesterol
- It is a hardy bird, suitable for any agro-climatic condition

Name and addresses of the firms/entrepreneurs to whom the technology has been transferred

- The germplasm has been supplied to different organizations / poultry farmers/ entrepreneurs in the different regions of the country

Contact

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CARI-Kadambari



Special features

- The birds were developed through selective selection and breeding programme from a wide base stock. These birds were improved for high disease resistance and better growth

Performance

- Black plumage with white and uniformly distributed spot
- Body weight at 12 weeks : 950-1,000 g
- Age at first egg : 230-250 days
- Egg weight : 38-40 g
- Egg production (March to September) : 100-120 eggs
- Fertility : 70-73 %
- Hatchability : 70-80 %
- Livability : excellent

Cost

- Adult female ₹ 130/bird
- Adult male ₹ 150/bird

Impact and benefits

- There is no requirement of elaborate and expensive housing. It has excellent foraging capabilities and consumes all non-conventional feed not used in chicken feed. Guinea fowl meat is rich in vitamins and low in cholesterol
- It is hardy bird, suitable for any agro-climatic condition

Name and addresses of the firms/entrepreneurs to whom the technology has been transferred

- The germplasm has been supplied to different organizations / poultry farmers/ entrepreneurs in the different regions of the country

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CARIBRO-Dhanraja



Special features

- The commercial broiler produced by crossing colored synthetic male line (CSML) and colored synthetic female line (CSFL) was named as CARIBRO-Dhanraja. Because of its multicoloured plumage, it is in high demand and fetches higher price

Performance

- CARIBRO-Dhanraja attains a body weight of 1.5 -1.7 kg at 6 weeks and 2.0-2.125 kg at 7 weeks with an FCR of 1.9 and liveability above 96%

Cost

- Day-old chick ₹ 15.0
- Fertile eggs ₹ 10.0

Impact and benefits

- Net economic return: Approximately ₹ 7-16/chick/ 5 weeks
- Can be reared even under village conditions and in low input system

Name and addresses of the firms/entrepreneurs to whom the technology has been transferred

- UP State A.H. Poultry Farm, Babugarh, Ghaziabad, Uttar Pradesh
- I/c AICRP on Poultry Breeding U.A.S Hebbal Bangalore, Karnataka
- Director, I.C.A.R, Research Complex, For N.E.H. Region, Tripura Post Lambuchura, West Tripura
- Poultry Cum LPP, Belicharena, Jammu Cantt (J&K)
- Vigyan Kendra, Near Kanary Hill, Hazaribagh, Jharkhand
- Director of Research, RAJUVAS, Bikaner, Rajasthan

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CARIBRO-Vishal



Special features

- The commercial broiler produced by crossing Synthetic male line (SML) and Synthetic female line (SDL) was named as CARIBRO-Vishal. This is white plumaged commercial broiler and in high demand both by government and private agencies. The cross is suitable for varied climate

Performance

- CARIBRO- Vishal attains a body weight of 1.6 -1.7 kg at 6 weeks and 2.0-2.15 kg at 7 weeks with an FCR of 1.85 and livability above 97%

Cost

- Day-old chick ₹ 15.0
- Fertile eggs ₹ 10.0

Impact and benefits

- Net economic return: Approximately ₹ 8-18/chick/ 5 weeks
- Can be reared even under village conditions and in low input system. Suitable for varied climates

Name and addresses of the firms/entrepreneurs to whom the technology has been transferred

- UP State A.H. Poultry Farm, Babugarh, Ghaziabad, Uttar Pradesh
- I/c AICRP on Poultry Breeding U.A.S Hebbal Bangaluru, Karnataka
- Director, I.C.A.R, Research Complex, For N.E.H. Region, Tripura Post Lambuchura, West Tripura
- Poultry Cum LPP, Belicharena, Jammu Cantt (J&K)
- Vigyan Kendra, Near Kanary Hill, Hazaribagh, Jharkhand
- Director of Research, RAJUVAS, Bikaner, Rajasthan

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CARIBRO-Mritunjai



Special features

- The commercial broiler produced by crossing Naked Neck male and female populations was named as CARIBRO-Mritunjai. CARIBRO-Mritunjai is available in both coloured and white plumage

Performance

- CARIBRO- Mritunjai attains a body weight of 1.4 -1.5 kg at 6 weeks and 1.8-2.0 kg at 7 weeks with an FCR of 1.95 and livability above 97%

Cost

- Day-old chick ₹ 15.0
- Fertile eggs ₹ 10.0

Impact and benefits

- Net economic return: Approximately ₹ 6-14/chick/ 5 weeks
- Can be reared even under village conditions, low input system and is suitable for hot and humid

Name and addresses of the firms/entrepreneurs to whom the technology has been transferred

- Mainly taken by different divisions and sections of IVRI/CARI, Izatnagar for research purposes

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CARIBRO-Tropicana



Special features

- The naked neck and frizzle genes are known for tropical adaptability. The male line having naked neck condition and female line having frizzle condition developed at Experimental Broiler Farm were crossed to develop the commercial CARIBRO-Tropicana having both naked neck and frizzle phenotype

Performance

- CARIBRO-Tropicana attains a body weight of 1.3 -1.4 kg at 6 weeks and 1.8-1.9 kg at 7 weeks with an FCR of 2.11 and livability above 97%

Cost

- Day-old chick : ₹ 15.0
- Fertile eggs : ₹ 10.0

Impact and benefits

- Net economic return: Approximately ₹ 5-12/chick/ 5 weeks
- Can be reared even under village conditions, low input system and suitable for hot and humid climate

Name and addresses of the firms/entrepreneurs to whom the technology has been transferred

- UP State A.H. Poultry Farm, Babugarh, Ghaziabad, Uttar Pradesh
- I/c AICRP on Poultry Breeding U.A.S, Hebbal, Bangaluru, Karnataka

- Director, I.C.A.R, Research Complex, For N.E.H. Region, Tripura Post Lambuchura, West Tripura
- Poultry Cum LPP, Belicharena, Jammu Cantt, J&K
- Vigyan Kendra, Near Kanary Hill, Hazaribagh, Jharkhand
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CARI-Priya



