Integrated Multipurpose Animal Recording Systems in India - INAPH

Kamlesh Trivedi
Progress of INAPH

• Information Network for Animal Productivity and Health (INAPH) was developed and pilot-tested during 2006-08.
• Deployed in field in April 2008 in one district for monitoring a progeny testing programme
• At present, INAPH application is used across the country for many purposes (As on: 26-09-2021)

<table>
<thead>
<tr>
<th></th>
<th>No. of states</th>
<th>36</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>No. of districts</td>
<td>709</td>
</tr>
<tr>
<td>3</td>
<td>No. of villages</td>
<td>515,013</td>
</tr>
<tr>
<td>4</td>
<td>No. animals registered</td>
<td>180,103,350</td>
</tr>
<tr>
<td>5</td>
<td>No. of projects</td>
<td>303</td>
</tr>
<tr>
<td>6</td>
<td>No. of users</td>
<td>398,747</td>
</tr>
<tr>
<td>7</td>
<td>No. of AI entered</td>
<td>49,233,272</td>
</tr>
<tr>
<td>8</td>
<td>No. of calving recorded</td>
<td>6,713,671</td>
</tr>
<tr>
<td>9</td>
<td>No. of test-day records</td>
<td>4,739,215</td>
</tr>
</tbody>
</table>

• [Index - INAPH (nddb.coop)](http://nddb.coop)
Contents

• Objectives

• Overview of the INAPH Application:
  – Hardware – Tools, Technology, and Platforms
  – Software:
    • Different modules
    • Reports - Operational Reports, Review Report, MIS Reports, Analytical reports, etc.
    • Implementation Support

• How the application is used for Animal Identification and Registration, Breeding, Nutrition, and Healthcare services

• INAPH Progress
Objectives

- Provide IT infrastructure to agencies extending productivity enhancement services
- Record all events in productivity enhancement area
- Make available relevant information online
- Create National Level Database
- Identify animals uniquely
- Monitor field activity
- Provide decision support system
- Data Analytics
Overview of INAPH Application
Tools and Technology

• Client Server Technology
• Tools:
  ▪ Microsoft .NET Technology
  ▪ I Notify sync middleware for Sync process
  ▪ SMS Engine
  ▪ SSRS for Analytical Reports
  ▪ Android JDK 7.0
  ▪ Crystal Report
• Servers:
  – Database Server: MS SQL Server 2012
  – Application Server: IIS Server 8.0
• Security
  – Firewall
Hardware and different platforms

Clients
- Smartphone
- Tablet
- Desktop
- Netbook

Servers

Internet
INAPH is a bunch of Applications

- **Admin Application**: To create Masters
- **Main Application**: To capture field data and provide information
- **LAB Application**: for Analysis of Milk, Fodder, and pathology samples
- **Web based Reporting Tool**: Analyzing data and monitoring field activities.

- **Online**
- **Offline**
  - Android Smart Phone
  - Netbook based
- **Web based**

MIS Reports
Analytical Reports
Admin Application
As per GOI, 2011 census.

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>28 +8</td>
</tr>
<tr>
<td>District</td>
<td>718</td>
</tr>
<tr>
<td>Taluka</td>
<td>6,072</td>
</tr>
<tr>
<td>Rev Village</td>
<td>6,40,867</td>
</tr>
<tr>
<td>Hamlet</td>
<td>1,693,646</td>
</tr>
</tbody>
</table>
Access Hierarchy

- Five Level of Access Hierarchy
- Multiple villages to one Field Users.
- Same Village can be assigned to multiple Field Users.
- Role (AI tech, LRP, Milk Recorder, Health worker, Analyst, etc.) and Hierarchy Based Access Control.
- Organization level administration managed at local organizational level through Admin Application.
Main App for Android Smartphone Users

Animal Identification Registration
- Animal Registration
- Owner Registration
- Animal Movement (Sale, Cull, Death)
- Ear Tag Change
- Animal Re-registration
- Animal Management Query
- Animal Health Card
- Reports

Breeding
- Artificial Insemination (AI)
- Pregnancy Diagnosis (PD)
- Calving
- Forced Pregnancy Termination
- Reports

Milk Recording
- Morning Milk Recording/Dry Off
- Noon Evening Milk Recording
- Mass Dry Off
- Growth Monitoring
- Elite Animal Identification
- Parentage Verification
- Male Calf Procurement
- Typing
- Reports

Nutrition
- District Feed Library
- Individual Animal
- RB-CRP
- Herd
- Nutrition Masters View
- Feed Sample

