

# Small Ruminant Production & Research Information System

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**User Manual**  
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## Introduction

The animal identification and performance recording of livestock species have been done on priority in many developing countries of the world. Because of this they were able to make breakthrough in genetic improvements of their livestock. However, some countries specially developing and resource poor countries have not been able to follow the animal identification and performance recording therefore, the trend in genetic improvement livestock is not known and some of the breeds therefore were lost for want of information. Animal identification and performance recording is a major hindrance in the genetic evaluation program for breed improvement and conservation. However, some countries are recording performance of livestock on small flock size/ This data too are not put in a proper format and updated regularly therefore, remain underutilized for most time. It is also difficult to analyse in time framed manner as they are scattered in the registers across region. To formulate the policies for livestock improvement such information are needed in time framed manner. Considering above facts an information management software was developed which can be used on Internet for animal identification and performance recording. This software is primarily aimed to manage data on small ruminants however, in future it can be modified to fulfill the need of other species too. **The software is named “Small Ruminant Production & Research Information System” (SRPRIS).** Presently this software is multi-user, web based and relational in nature therefore can be used for creation of National Data Bank. It is being developed using SQL on windows Platform but in future would like to convert it on Gnu-GPL based software such as My-SQL, PHP and Java running on Linux etc. The distribution of this software will be free and would like to release the source codes too under GNU-GPL license.

## Features of Software

SRPRIS is a multiuser, web based & multitasking information management system for of small ruminants. This software manage the production data on all economic aspects. The SRPRIS can be used to create national data bank with a facility to update and utilize the data in secure manner through Internet.

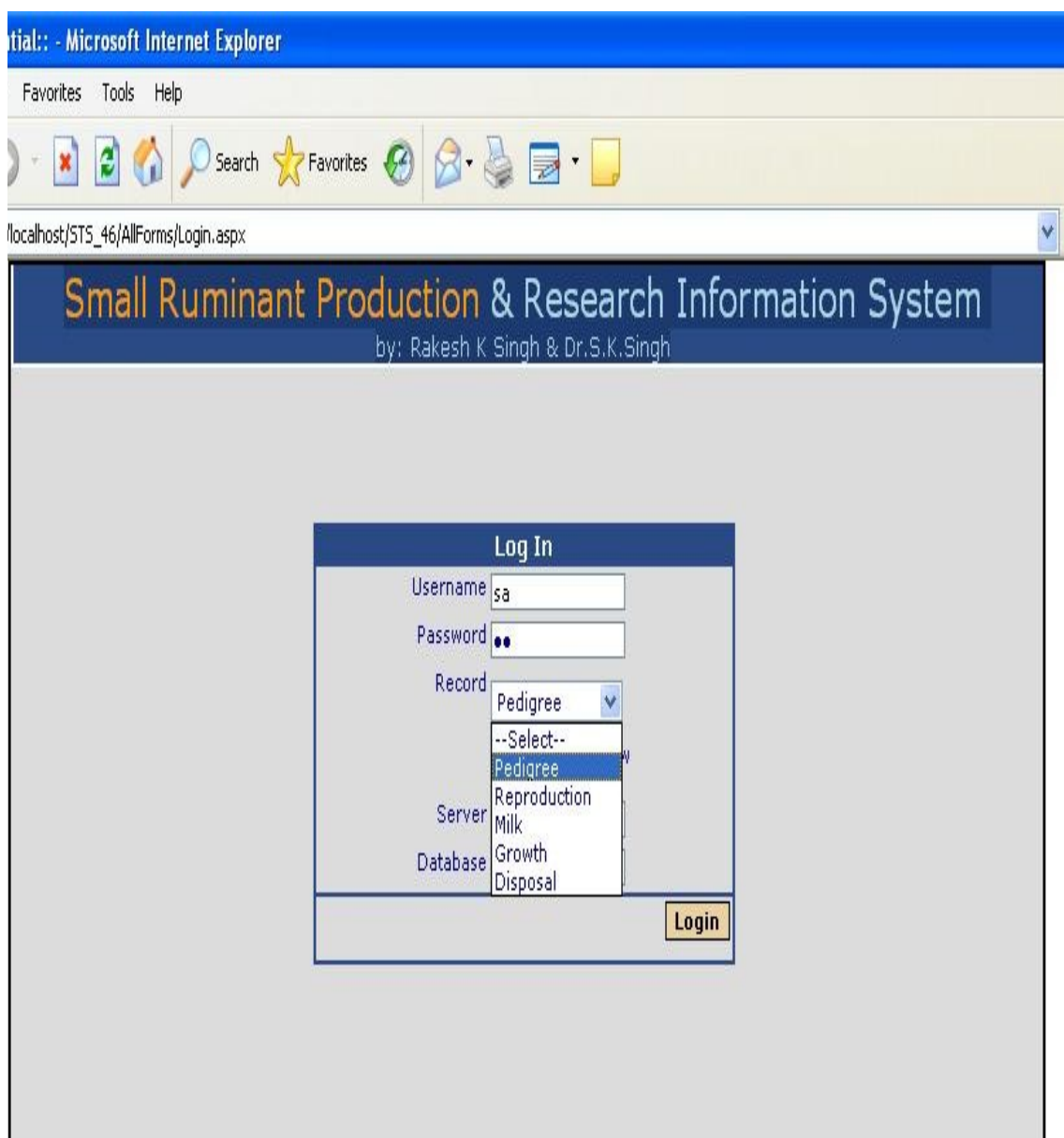
**Requirements:** Presently the software is under construction and undergoing extensive testing. Following are the basic requirements of the software.