Special features

- White egger
- Easy to handle, performs well under a variety of management systems
- Efficient feed conversion
- Superiority over other stocks
- High positive return over feed cost
- Low laying house mortality

Performance

Maturity	First egg	: 17 to 18 weeks
	50% production	: 150 days
	Peak production	: 26 to 28 weeks
Livability	Growing	: 96%
	Laying	: 94%
Egg production	Peak	: 92%

Hen housed egg production (up to 72 wks) : > 298 eggs

Hen day egg production (up to 72 weeks) : > 301 eggs

Feed consumption per dozen of eggs : 1.77 kg

Feed consumption per kg of egg mass : 2.57 kg

Egg size (average egg weight) : 57 g

Egg quality : Excellent internal quality

Cost

- Day-old chick : ₹ 15.0
- Fertile eggs : ₹ 10.0

Impact and benefits

- Net profit per bird started (per year) : ₹ 99.0
- Net profit per bird per month : ₹ 8.3
- Return per rupee of investment : 1.13
- High commercial egg producer

Name and addresses of the firms/entrepreneurs to whom the technology has been transferred

- Aman Poultry Breeding Farm, Karnal, Haryana
- Assistant Professor, Dept of Biology, Science & Bioengineering, IIT, Kanpur, Uttar Pradesh
- Dean, Mahatma Gandhi Vety College, Bharatpur, Rajasthan
- Dept. of A.H., Government of Uttar Pradesh
- Deputy Director of Animal Resources Development, Kolkata, West Bengal

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CARI-Sonali



Special features

- A tinted egger easy to handle, performs well under a variety of management system
- High egg production
- Lays brown eggs and has efficient feed conversion

Performance

Maturity	First egg	: 18 to 19 weeks
	50% production	: 155 days
	Peak production	: 27 to 29 weeks
Livability	Growing	: 96%
	Laying	: 94%
	Peak	: 90%

Egg production:

Hen housed egg production to 72 weeks : >280 eggs

Hen day egg production to 72 weeks : >283 eggs

Feed consumption per dozen of eggs : 2.3 kg

Feed consumption per kg of egg mass : 3.8 kg

Egg size : Average egg weight 54 g

Egg quality : Excellent internal quality

Cost

- Day-old chick : ₹ 15.0
- Fertile eggs : ₹ 10.0

Impact and benefits

- Net profit per bird started (per year) : ₹ 99.0
- Net profit per bird per month : ₹ 8.3
- Return per rupee of investment : 1.13
- Suitable for intensive / semi-intensive system of rearing

Name and addresses of the firms/entrepreneurs to whom the technology has been transferred

- Aman Poultry Breeding Farm, Karnal, Haryana
- Assistant Professor, Dept of Biology, Science & Bioengineering, IIT, Kanpur, Uttar Pradesh
- Dean, Mahatma Gandhi Vety College, Bharatpur, Rajasthan
- Dept. of A.H., Government of Uttar Pradesh
- Deputy Director of Animal Resources Development, Kolkata, West Bengal

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CARI-Debendra



Special features

- Efficient feed conversion and high positive return over feed cost
- Superiority over other stocks and low laying house mortality

Performance

Body weight at 8 weeks : 1,100-1,200 g

Body weight at 10 weeks : 1,400 to 1,500 g

Body weight at 12 weeks : 1,700 to 1,800 g

Feed conversion ratio (0-8 week) : 2.5-2.6

Age at sexual maturity : 155-160 days

Annual egg production : 190-200 eggs

Livability (Growing) : 97%

Livability (Laying) : 94%

Cost

- Day-old chick : ₹ 15.0
- Fertile eggs : ₹ 10.0

Impact and benefits

- Net profit per bird started (per year) : ₹ 99.0
- Net profit per bird per month : ₹ 8.3
- Return per rupee of investment : 1.13
- Dual purpose for rural poultry

Name and addresses of the firms/entrepreneurs to whom the technology has been transferred

- Aman Poultry Breeding Farm, Karnal, Haryana
- Assistant Professor, Dept of Biology, Science & Bioengineering, IIT, Kanpur, Uttar Pradesh
- Dean, Mahatma Gandhi Vety College, Bharatpur, Rajasthan
- Dept. of A.H., Government of Uttar Pradesh
- Deputy Director of Animal Resources Development, Kolkata, West Bengal

Contact

Director

Central Avian Research Institute

Izatnagar, Bareilly 243 122 (Uttar Pradesh)

Phone: 0581-2300204, 2301220, 2303223, Extn. 3001; 2301261(0)

Fax: 0581-2301321, E-mail: cari_director@rediffmail.com

Commercial Broiler Stock IBL-80



Salient features

- Among the public sector stocks, IBL-80 held first position in 9 national level Random Sample Tests
- In addition to live weight, it excelled other entries in feed conversion, dressing percentage and margin of receipts over feed and chick costs

Performance

- In the recently conducted Random Sample Test, 7-week body weight of 2.0 kg has been attained with the feed conversion ratio of 1.91, which is the best performance amongst the Public sector entries

Cost

- ₹ 10 per day old commercial chick
- ₹ 30 per day old parent female chick + 15% males free
- ₹ 5 per commercial hatching egg

Impacts and benefits

- Popular with the small/marginal farmers
- Cost effective

Name and address of the firm or entrepreneurs to whom the technology has been transferred

- Farmers of Punjab state, Animal Husbandry Department of Govt. of Punjab and Govt. of Jammu & Kashmir

Contact

Director of Research, GADVASU
Firozpur Road, Ludhiana 141004 (Punjab)
Telefax: 0161-2553346

Punjab White Quail



Salient features

- Strain of quails with white plumage was developed and genetically improved over generations
- Based on its growth performance, the strain was released for commercial production under the name “Punjab White Quail”

Performance

- White plumage favorably compares with coloured strains for growth
- Average 5 week body weight is about 200-225 g
- Average egg weight is about 13 g

Cost

- ₹ 4 per day-old commercial chick

Impact and benefits

- Eggs are used for preparation of pickles
- Popular with the small/marginal farmers
- Cost effective