Health
- Individual Services
- Vaccination
- De-worming
- Fertility Issues
- Disease Testing
- Animal Treatment
- Followup Treatment
- Group Services
- Mass Vaccination
- Mass De-worming
- Village Infertility Camps
- Group Disease Testing
- Treatment Camp
- Reports
Main App for Netbook, Laptop and Desktop Users

NDDB-Information Network for Animal Productivity and Health

Welcome | sbrkamlesh | day's Date: 25-06-2014 | Day: Wednesday | Alerts

Animal Identification | Registration
- Animal Registration
- Owner Registration
- Animal Movement (Sale, Cull, Death)
- Ear Tag Change
- Animal Re-Registration
- AM Reports

Breeding
- Artificial Insemination (AI)
- Pregnancy Diagnosis (PD)
- Calving
- Forced Pregnancy Termination
- Operational Reports
- Performance Review Report

Health
- Individual Services
  - Vaccination
  - De-worming
  - Fertility Issues
  - Disease Testing
- Animal Treatment
- Followup Treatment
- Group Services
  - Mass Vaccination
  - Mass De-worming
  - Village Infertility Camps
  - Group Disease Testing
- First Information Report
- Report Outbreak
- Followup Outbreaks

Nutrition
- Ration Balancing
- District Feed Library
- Individual Animal
- Herd
- Nutrition Masters View
- Feed Sample Collection
- New/Edit Sample Reports

Progeny Testing (Milk Recording)
- Morning Milk Recording/Dry off
- Noon/Evening Milk Recording
- Mass Dry Off
- Growth Monitoring
- Elite Animal Declaration
- Parangshu Verification
- Male Calf Procurement
- Typing
- Operational Reports
- Review Reports

Miscellaneous Reports
- Miscellaneous Reports
- Miscellaneous Services
Activity Recording & Validation Checks

- Ear Tag #
- Unique Tag #
- Species
- Gender
- Geography
- Animal Status
- Transaction Eligibility
- Logical Sequence

- 12 Digit Number
- Valid Relation with 12th Check Digit
- Not Registered
- Not Replaced (Tag Changed)
- Match of Species w.r.t Bull/Semen
- Animal in the Area of Operation
- What Service???
  - Why???
  - When???
- Gender Specific Activity!!!
- Animal in the Assigned Area of Operation
- Alive!!!
- DEAD/CULL (Deactivated)
- SOLD (Disabled)
- Gender Specific Activity!!!
- Order of Recording an Activity
Field Implementation Support

• **NDDB Level**
  - Software Development, Maintenance, Enhancement
  - Training to Trainers
  - Training for Analytics
  - Troubleshooting

• **User Agency**
  - Training to field users
  - First hand troubleshooting
  - Data Capturing
  - Field Testing
INAPH –
An Integrated Multi-purpose System
Animal Identification and Registration
Mehsana Buffalo being ear tagged
Identification and Registration of Animals

- Animals are identified by 12 digit unique ear tag numbers:
  - First 11 digits of Ear tag number are running serial numbers.
  - 12th digit is check digit

- Ear tags’ number are provided by NDDB ensuring uniqueness of number across country.
Unique Bull / Semen Identification

12 digit unique ID

SS unique Bull ID

SAG-HFSH-1340

Printing on Semen Straw

XXX XXXX XXX xxxxxx

Bull ID
Breed of bull
SS Code
Batch No.

29-09-2021
Animal Identification & Registration

- Animal Registration
- Movement (Sale, Death, Cull etc)
- Re-Registration (Enable)
- Ear tag Change

Register

Movement/Disable

Enable

Disable

Enable

Disable

Enable

Owner/Location 1

Owner/Location 2

Owner/Location 3

Owner/Location N
Fields Marked with * are Mandatory

Animal Movement

*Tag Number: 190000014124  
*Movement Type: Sold

*Movement Date: 01-08-2009  
Amount: 10000

From Owner Details

*Owner Name: RAGHUPATI
*State: GUJARAT
*District: Bharuch
*Taluka: AMOD
*Village: ACHHOD

To Owner Details

*Owner Name: Jagmoha
*State: GUJARAT
*District: Anand
*Taluka: ANKLA
*Village: SANKHYAD
Remarks: hefer

Do You Want to Move the Animal To Semen Station?