Operating System:	Windows 2000/ XP/2003 Server /NT
Additional Packages:	Net Framework 1.1, SQL Server2000.
Web Server:	IIS 5.1 with Internet Explorer 5 or higher
RAM:	256 MB RAM minimum, 1 GB recommended
Processor:	Pentium <i>IV</i> or compatible CPU, Server based CPU
HDD Requirement	SCSI based servers are recommended. 40 GB space for software installation and appropriate space for data <b>storage</b> ( as per volume of data).
Network:	TCP/IP based Network
Resolution :	1024*768 resolution

## Module -1. Login

When a user requests for availability of software from a client computer to server hosting this information system using LAN/internet the server machine sends the login page which is shown as under. The user is asked to submit a proper login ID and appropriate password. This makes the software password secured. Along with password the users are asked to indicate the module i.e. Pedigree, growth, milk etc. to be used, server name and database to be used. Once the user identity is properly authenticated by the server, he is allowed to login and manage the information systems for which he has got the permission. The interface is given below in Pic. 1

**Fig. 1 Front Face and Login interface of SRPRIS**



The image shows a screenshot of a Microsoft Internet Explorer browser window. The address bar displays the URL: localhost/STS\_46/AllForms/Login.aspx. The page title is "Small Ruminant Production & Research Information System" by Rakesh K Singh & Dr.S.K.Singh. The main content area features a "Log In" form with the following fields:

Log In	
Username	sa
Password	••
Record	Pedigree
Server	Reproduction
Database	Growth

A "Login" button is located at the bottom right of the form. The "Record" dropdown menu is open, showing options: --Select--, Pedigree, Reproduction, Milk, Growth, and Disposal.

## Module -2. Pedigree

The first module created in SRPRIS was to manage the pedigree of an animal. The module face is shown in figure-2 information on animal, sire, dam ID are to be fed as a new entry along with species, breed, location, sex, mode of entry (by birth or purchase). Date of birth and disposal. Number of progenies produced by the scenario will automatically be taken from the pedigree record and shown whenever a person wished to show information on this animal.