Name and address of the firm or entrepreneurs to whom the technology has been transferred

- Farmers of Punjab state

Contact

Director of Research, GADVASU
Firozpur Road, Ludhiana 141004 (Punjab)
Telefax: 0161-2553346

Punjab Red : Synthetic Stocks



Salient features

- Birds lay brown coloured eggs which have high demand in rural and urban areas as compared to white eggs
- Birds are heavier at the end of the lay, the income from the spent hens is also higher than White Leghorn females

Performance

- Annual egg production of the stock is 250-260 eggs

Cost

- ₹ 16 per day-old commercial chick
- ₹ 8 per day-old straight run chick
- ₹ 40 per day-old parent run chick + 15% males free
- ₹ 6 per commercial hatching egg

Impact and benefits

- Coloured stocks are popular with the small/marginal farmers as brown eggs get sold at a premium

Name and address of the firm or entrepreneurs to whom the technology has been transferred

- Farmers of Punjab state, Animal Husbandry Department of Govt. of Punjab and Govt. of Jammu and Kashmir

Contact

Director of Research, GADVASU
Firozpur Road, Ludhiana 141004 (Punjab)
Telefax: 0161-2553346

MakeFeed Poultry-feed Formulation Software



Salient features

- *MakeFeed Poultry* is a comprehensive feed formulation software developed by the institute. It is a Windows® based software for efficient balanced feed formulation for the poultry
- Provides information on nutritive values for a wide range of feed ingredients along with the maximum inclusion levels for each ingredient

Performance results

- Software provides least cost feed formula utilizing the available feed ingredients and information /data on nutrient requirements for various classes of poultry
- *MakeFeed* is user-friendly and persons having little computer knowledge can utilize it effectively

Cost

- One time investment towards purchase of the software (₹ 2,500 for individuals and ₹ 2.5 lakh for corporate clients) and a Pentium based computer (₹ 25,000)

Impact and benefits

- Software is suitable for making least-cost feed formulations using diverse feed ingredients specific to different agro-climatic conditions
- Balanced feed results in better feed utilization efficiency and hence cost saving

Name and addresses of the firms/entrepreneur to whom the technology has been transferred

- Over 300 copies of *MakeFeed Poultry* software have already been sold to poultry feed manufacturers in different parts of the country

Contact

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Semen Diluent for Chicken

Salient features

- A diluent was prepared for the preservation of chicken (WLH) semen for 24 hr at low temperature (2-4 °C) that expressed high fertility (nearly 80% or above)
- Specific characteristic of this diluent is that there is no need of the adjustment of pH because the composition of the diluent is prepared in such a way so that the desired pH (7.2) and osmotic pressure (338 m. Osm/kg H₂O) could be achieved automatically

Performance

- Using the fresh semen with this diluent in chicken (WLH) resulted in fertility around 90%

Likely cost

- Weighing balance : ₹ 60,000, and distillation unit : ₹ 20,000
- Chemical cost : ₹ 12/100 ml of semen diluent

Impact and benefits

- Poultry production shall improve due to improvement in fertility in chicken, resulting in higher income to the poultry farmers
- Using this technology, number of males per flock can be reduced saving poultry feed and overall management cost

Name and address of the firm /entrepreneurs to whom the technology has been transferred

- Skylark Hatcheries Pvt. Ltd., V & PO – Anta, Teh. – Safidon, Distt. - Jind 126 112, Haryana
- IMV India Pvt. Ltd., Plot No. 750, Phase V, Udyod Vihar, Gurgaon – 122 016 Haryana

Contact Director

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Urea Molasses Mineral Block Prepared by Cold Process (*Pashu chocolate*)



Salient features

- Urea molasses mineral block (UMMB) supplements the deficiencies of crop residues, straws and stovers, the staple feeds of bovines in larger part of India
- The ingredients used are: urea, molasses, portland cement, mineral mixture, salt, bran and vitamin A and D₃

Performance

- Brick shaped blocks of about 2 kg weight is very useful for adult cattle and buffaloes

Cost

- ₹ 2 lakh + 5% royalty for 15 years

Impact and benefits

- Ingredients are easily available and preparation is very easy
- Density of UMMB is much higher than the ingredients, which facilitates long distance transportation at a lower rate
- UMMB blocks are suitable during drought and floods
- Cost of UMMB is much lower than the conventional source of intact proteins (oil cakes)

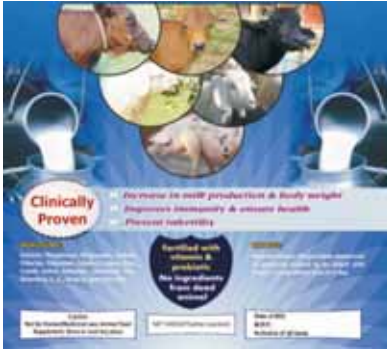
Name and Address of the firms/entrepreneur to whom the technology has been transferred

- M/s Margdarshak Social Projects and Consulting Pvt
B-905, CID Colony, Mahanagar, Lucknow, Uttar Pradesh

Contact Director

Indian Veterinary Research Institute (IVRI)
Izatnagar, Bareilly 243122 (Uttar Pradesh)
Phone: 0581-2300096, Fax: 0581-2303258
E-mail: dirivri@ivri.res.in

Area Specific Mineral Mixture (ASMM) for Uttar Pradesh



Salient features

- ASMM is area specific for Uttar Pradesh state
- Concentration of minerals are provided in proportion which can completely meet the mineral deficiency in animals
- A low input technology capable of producing substantially high output
- Fortified with vitamins and probiotics

Performance

- 20-25% increase in growth rate
- 20-30% increase in milk production in lactating animals
- Enhanced (60 days) lactation length in dairy animals
- Animals attain early puberty

Cost

₹ 5 lakh + 5% royalty for 15 years

Impact and benefits

- More income through increased milk production
- More calf per animal in whole reproductive life span
- Enhanced immunity decreases disease susceptibility
- Improves conception rate
- Eco friendly