Save  Reset
Fields Marked with * are Mandatory

**Change Ear Tag**
- **Old Tag Number:** [190000014124]
  - [Forgot Old Tag Number?](#)
- **New Tag Number:**
- **Transaction Date:** 09-01-2010
  - [Save](#)
  - [Reset](#)

**Search Ear Tag**
- **Village:**
- **Owner:**
- **Owner Birth Date:** 09-01-2010
  - [Search](#)
- **Farmer Association No.:**

**Search Results**

<table>
<thead>
<tr>
<th>Animal ID</th>
<th>Species</th>
<th>Sex</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Breeding Services
Breeding Services

- Capturing Animal & Owner Registration data
- Capturing Artificial Insemination data
- Capturing result of Pregnancy Diagnosis
- Recording Calving Details
- Capturing Male Calf Registration
- Capturing Daughter Registration
- Capturing Milk Recording data

Alerts

Messages

Reports

29-09-2021
AI service at farmer’s door step
Every inseminated animal is to be identified by an ear-tag having unique number
Semen from A or B grade semen station and of certified bull only used
Record all data of AI, PD and calving on an individual animal basis through INAPH
Breeding Module

- Artificial Insemination (AI)
- Pregnancy Diagnosis (PD)
- Calving
Breeding Module - Insemination Types

- **Test Insemination**
  - Test Bull ID
  - Test Village
  - Test Period (From, To)

- **Nominated AI**
  - Nominated Bull
  - Nominated AI

- **General AI**
  - Neither Nominated nor Test
<table>
<thead>
<tr>
<th>Mechanism inbuilt in the AI functionality.</th>
</tr>
</thead>
<tbody>
<tr>
<td>System keeps track of Sire, Sires’s Sire &amp; Dam’s Sire for each animal.</td>
</tr>
<tr>
<td>To check inbreeding, these sires are popped up at the time of AI.</td>
</tr>
<tr>
<td>Mechanism can be best used when transactions are recorded at cow site.</td>
</tr>
</tbody>
</table>
Fields Marked with * are Mandatory

Artificial Insemination

Check On Tag Number

*Tag Number: 190000014113

Species

Species: Cattle

Related Animal Details for Last Insemination

Last Insemination Date: 
Last Bull/Semen Number: 
Current Lactation Number: 1
Actual Artificial Insemination: 0

Fill Artificial Insemination Details

*Date of Insemination: 01-04-2007
Time of Insemination (hh:mm): hh 12 : 31 mm PM
*Semen/Bull Number: MEH-HF-1
Semen Batch Number (###-##): 123-06
Number of Wasted Semen Doses: 
Type of Call: Mobile
Nominated AI: Yes
Amount to be paid: 60
Receipt Number: 1231
Measurement of monthly Milk Yields

Measurement by jars

Electronic Weighing Machine for Milk Recording
Measurement of milk components

Centralized - Milkoscan

Decentralized Lactoscan
• Role and Hierarchy based Reporting covering one or more Functional Areas.
• Provides Decision Supports as well as Operational Support based on the requirements.
• Provide Alerts to take action in Real Time.
• Web based Reporting on Common INAPH Portal at [http://inaph.nddb.coop](http://inaph.nddb.coop)
Operational report from Smartphone

Non Pregnant Animals (Open Period > N days)

- Village
- Animals not inseminated once after calving
- Animals inseminated but not pregnant
- Open Period > 100 (days)
- Animals Type: All

Report Date: 10-05-2018
Report Generated By: test_alt6(AITechnician)
Animals Type: All
Open Period: Open Period >= 100

<table>
<thead>
<tr>
<th>Animal ID</th>
<th>Species</th>
<th>Last Calving Date</th>
<th>Open Days</th>
<th>Number Serv</th>
</tr>
</thead>
<tbody>
<tr>
<td>121213131412</td>
<td>Buffalo</td>
<td></td>
<td>860</td>
<td>1</td>
</tr>
<tr>
<td>865656565634</td>
<td>Buffalo</td>
<td></td>
<td>129</td>
<td>1</td>
</tr>
<tr>
<td>123412340005</td>
<td>Cattle</td>
<td></td>
<td>403</td>
<td>1</td>
</tr>
<tr>
<td>656565656511</td>
<td>Cattle</td>
<td>26-11-2015</td>
<td>129</td>
<td>1</td>
</tr>
</tbody>
</table>
Alerts For Follow up Activities

Alerts on netbook

Alerts on Mobile

- Village: Madapur
  - Owner: PATEL CHETAN REVABHAI
  - CellNo: Cattle 340021376045 due for PD, inseminated on 05-02-2018
- Village: Naroda
  - Owner: patel dahyabhai parasotmbhai
  - CellNo: Buffalo 340021893097 due for PD, inseminated on 06-02-2018
- Village: Naroda
  - Owner: PANCHAL SAVITABEN NATUBHA
  - CellNo: Cattle 340058195062 due for PD, inseminated on 08-02-2018
- Village: Naroda
  - Owner: PATEL KALUBHAI SHIVABHAI
  - CellNo: Cattle 340089685885 due for PD, inseminated on 09-02-2018
- Village: Naroda
  - Owner: Vankar Khana Punjabhai
  - CellNo: Buffalo 340021572577 expected to calve during next week.
- Village: Naroda
  - Owner: PATEL CHATURBHAI MATHURBHAI
  - CellNo: Cattle 340021893771 expected to calve during next week.
- Village: Naroda
  - Owner: Machhar- Fulabhai Kuberbhai
  - CellNo: Cattle 340050981293 expected to calve during next week.