**Fig. 2 Pedigree interface of SRPRIS**

The screenshot shows a web browser window titled "dEntry:: - Microsoft Internet Explorer" with the address bar showing "http://localhost/STS\_46/AllForms/PedEntry.aspx". The main content area displays the "Small Ruminant Production & Research Information System" header, followed by the text "by: Rakesh K Singh & Dr.S.K.Singh". Below this is a "Pedgree Entry Form" with a "Welcome sa You are logged in from 127.0.0.1" message. The form contains the following fields:

AniamID	965
SireID	564
DamID	76
Species	ovis
Breed	barbari
Location	cirg makhdoom
Sex	Male
Mode of Entry	Birth
Date of Birth	15 / 1 / 2003
Date of Disposal	Label
No.of Progenis	Label(totyal no of kids)

At the bottom of the form are "Clear" and "Save" buttons.

## Module – 3 : Growth

The module-3 deals with management of information body weight growth of the animal. Once animal ID is fed, the software automatically collects sire and dam ID from the pedigree database and show here. This is to authenticate that correct growth information is fed in the computer. It also collects information on date of birth, sex, parity of dam from the reproduction database and show them for verification. Then monthly body weight growth can be fed. On the right side of the face information on weight of them at kidding and weights at three months interval are shown from relevant databases. The module also generates average daily gains for different age periods.

**Fig. 3 Interface for Growth data and performance in SRPRIS**

The screenshot shows a web browser window titled "GrowthEntry: - Microsoft Internet Explorer" with the address "http://localhost/STS\_46/AllForms/GrowthEntry.aspx". The main content area displays the "Small Ruminant Production & Research Information System" header, followed by the "Growth Production Entry Form". The form includes a "Welcome sa You are logged in from 127.0.0.1" message and "New" and "Update" radio buttons. Below these are dropdown menus for "Species" and "Breed", and a "Label" field. The form contains several input fields for data entry:

Species	Breed	Label
AniamID: 4172	Mangment	2
SireID: 0	Weight of Dam at Kidding	260
DamID: 3579	Birth Weight	30
Year of Birth: 1999	3m Weight	104
Month of Birth: 2	6m Weight	170
Type of Birth: 1	9m Weight	0
Sex: 1	12m Weight	0
Parity of Dam: 3	ADG 0-3	
Month: 1	ADG 3-6	
Weight:	ADG 3-9	
	ADG 3-12	

At the bottom of the form are "Clear" and "Update" buttons. A sidebar on the left lists "Animal Available" with IDs from 9887 to 4404. The footer contains navigation links: Home, Pedigree, Reproduction, Growth, Lactation, Disposal, PedRecords, ReproRecords, MilkRecords, GrowthRecords, DisposalRecords, and a note: "Developed By: Rakesh Kumar Singh & Dr.S.K.Singh, Senior Scientist, AGRR".

## Module – 4 : Reproduction

This module deals with reproduction performance of female animals. Like all modules, if animal ID is given, the information on sire and dam, date of birth etc. are collected from pedigree database and shown automatically for verification. The date of service, weight of animal at service, Buck identity, date of kidding, Type of kidding are to be fed to create the data base. After the information on an individual female is fed in the data base the software automatically calculates age at first kidding, kidding interval, gestation, service period, parity etc.

**Fig. 4 Interface for Reproduction data and Efficiency in SRPRIS**

The screenshot shows a web browser window titled "Reproduction Entry: - Microsoft Internet Explorer". The address bar shows the URL "http://localhost/ST5\_46/AllForms/ReproEntry.aspx". The main content area displays the "Small Ruminant Production & Research Information System" interface. The page header includes the system name and authors: "by: Rakesh K Singh & Dr.S.K.Singh". A sidebar on the left indicates "Plz made Entry for these Recoeds" with a count of "988". The main form is titled "Reproduction Entry Form" and includes a "Welcome sa You are logged in from 127.0.0.1" message. The form has "New" and "Update" radio buttons. It features two dropdown menus for "Species" and "Breed", and a "Label" field. The form contains several input fields: "AnimalID" (988), "SireID" (7865), "DamID" (787), "Date of Birth" (2/28/2007 12:00:00 AM), "Date of Service" (1/24/2007 12:00:00 AM), "Weight at Service", "Sired\_By" (4343), "Date of Kidding", and "Date of Dry". On the right side, there are fields for "Weight of Dam at Kidding", "Type of kidding" (a dropdown menu), "Kid ID1" through "Kid ID4", "Gestation Period", "Age at Service", "Age at kidding", "Service Period", "Parity", "Dry Period", and "Kidding Interval". At the bottom of the form are "Clear" and "Save" buttons. The footer of the page contains navigation links: "Home", "Pedigree", "Reproduction", "Growth", "Lactation", "Disposal", "PedRecords", "ReproRecords", "MilkRecords", "GrowthRecords", and "DisposalRecords". It also includes the text "Developed by: Rakesh Kumar Singh & Dr.S.K. Singh, Senior Scientist, AGRR".