Name and addresses of the firms/entrepreneur to whom the technology has been transferred

- M/s Lyka Exports, (Animal Health Division) 77, Nehru Road, Ville Parle East, Mumbai, Maharashtra – 400099
- M/s Kamdhenu Feeds P.B.190, 7th Km Dehradun Road, V & P.O. Sarak Doodhlee, Saharanpur, Uttar Pradesh – 247001
- M/s Tarun Pharma Pvt. Ltd., IInd Floor, Abhishek Complex Maniharan, Bareilly, Uttar Pradesh – 234003
- M/s Shakti Livestock Feeds (P) Ltd., 152 Hapur Road Indra Chowk, Meerut, Uttar Pradesh – 250001
- M/s Minerals and Refractories, 2-116/14, Ambika Vihar, P.O. Bhotia Parao, Haldwani – 263 141 Uttarakhand
- M/s Cattle Remedies India Ltd. F -12, Adrshni Plaze, 91 Adchini Sri Aurobindo Marg, New Delhi – 110 017
- M/s Margdarshak Social Projects and Consulting Pvt, B-905, CID Colony, Mahanagar, Lucknow, Uttar Pradesh – 226 006

Contact

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Crystoscope



Salient feature

- IVRI crystoscope has been developed as field tool for determining optimum time for fertile insemination in animals. Technology can be used for betterment of animal productivity by increasing the fertility in cows and buffaloes

Performance

- A drop of cervical discharge from the animal in heat is placed on a glass slide and dried. The dried slide is kept in slide gasket of instrument and desired information can be obtained; and the AI time can be ascertained for optimum results

Cost

- ₹ 5 lakh + 5% royalty for 15 years

Impact and benefits

- This instrument is a simple field tool for assessing the insemination time of cows based on crystallization pattern of cervical mucus, which does not require any technical know-how, or any sophisticated laboratory facility
- By using this tool even an illiterate farmer can assess the insemination time for cow

Name and addresses of the firms/entrepreneurs to whom the technology has been transferred

- M/S Ranbaxy India Ltd, New Delhi A-3, Okhla Industrial Area, Phase-I, New Delhi - 110 020

- M/s Lyka Exports, (Animal Health Division) 77, Nehru Road, Ville Parle East, Mumbai, Maharashtra – 99
- M/S Cattle Remedies India Ltd., F-12 Adrshni Plaza, 91-Adchini, Sri Aurobindo Marg, New Delhi – 110017
- M/S Rohit Enterprises, 7/53, Hitkari Building No. 2, D.B Gupta Road, Karol Bagh , New Delhi-110005

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Area Specific Mineral Mixture (ASMM) for Karnataka



Salient features

- Supplementation of area-specific minerals based on the deficiency of micro-nutrient content in water, soil, feed and fodder and biological materials in the area, is a cost effective method
- Improves bioavailability of micronutrients
- Fortified with vitamins and probiotics

Performance

- Supplementing 35–40 g of area specific mineral mixture per day improved reproductive efficiency as 90 % of the animals started cycling within 70 days of supplementation and about 55 % of animals became pregnant
- 20-30% increase in milk production in lactating animals
- Animals attain early puberty

Impact and benefits

- Useful in improving the reproductive efficiency and general health in dairy animals
- Cost-effective, sustainable, easily adoptable and environment friendly

Name and address of the firms/entrepreneur to whom the technology has been transferred.

- Karnataka Co operative Milk Producers Federation Ltd. , Dr M H Marigowda Road, Bengaluru, Karnataka 560029
- M/s Nandi Agrovet, #12 DIE, Peenya 2nd Stage, Bengaluru 560091
- M/s Totagars Cooperative Sales Society, Sirsi, NK, Karnataka

Contact

Director

National Institute Animal Nutrition Physiology
Audugodi, Bengaluru

Phone: 080-25711304, Fax: 080-25711420

E-mail: cadaba_prasad@yahoo.co.in

Alquit: A Novel Herbal Ectoparasiticide

Salient feature

- Herbal ectoparasiticide drug “ALQUIT” was developed by CIRG in collaboration with DST and industry

Performance

- Reduces the dependence on antibiotic in management of ectoparasites and helps to overcome the problem of drug resistance

Cost

- ₹ 5 lakh

Impact and benefits

- The phytotherapeutic drug is most suitable for organic farming for the production of high valued animal products to improve economic condition of the farmers

Name and address of the firms/entrepreneurs to whom the technology has been transferred.

- M/s Natural Remedies Pvt Limited, Bengaluru, Karnataka

Contact

Director

CIRG, Makhdoom, PO Farah, Mathura 281122

Phone: 0565-2763380, Fax: 0565-2763246

E-mail: dir@cirg.res.in

Salted Chicken Egg



Salient features

- Salted chicken egg is a new product with immense potential for entrepreneurship and self-employment, particularly for street egg vendor
- Can be used for preparing products like boiled eggs, omelets and egg curry with ease of serving

Performance

- Technology to produce salted chicken eggs does not require electricity or special appliances and can be easily learnt by illiterate unskilled workers/ household women/ egg vendor

Cost

- Cost of processing is about ₹ 0.25 per egg at laboratory scale

Impact and benefits

- Rural and unskilled labors can supplement their income through this technology
- Technology is simple and can be used by unskilled, uneducated people besides housewives

Name and addresses of the firms/entrepreneur to whom the technology has been transferred

- M/S JST Poultry Pvt. Ltd. Vill. Paijaniya, Block Nourpur, Distt. Bijnor, Uttar Pradesh

Contact Director

Central Avian Research Institute, Izatnagar
Bareilly 243 122 (Uttar Pradesh)

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Pickled Eggs



Salient feature

- Simple and cost- effective technology has been developed for pickling of quail eggs for storage/ marketing at ambient temperature in ready-to-eat form

Performance

- Product can be safely stored for 4 months at ambient temperature (25-30°C); and can find place in fast-food outlets and children mid-day meal scheme

Cost

- Ingredient cost of producing a packet of 10 pickled quail eggs in HDPE (300 G) pouch is ₹ 15 /packet