Total Alerts: 23

29-09-2021
INAPH - Management Information System

(NDBD)

Welcome ananileshn!  Logout

<table>
<thead>
<tr>
<th>Registration</th>
<th>Breeding (AI)</th>
<th>Milk Recording (PT)</th>
<th>Nutrition (RBS)</th>
<th>Health</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animal Registration</td>
<td>Artificial Insemination</td>
<td>Milk Recording</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Animal Status</td>
<td>Pregnancy Diagnosis</td>
<td>Animal Milk Yield</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ear Tag Change</td>
<td>Calving</td>
<td>Animals Dried-Off</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elite Animal Declaration</td>
<td>Breeding Summary</td>
<td>Test Dose Distribution Plan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Animal Movement</td>
<td>Artificial Insemination Followup</td>
<td>Daughters' Follow-up</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>User Profile &amp; Area of Operation</td>
<td>INAPH Sire Directory</td>
<td>Growth Monitoring</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Parentage Verification</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Elite Animals' Follow-Up</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Growth Monitoring Follow-Up Report</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Animal Details for Genomic Sample Collection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bullwise Daughters' Follow-up</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

here to search
### Health Reports
1. Animal Treatment Summary
2. Vaccination Deworming Coverage
3. Disease Testing
4. Disease Pattern
5. Disease Specific Efficacy
6. Outbreak
7. Pathology Sample Summary

### Nutrition Reports
1. Village wise Ration Balancing Coverage
2. RBP Impact
3. Month wise Progress Report
4. Location wise Progress Report
5. User wise Progress Report
6. Surplus-Deficit Status
7. Feed Cost Report
8. District Wise Feeding Practices
9. RBP Lactation yield and Curve Report
10. Feed Sample Regionwise Summary Report

### Analytical Reports
1. Bull Wise Type Details
2. Bullwise Milk Production & Component Analysis
3. Reproduction Performance of Bulls - General Semen Doses
5. Test Dose Analysis Report
6. Reproduction Performance of Bulls - Test Semen Doses
7. Village Status Report - Production
8. Village Status Report - Lactation Wise
### SMS Messages to Farmer

<table>
<thead>
<tr>
<th>Category</th>
<th>Message Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AI</strong></td>
<td>• Animal Expected to come in heat during <code>&lt;Date1&gt;</code> to <code>&lt;Date2&gt;</code></td>
</tr>
<tr>
<td></td>
<td>• Animal Non-pregnant, open period <code>...</code> Months</td>
</tr>
<tr>
<td></td>
<td>• Heifer Non-pregnant, open period <code>...</code> months</td>
</tr>
<tr>
<td><strong>PD</strong></td>
<td>• Animal due for PD, inseminated on <code>&lt;Date1&gt;</code></td>
</tr>
<tr>
<td><strong>Calving</strong></td>
<td>• Animal expected to calve during next week.</td>
</tr>
</tbody>
</table>
| **Milk Recording** | • Animal Due for Milk recording  
• Abnormal Variation in Milk recording  
• Lactation record `<Total Yld>`, `<Stnd.Yld>`, `<Milk Days>`, `<Av.Fat%>`, `<Protein%>`, `<Lactose%>` |
Nutrition Services
Capturing Animal Registration data

Capturing Animal Profile

Capturing Feed Intake and Milk Yield data

Selecting Locally Available Feeds & Fodder with Cost

Need Based Fresh Formulation

Least cost balanced ration formulation by software

Balance Feeding to Animal

Outputs

Reports

29-09-2021
### Nutrient Requirements

<table>
<thead>
<tr>
<th>TDN</th>
<th>CP</th>
<th>Calcium</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>3113</td>
<td>668</td>
<td>20</td>
<td>12</td>
</tr>
<tr>
<td>3010</td>
<td>840</td>
<td>29.7</td>
<td>18.3</td>
</tr>
<tr>
<td>311.3</td>
<td>66.8</td>
<td>2</td>
<td>1.2</td>
</tr>
<tr>
<td>6434.3</td>
<td>1574.8</td>
<td>51.7</td>
<td>31.5</td>
</tr>
</tbody>
</table>