## Module – 5 : Milk Production

Under this module the weekly milk production data is to be updated for each animal under production and in pedigree. The software calculates partial milk yield for 90 days, 140 days, lactation milk yield, lactation period and average daily milk yield for the lactation period. It also calculates and display the type of kidding, parity from reproduction data base.

**Fig. 5 Interface for Milk Production performance in SRPRIS**

The screenshot shows a web browser window titled "MilkEntry: - Microsoft Internet Explorer". The address bar shows "http://localhost/STS\_46/AllForms/MilkEntry.aspx". The main content area displays the "Small Ruminant Production & Research Information System" interface. The page header includes the system name and authors: "by: Rakesh K Singh & Dr.S.K.Singh".

The central form is titled "Milk Production Entry Form" and includes a login status: "Welcome sa You are logged in from 127.0.0.1". The form has two radio buttons for "New" (selected) and "Update". Below these are dropdown menus for "Species" and "Breed", and a "Label" field.

The form contains the following fields:

- AnimalID: 988
- SireID: 7865
- DamID: 787
- Year of Kidding: --Year--
- Month of Kidding: --Select--
- Type of Kidding: [Text Field]
- Parity of Dam: [Text Field]
- Week No: --Select--
- MilkYeild (morning): [Text Field]
- MilkYeild (Evening): [Text Field]
- Total milk: [Text Field]
- Peak Yield: [Text Field]
- P.Week: [Text Field]
- Mangement: [Text Field]
- Age at Kidding: [Text Field]
- Weight of Dam at Kidding: [Text Field]
- 90 days Milk Yeild: [Text Field]
- 140days Milk Yeild: [Text Field]
- Lactation Milk Yeild: [Text Field]
- Lactation Length: [Text Field]
- ADMY: [Text Field]

At the bottom of the form are "Clear" and "Save" buttons.

The footer of the page contains navigation links: [Home](#), [Pedigree](#), [Reproduction](#), [Growth](#), [Lactation](#), [Disposal](#), [PedRecords](#), [ReproRecords](#), [MilkRecords](#), [GrowthRecords](#), [DisposalRecords](#). Below these links is the text: "Developed By: Rakesh Kumar Singh & Dr.S.K.Singh, Senior Scientist, AG&R".

## Module 6: Disposal

a separate data base is created for mode of disposal of the animal as this is very important from production, research, genetic improvement evaluation and economic point of view Under this module date of disposal, mode of disposal, reasons for disposal, cost recovered, book value of the animal are available. From this module information on no of animals culled due to health, poor production, reproduction, sold for breeding, sold for slaughter etc. can be gathered for a given period. Also information on amount received from sale and disposal of animals can be obtained.