Impact and benefits

- Rural and unskilled labors can supplement their income through this technology
- Supplemented income will help in uplifting social status of the processors

Name and addresses of the firms/entrepreneur to whom the technology has been transferred

- M/S JST Poultry Pvt. Ltd., Vill. Pajaniya, Block Nourpur, Distt. Bijnor, Uttar Pradesh

Contact

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Chicken Gizzard Pickle



Salient features

- Mustard oil- based as well as vinegar - based chicken gizzard pickle's are low cost, low caloric, protein rich and consumer friendly chicken fast foods
- Gizzard pickles have been based on the minimal use of preservatives

Performance

- Product can be stored at room temperature

Cost

- ₹ 80 (Vinegar based) to ₹ 100 (Mustard oil based) per kg at laboratory scale

Impact and benefits

- Uneducated rural households can also prepare gizzard pickles with common household utensils and without electricity
- This is a simple technology which can be used by unskilled, uneducated people besides housewives. Increase in income can help in uplifting social and financial status of the processors

Name and addresses of the firms/entrepreneur to whom the technology has been transferred

- M/S JST Poultry Pvt. Ltd., Vill. Paijaniya, Block Nourpur, Distt. Bijnor, Uttar Pradesh

Contact Director

Central Avian Research Institute
Izatnagar, Bareilly 243 122 Uttar Pradesh
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Cooked Chicken Stock (One minute curried chicken)



Salient features

- Cost-effective fast food for instant use by working couples, old people; highly useful at times of instant need
- Curried chicken can be instantly availed by mixing the contents (cooked chicken stock) with boiled hot water and further boiling the mix for one minute

Performance

- Packed product can be safely stored till 4 weeks under frozen ($-18\pm 1^{\circ}\text{C}$) and for 2 weeks under refrigeration ($4\pm 1^{\circ}\text{C}$)

Cost

- ₹ 220 / kg at laboratory scale

Impact and benefits

- Unskilled rural and other households can also prepare this product with minimum fiscal investment
- Supplementary income could help in uplifting financial status of the processors

Name and addresses of the firms/entrepreneur to whom the technology has been transferred

- M/S JST Poultry Pvt. Ltd., Vill. Paijaniya, Block Nourpur, Distt. Bijnor, Uttar Pradesh

Special facilities required

- Pressure cookers, stainless steel containers, vessels, trays, hot air oven etc

Contact Director

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Izatnagar, Bareilly 243 122 (Uttar Pradesh)
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Mixed Chicken Loaf



Salient features

- Preparation is based on the use of processed vegetable proteins intended to reduce the cost of production without compromising with the nutritive values of the product
- Product has to be sliced and deep fat fried before use/ eating

Performance

- Raw product can be safely stored up to 150 days at freezing temperature ($-18 \pm 1^{\circ}\text{C}$)

Cost

- @ ₹ 280/kg at laboratory scale

Impact and benefits

- Unskilled people can also prepare this product with minimum investment
- Simple technology which can be used by unskilled, uneducated people besides housewives. Supplementary income could help in uplifting financial and social status of the processors

Name and addresses of the firms/entrepreneur to whom the technology has been transferred

- M/S JST Poultry Pvt. Ltd. Vill. Paijaniya, Block Nourpur, Distt. Bijnor, Uttar Pradesh

Special facilities required

- Deep freezer, meat mincer, heating device, stainless steel containers, vessels, trays, hot air oven etc.

Contact Director

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Cooked Chicken Roll



Salient features

- Cooked chicken roll is a novel, ready to consume fast food requiring mild warming before use
- Can be easily utilized like biscuits under coverage of aluminum foil

Performance results

- Product can be safely stored till 4 weeks under freezing temperature (-18°C) and for 2 weeks when kept under refrigeration ($4 \pm 1^{\circ}\text{C}$)

Cost

- @ ₹ 280 per kg at laboratory scale

Impact and benefits

- Unskilled rural and other households can also prepare this product with minimum fiscal investment
- This is a simple technology which can be used even by unskilled, uneducated people besides housewives. Supplementary income could help in uplifting financial and social status of the processors

Name and addresses of the firms/entrepreneur to whom the technology has been transferred

- M/S JST Poultry Pvt. Ltd., Vill. Paijaniya, Block Nourpur, Distt. Bijnor, Uttar Pradesh

Special facilities required

- Meat mincer, stainless steel containers, vessels, trays, hot air oven etc.

Contact

Director

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Functional Chicken Nuggets



Salient feature

- Ready-to-eat chicken meat product has 50% less sodium chloride and 35% less fat (unsaturated) than the traditional product incorporated with dietary fibre

Performance

- Product has indigenous flavour profile along with refrigerated ($4 \pm 1^\circ\text{C}$) shelf life of about 3 weeks and frozen ($-18 \pm 1^\circ\text{C}$) shelf life of about 3 months

Cost

- The technology is available at ₹ 20,000 lump sum to an entrepreneur on non-exclusive basis

Impact and benefits

- Excellent technology for utilization of spent hen meat. Incorporation of plant based extenders will decrease the production cost
- Easily adoptable by small and medium entrepreneurs
- Consumption of such products will reduce/ prevent the chances of development of obesity, hypertension and will improve bowel movement

Name and addresses of the firms/entrepreneurs to whom the technology has been transferred

- M/s Anshika Enterprise, C/o Parmendra Massey, Civil Lines, Bareilly, Uttar Pradesh

Contact

Director

Indian Veterinary Research Institute (IVRI)
Izatnagar, Bareilly 243122 (Uttar Pradesh)

Phone: 0581-2300096, Fax: 0581-2303258

E-mail: dirivri@ivri.res.in

Low-cholesterol ghee

Salient feature

- Removal of cholesterol from ghee using food grade additive

Performance

- 85% of total cholesterol from ghee can be removed

Cost

- Technology commercialized @ ₹ 20.0 lakh
- ₹ 450 per kg of ghee

Impact and benefits

- Low-cholesterol ghee is a novel health food

Name and addresses of the firms/entrepreneur to whom the technology has been transferred

- M/S Kwaliti Dairy (India) Limited, New Delhi.