### Dry Matter (DM) Requirement:

7.5 Kg to 12 Kg (2.5% to 4% of Body Weight)

### Nutrient Available in Existing Ration

<table>
<thead>
<tr>
<th>Feed Name</th>
<th>Feed Sub Class</th>
<th>Quantity (kg)</th>
<th>Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guar Korma</td>
<td>Cake/Meal</td>
<td>1</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Lucerne Fodder</td>
<td>Green Fodder</td>
<td>10</td>
<td>1.25</td>
<td>12.5</td>
</tr>
<tr>
<td>Paddy Straw</td>
<td>Straw</td>
<td>3</td>
<td>2.5</td>
<td>7.5</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>23</td>
<td></td>
<td>63</td>
</tr>
</tbody>
</table>

### Nutrients Surplus/Deficient in Existing Ration

<table>
<thead>
<tr>
<th>TDN</th>
<th>CP</th>
<th>Calcium</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>+252.700</td>
<td>+674.3</td>
<td>-15.26</td>
<td>-16.27</td>
</tr>
</tbody>
</table>

### Select Feed Items to be Balanced

<table>
<thead>
<tr>
<th>Feed Name</th>
<th>Feed Sub Class</th>
<th>Rate/Kg</th>
<th>Min (kg)</th>
<th>Max (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIS Type-II</td>
<td>Compounded Feed</td>
<td>6</td>
<td>2</td>
<td>100</td>
</tr>
<tr>
<td>Cotton Seed</td>
<td>Cake/Meal</td>
<td>8</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Cow Pea Fodder</td>
<td>Green Fodder</td>
<td>1.25</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Guar Korma</td>
<td>Cake/Meal</td>
<td>4</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Lucerne Fodder</td>
<td>Green Fodder</td>
<td>1.25</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>Paddy Straw</td>
<td>Straw</td>
<td>2.5</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Mineral Mixture</td>
<td>Minerals</td>
<td>25</td>
<td>0.1</td>
<td>0.2</td>
</tr>
</tbody>
</table>

### Least Cost Balanced Ration

<table>
<thead>
<tr>
<th>Feed Name</th>
<th>Quantity</th>
<th>Rate</th>
<th>Amount</th>
<th>Dry Matter</th>
<th>TDN</th>
<th>CP</th>
<th>Calcium</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lucerne Fodder</td>
<td>5</td>
<td>1.25</td>
<td>6.25</td>
<td>900</td>
<td>585</td>
<td>153</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Paddy Straw</td>
<td>5.024</td>
<td>2.5</td>
<td>12.58</td>
<td>4521.49</td>
<td>1899</td>
<td>203.5</td>
<td>7.2</td>
<td>1.4</td>
</tr>
<tr>
<td>Mineral Mixture</td>
<td>0.146</td>
<td>25</td>
<td>3.65</td>
<td>146.15</td>
<td>0</td>
<td>29.2</td>
<td>17.5</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>16.031</td>
<td>---</td>
<td>49.91</td>
<td>10842.98</td>
<td>6434.3</td>
<td>2593.2</td>
<td>58.2</td>
<td>31.6</td>
</tr>
</tbody>
</table>

- **Cost of Ration/Kg Milk Production**: 4.99 Only
- **Cost of Ration/Kg** (as such): 3.11 Only
- **Cost of Ration/Kg** (DM Basis): 4.60 Only

**View Solution Details**
Healthcare services
Lab testing & Release of New Application Binaries

SMS Notification

Update of New Binaries on Server

New Application Binaries Update Mechanism

Start Working on New Binaries

User working on Application

Message for New Binaries availability

Update Binaries
Progress so far
<table>
<thead>
<tr>
<th>Key parameters as on Date</th>
<th>26th September 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Projects</td>
<td>303</td>
</tr>
<tr>
<td>State</td>
<td>36</td>
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<tr>
<td>Districts</td>
<td>709</td>
</tr>
<tr>
<td>Villages</td>
<td>515,013</td>
</tr>
<tr>
<td>Nos. of Users</td>
<td>398,747</td>
</tr>
<tr>
<td>Animals Registered</td>
<td>180,103,350</td>
</tr>
<tr>
<td>Farmers Registered</td>
<td>61,710,754</td>
</tr>
<tr>
<td>AI done</td>
<td>49,233,272</td>
</tr>
<tr>
<td>Calving reported</td>
<td>6,713,671</td>
</tr>
<tr>
<td>Test-day milk records</td>
<td>4,739,215</td>
</tr>
</tbody>
</table>

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Thank You