**Fig. 6 Interface for Animal Disposal in SRPRIS**

The screenshot shows a web browser window titled "DisposalEntry: - Microsoft Internet Explorer" with the address bar showing "http://localhost/STS\_46/AllForms/DisposalEntry.aspx". The main content area is titled "Small Ruminant Production & Research Information System" by Rakesh K Singh & Dr.S.K.Singh. The "Disposal Entry" form includes the following fields and controls:

- AnimalID: 4172 (dropdown)
- SireID: 0 (text input)
- DamID: 3579 (text input)
- Breed: barbari (text input)
- Species: (text input)
- Date Of Disposal: A calendar widget showing January 2007, with the 26th selected.
- Mode of Disposal: --select-- (dropdown)
- Cause: (dropdown menu)
- Cost Recoverd: (text input)
- PM Findings: (dropdown menu)
- Book Value: (text input)
- Sale Value: (text input)
- Status: delete (dropdown)

Buttons for "Clear" and "Save" are located at the bottom of the form. A sidebar on the left lists animal IDs from 9887 down to 4172. The footer contains navigation links: Home, Pedigree, Reproduction, Growth, Lactation, Disposal, PedRecords, ReproRecords, MilkRecords, GrowthRecords, DisposalRecords, and is developed by Rakesh Kumar Singh & Dr.S.K.Singh, Senior Scientist, AGRR.



## Module 7: Pashmina and Wool Production

One of the important products from sheep and goat are Pashmina, wool and hair. A separate data base for storing and processing the data on this aspect has been created in SRPRIS. Information on data shearing, breed, location, sex, fiber yield, fiber diameter, fiber length and modulation percent has to be provided to the software. From this module information on fiber produced from the farm, an individual animal and its quality can be obtained and analysis.

**Fig. 7. Interface for Fiber Production performance in SRPRIS**

The screenshot shows a web browser window titled "PedEntry: - Microsoft Internet Explorer". The address bar displays "http://localhost/STS\_46/AllForms/FibreEntry.aspx". The main content area features a header for "Small Ruminant Production & Research Information System" by Rakesh K. Singh & Dr. S.K. Singh. Below the header, a "Fibre Data Entry Form" is displayed. The form includes a welcome message: "Welcome sa You are logged in from 127.0.0.1". The form fields are: AniamlID, SireID, DamID, Species, Breed, Location, Sex (a dropdown menu with "select" as the current value), Date Of Shearing, Shearing No., Fibre Yield, Fibre Length, Fibre Dia, and Modulation Percent. At the bottom of the form are "Clear" and "Save" buttons. The footer contains navigation links: Home, Pedigree, Reproduction, Growth, Lactation, Disposal, PedRecords, ReproRecords, MilkRecords, GrowthRecords, DisposalRecords, and a note: "Developed By: Rakesh Kumar Singh & Dr. S.K. Singh Senior Scientist AG&R".

Fibre Data Entry Form	
AniamlID	<input type="text"/>
SireID	<input type="text"/>
DamID	<input type="text"/>
Species	<input type="text"/>
Breed	<input type="text"/>
Location	<input type="text"/>
Sex	<input type="text" value="select"/>
Date Of Shearing	<input type="text"/>
Shearing No.	<input type="text"/>
Fibre Yield	<input type="text"/>
Fibre Length	<input type="text"/>
Fibre Dia	<input type="text"/>
Modulation Percent	<input type="text"/>

[Home](#) [Pedigree](#) [Reproduction](#) [Growth](#) [Lactation](#) [Disposal](#) [PedRecords](#) [ReproRecords](#) [MilkRecords](#) [GrowthRecords](#) [DisposalRecords](#)  
Developed By: Rakesh Kumar Singh & Dr. S.K. Singh Senior Scientist AG&R

## Utility of the Software

This software is very similar to the one being used by Indian Railways for reservation of seats in the train. It can be used for creating national data bases on small ruminants in a server linked with Internet. Therefore, the users can access information available from any part of the world from Internet, provided they have permission and password to access and use it. This is because the information maintained in the server are in secure mode and only authorized persons can have access to the data base and information. Similarly, the data can be key in from any computer connected with the Internet. The interface of the software is user friendly therefore, little training is required for making this operational.

Although, the source code of the software can be patented and sold for commercial purpose but the programmers intend to make it available under GNU/GPL license as free software/ open source software so that any one and every one in need of this type of software can use it as an when they wish to use such software.

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