Contact

Director

National Dairy Research Institute

Karnal 132 001 (Haryana)

Phone: 0184-2252800, Fax: 0184-22500

E-mail: dir.ndri@gmail.com

Calcium Enrichment of Milk

Salient feature

- Relates to manufacture process of calcium enriched milk using milk and salts of calcium

Performance

- Helped to prepare a heat stable calcium fortified milk

Cost

- Technology commercialized @ ₹ 1.0 lakh
- ₹ 0.5 per litre increase in cost over the normal process

Impact and benefits

- Helps in product diversification and will in turn fetch better remuneration to the dairy processors
- Increased calcium intake is also associated with reduced risk of osteoporosis, hypertension, colon cancer and decreased lead absorption
- Calcium in milk is easily absorbed by the intestine and is better available than calcium in vegetables or cereals
- Milk components such as lactose, proteins, citrate help in utilization of calcium

Name and addresses of the firms/entrepreneur to whom the technology has been transferred

- M/S Bihar state Co – operative milk producers federation Ltd (COMFED), Patna

Contact

Director

National Dairy Research Institute

Karnal 132 001 (Haryana)

Phone: 0184-2252800, Fax: 0184-22500

E-mail: dir.ndri@gmail.com

Technologies for Packaging of Fresh Buffalo Meat for Improved Shelf-Life



Salient features

- Use of packaging technologies in domestic meat processing is almost absent. The vacuum packaging, tray with shrink packaging and modified atmospheric packaging technology were developed for improving the fresh buffalo meat for both domestic and export market

Performance

- Increasing the shelf-life, hygienic packaging of meat and meat products will help in better marketing, value addition, labelling and provide clean image to meat sector

Cost

- Initial investment for packaging: ₹ 2.0-3.0 lakh
- ₹ 3-5 package/ 1.0 kg meat

Impact and benefits

- Provides value addition and employment opportunities
- Helps to reduce meat-borne microorganisms thereby improving the consumer's health

Name and address of the firms/entrepreneur to whom the technology has been transferred

- Mr. Mohammed Abdul Azeem, H. No. 8-1-40/A/91, Samtha Colony, Towlichowki, 7 Tombs Road, Hyderabad, Andhra Pradesh

Contact

Director

NRC on Meat, Chengicherla

Boda Uppal P.O., Hyderabad 500 092 (Andhra Pradesh)

Phone: 040-27204541, Fax: 040-27201672

E-Mail: nrcmeat_director@yahoo.co.in

TANUVAS Chicken Patties

Salient features

- Chicken patties are a comminuted coarse ground meat/ emulsion based meat products utilizing broiler/ spent hen meat
- Product has been customized to meet the demands and culinary preferences of India

Performance

- Well appreciated by the local people

Cost

- ₹ 300 per kg

Impacts and benefits

- Value addition
- Enhances the demand for meat
- Provides variety to the consumer and thus will increase the demand for meat

Name and addresses of the firms/entrepreneurs to whom the technology has been transferred

- Regularly marketed through the sales counter of the Department of Meat Science and Technology, Madras Veterinary College, Chennai, Tamil Nadu - 600007

Contact

Director of Research
Tamil Nadu Veterinary and Animal Sciences University
Madhavaram Milk Colony Campus, Chennai 600051 (Tamil Nadu)
Telefax: 044-25551583, E-mail: dr@tanuvas.org.in

TANUVAS Chicken Nuggets

Salient features

- TANUVAS chicken nuggets are a comminuted coarse ground meat products utilizing broiler/ spent hen meat
- Product has been customized to meet the demands and culinary preferences of India

Performance

- Well appreciated by the local people

Cost

- ₹ 300 per kg

Impacts and benefits

- Value addition of chicken
- Enhance the demand for meat
- Provide variety to the consumer and thus will increase the demand for meat

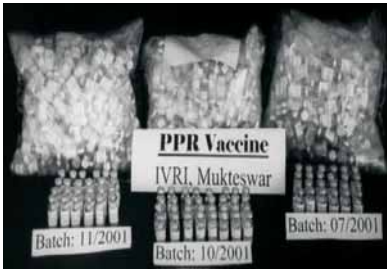
Name and addresses of the firms/entrepreneurs to whom the technology has been transferred

- Regularly marketed through the sales counter of the Department of Meat Science and Technology, Madras Veterinary College, Chennai, Tamil Nadu - 600007

Contact

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Telefax: 044-25551583, E-mail: dr@tanuvas.org.in

Live Attenuated Homologous Peste des petits Ruminants Vaccine for Small Ruminants



Salient features

- Vaccine presentation : 50/100 doses per vial
- Cold chain requirements : Required
- Dose : 1.0 ml vaccine
- Route of inoculation : Subcutaneous in neck region

Performance

- Duration of immunity : Life long
- Stability of the freeze-dried vaccine : Shelf-life above one year at 4°C.
- Stability of the diluted vaccine : At least 8 hours

Cost

- Lump sum premium of ₹ 25 lakh (excluding 10.3 % service tax) + 5 % royalty for 15 years

Impacts and benefits

- *Peste des petits ruminants* (PPR) also known as goat plague is an OIE list A disease
- It is now widely prevalent in all parts of the country and also endemic in our neighbouring countries
- In India alone, the annual loss due to PPR in small ruminant population of over 200 million is approximately ₹ 180 crore
- Use of vaccine shall increase the production of small ruminants and profitability especially in case of small and marginal farmers
- Control of the disease will also improve trade of small ruminants

Name and addresses of the firms/entrepreneurs to whom the technology has been transferred

- M/s Intervet India Pvt. Limited, Intervet House, 33 Pune –Nagar Road, Behind Eden Gardens, Pune - 411 014, Maharashtra
- Hester Biosciences Limited, 16/10, Devendra Society, Naranpura, Ahmedabad- 380 013, Gujarat
- M/s Indian Immunologicals Limited, Road No. 44, Jubilee Hills, Hyderabad- 500 033, Andhra Pradesh

Contact

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Phone: 0581-2300096, Fax: 0581-2303258

E-mail: dirivri@ivri.res.in

Foot and Mouth Disease Vaccine (FMD)



Salient features

- Inactivated liquid preparation containing one or more types of FMD virus
 - Virus is grown in suitable cell culture (BHK-21 suspension cells)
 - Inactivated by binary ethyleneimine (BEI)
-
- Antigen may be concentrated and purified
 - Vaccine contains a suitable adjuvant (eg., Montanide ISA 206)

Performance

- Time tested known technology

Cost

- Lump sum premium ₹ 30 lakh + (service tax 10.3 %) + royalty 5% for 15 years

Impact and benefits

- Control of FMD in South Asia is strategically important for the developed countries

Name and addresses of the firms/entrepreneurs to whom the technology has been transferred

- M/s Intervet India Pvt. Limited, Intervet House, 33 Pune –Nagar Road, Behind Eden Gardens, Pune - 411 014, Maharashtra
- Hester Biosciences Limited, 16/10, Devendra Society, Naranpura, Ahmedabad - 380 013 Gujarat
- M/s Indian Immunologicals Limited, Road No. 44, Jubilee Hills, Hyderabad - 500 033 Andhra Pradesh

Contact

Director

Indian Veterinary Research Institute (IVRI)
Izatnagar, Bareilly 243122 (Uttar Pradesh)
Phone: 0581-2300096, Fax: 0581-2303258
E-mail: dirivri@ivri.res.in

Live Attenuated Vero Cell based Vaccine for Control of Goat Pox in Goats



Salient features

- Vaccine for viral disease caused by goatpox virus is based on indigenous strain.
- Vaccine is safe, potent, and efficacious providing immunity for atleast 40 months (tested so far) and immunity is possibly life long.
- No adverse reactions observed in the field trial and the vaccine does not interfere with immunogenicity of other vaccine such as PPR vaccine or vice versa

Performance

- The vaccine is safe, potent, and efficacious providing immunity for atleast 40 months (tested so far) and immunity is possibly life long
- Recommended dose is $10^{2.5}$ TCID₅₀ per animal to be administered by intradermal (underneath tail) or subcutaneous routes (neck)

Cost

- Lump sum premium ₹ 15 lakh (+ service tax 10.3 %) + royalty 3.5% for 15 years

Impact and benefits

- Vaccine production is Vero cell line based, hence easy to scale up, thus it is commercially viable
- Production of vaccine in Vero cell line is advantageous over primary cell culture grown vaccine as later might carry latent pathogens or potential contaminants originating from the source animal
- Control by vaccination would significantly contribute to productivity of goats mostly reared by resource poor farmers

Name and address of the firms/entrepreneurs to whom the technology has been transferred

- M/s Hester Biosciences Limited
16/10 Devendra society, Naranpura, Ahmedabad, 380 013 Gujarat

Contact

Director

Indian Veterinary Research Institute (IVRI)
Izatnagar, Bareilly 243122 (Uttar Pradesh)

Phone: 0581-2300096, Fax: 0581-2303258

E-mail: dirivri@ivri.res.in

A Test for the Detection of Detergent in Synthetic Milk



Lower Layer : 'Synthetic milk' - Present
Upper Layer : 'Synthetic milk' - Absent

Salient features

- The test can detect presence of detergent in milk at around 0.0125% level

Performance

- Based on the presence of detergent in synthetic milk
- Colour based test and cost is less than ₹ 2 per test
- Results are available in 5 -10 minutes
- Can be performed at milk collection centers and dairy plants
- Sensitive to detect 2 to 3 liters of synthetic milk in 100 liters of milk
- Does not involve expensive equipment or reagents

Cost

- ₹ 2-3 per test

Impact and benefits

- Major improvement over the earlier developed method for detection of detergent in milk in terms of rapidity
- Help in controlling the menace of adulteration of milk
- Safe milk for drinking

Name and address of the firms/entrepreneur to whom the technology has been transferred

- M/s Mother Dairy Fruits and Vegetables Pvt. Ltd., Patparganj, Delhi.

Contact

Director

National Dairy Research Institute

Karnal 132 001 (Haryana)

Phone: 0184-2252800, Fax: 0184-22500

E-mail: dir.ndri@gmail.com

Microbial Drug Residues (MDR) Test Kit for Broad Spectrum Detection of Antibiotics Residues in Milk



Salient features

- Semi-quantitative detection at Codex MRL
- Validated with AOAC approved Charm 6602 Assay
- Minimal false positive / negative results
- Consistency in color development within 3.0 hours
- Stability of test kits up to 12 months under refrigeration storage

- Wide scope of application to raw, pasteurized and dried milk samples

Performance

- MDR test kit was validated with 228 samples comprising raw (122 Nos.), pasteurized (77 Nos.) and dried milk samples (29 Nos.) collected from Karnal and adjoining area in Haryana state, India.
- The comparative results depicted an incidence of antibiotic residues in only 10.08 % of samples tested at MRL Codex limits using MDR test kit.

Cost

- ₹ 33 per unit cost

Impact and benefits

- Competes with microbial inhibition based commercial kits available in international market and are currently in use especially for export business in India
- Cost effective
- Can contribute in initial screening of milk at reception dock for drug residues so that safe product can be delivered to the consumers

Name and addresses of the firms/entrepreneur to whom the technology has been transferred

- M/s Neugen Diagnostics, IDA Industrial Area, E. C. Nagar Junction, Cherlapally, Hyderabad, Andhra Pradesh
Address: Rabinder Chakraborty, Sales Manager, 2nd Floor, “UDAI ENCLAVE”, Main Road, Phase V, Industrial Area, IDA Cherlapally, Hyderabad-500051, Mobile No. 09312577123 Email: rabindra@neugen.net

Contact

Director

National Dairy Research Institute

Karnal 132 001 (Haryana)

Phone: 0184-2252800, Fax: 0184-22500

E-mail: dir.ndri@gmail.com

Field Spot Test to Detect Urea in Milk



Salient features

- Ready-to-use
- Long shelf life and detects urea immediately
- Ensures biosafety and chemical safety

Performance

- No need of trained person. It can be used by household lady

Cost

- ₹ 100 for 30 tests

Impact and benefits

- Results within 10-20 seconds
- Acceptable countrywide
- Urea is toxic for body especially children depending exclusively on milk

Name and address of the firm or entrepreneurs to whom the technology has been transferred

- DKS Incorporate Marketing Ltd. Hisar, Haryana
- Vanshikha Milk Agro, Hisar, Haryana

Contact

Director of Research, LLRUVAS
Hisar 125004 (Haryana)
Phone: 01662-284309 Fax: 01662-270164
E-mail: research.dr@llruvas.edu.in

Schizont Cell Culture Vaccine for Theileriosis



Salient features

- Protects vaccinated animals from bovine theileriosis
- Safe for all indigenous, exotic breeds as well as crossbreds cattle

Performance

- No side reactions
- Safe for pregnant and milch animals

Cost

- ₹ 2.5 lakh + 2.5 % royalty for 7 years

Impact and benefits

- Treatment of theileriosis very costly
- Cost effective indigenous vaccine available
- Effective for control of theileriosis

Name and address of the firm or entrepreneurs to whom the technology has been transferred

- M/s Hester Biosciences Ltd., Mehsana, Gujarat

Contact

Director of Research, LLRUVAS
Hisar 125004 (Haryana)
Phone: 01662-284309 Fax: 01662-270164
E-mail: research.dr@llruvas.edu.in

Multivalent Inactivated Adjuvanted Bluetongue Vaccine

Salient feature

- India's first vaccine to control bluetongue disease

Performanc

- Stable with good efficiency

Cost

- Not decided

Impact and benefits

- Bluetongue is endemic in India
- There is a great demand for the vaccine to protect the animals
- Beneficial mainly for small ruminants

Name and address of the firm or entrepreneurs to whom the technology has been transferred

- Indian Immunologicals Ltd., Hyderabad
- Biovet India Ltd., Bengaluru
- Savintis Biotechnology (Vivimed) Ltd., Hyderabad

Contact

Director of Research
Tamil Nadu Veterinary and Animal Sciences University
Madhavaram Milk Colony Campus
Chennai 600051 (Tamil Nadu)

TANUVAS Fowl Cholera Inactivated Vaccine



Salient features

- Developed with the commonly prevalent virulent local isolate for good immunity
- Isolated *Pasteurella multocida* should be virulent to produce good immunity, and a technology has been developed to maintain the virulence and immunity of the isolate

Performance

- By this advanced technology process a potent fowl cholera vaccine is produced

Cost

- ₹ 1 per dose

Impacts and benefits

- Can be used in farms with chronic fowl cholera problem
- Prevalent field isolate is used in the vaccine production
- Cost effective indigenous technology
- Cost of production is less, since common ingredients are used in the vaccine production
- Vaccine will be used by the poultry farmers and entrepreneurs to control fowl cholera; a dreadful disease in chickens

Name and addresses of the firms/entrepreneur to whom the technology has been transferred

- M/S Bio Vet International Limited, Bengaluru

Contact

Director of Research
Tamil Nadu Veterinary and Animal Sciences University
Madhavaram Milk Colony Campus, Chennai 600051 (Tamil Nadu)
Telefax: 044-25551583, E-mail: dr@tanuvas.org.in

TANUVAS Ranikhet Disease Inactivated Vaccine



Salient features

- This vaccine replaces the RDV 'K' used during the point of lay or mid lay
- Found that RD inactivated vaccine produces antibody titre that is essential for egg production
- Potent vaccine to be given at the point of lay (18th week)

Performance

- This vaccine will not interfere with the egg production
- Level of immunity is sustained, protects against mortality and drop in egg production

Cost

- ₹ 1 per dose

Impacts and benefits

- Can afford higher titre with longer duration of immunity comparable to commercial vaccines, and cost of production is also less
- Useful before point of lay and during mid lay, which improves egg production
- Protects the layer chicken against Ranikhet disease with enhanced egg production

Name and address of the firms/entrepreneur to whom the technology has been transferred

- M/S Bio Vet International Limited, Bengaluru, Karnataka

Contact

Director of Research
Tamil Nadu Veterinary and Animal Sciences University
Madhavaram Milk Colony Campus
Chennai 600051, Tamil Nadu
Telefax: 044-25551583, E-mail: dr@tanuvas.org.in

TANUVAS D58 Newcastle Disease Oral Pellet Vaccine



Salient features

- This vaccine replaces the RDV 'K' used during the point of lay or mid lay
- It is a live vaccine with a natural avirulent virus isolate with an ICPI less than 0.1
- Thermostabilised cloned virus
- In each dose $EID_{50} 10^{6.5}$ viruses / 0.1ml
- Used for backyard poultry along with feeds grains

Performance

- Offers good protection and does not alter the production parameters

Cost

- ₹ 1 per dose

Impacts and benefits

- Potent vaccine which can afford higher titre with longer duration of immunity comparable to commercial vaccines and cost of production is also less
- Can be safely used in backyard poultry in protecting against Newcastle disease under tropical climate

Name and address of the firm/entrepreneur to whom the technology has been transferred

- M/s Globion India, Hyderabad, Andhra Pradesh

Contact

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Telefax: 044-25551583, E-mail: dr@tanuvas.org.in

TANUVAS Live Attenuated *Peste des Petits Ruminants* (PPR) Vaccine



Salient features

- Homologous vaccine against PPR
- Arasur87 (AR 87), a sheep origin PPR virus isolated from the first reported PPR outbreak in India
- This vaccine replaces the use of TCRV in India

- Live attenuated vaccine developed by serial passage (75) of AR 87 virus in Vero cells.

Performance

- New safe tissue culture live vaccine for PPR disease in India.

Cost

- ₹ 2 per dose

Impacts and benefits

- Potent vaccine which can afford higher titre with longer duration of immunity, and cost of production is also less
- Used in place of TCRV since rinderpest is eradicated from India

Name and address of the firm/entrepreneur to whom the technology has been transferred

- State governments of Madhya Pradesh, Andhra Pradesh and Karnataka

Contact

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