

# BMS Server Pro

## A web-based solution for network teams

## Memorandum

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BMS Server PRO constitutes a long-sought professional, web-based solution for crop breeding programmes looking to deploy better breeding practices on a larger scale within their institution. It provides concrete capabilities for them to centralise, standardise, control and share their data across teams through LAN or cloud. Visit the IBP website for more information about all the functionality available with the latest version release.

### Architecture

- Robust web-based system
- Single database
- Multi-user concurrency support ensures integrity and privacy of data in a multi-user environment
- Transaction processing allows process rollback and data integrity
- Application Programming Interface (API) to plug with external tools

### Functionality

#### User Management

- User authentication and role management to set access permissions and restrictions
- Logo customisation on institutional login page and homepage

#### Germplasm Management

- Improvements to the germplasm import template, allowing for import of: inventory, attributes, and alternative names
- Introduction of stock codes to help users track and label inventory
- Ability to code and manage groupings of fixed lines
- Ability to import inventory details for stock lists created from advancement processes

#### Nursery and Trial Management

- Import crossing diary to record opportunistic crosses in the field or greenhouse
- Flexible support for all trial designs by allowing the import of externally generated designs
- Improvements to the embedded seed inventory management
- Compatibility with data capture applications: DIB data collector, IRRi FieldLab, KSU Field Book, DArT KDSmart
- Validation of out-of-bounds measurement data

#### Ontology Management

- Ontology Manager with a new ontology data model
- Easy search and selection of traits
- Easy addition of new traits and valid values

#### Breeding View (standalone, local application)

- Ability to analyse augmented and p-rep designs
- Ability to analyse line by tester designs

#### Genotyping Samples Management

- Record genotyping samples taken from plants.

#### Genotyping Data Management

- Support for SNP marker datasets upload and retrieval
- Integration of the datasets with germplasm and studies through samples.

*“Nobody works in silos anymore. Our goal is to help breeding teams step into the digital era to gain in efficiency, and therefore we put a lot of work in developing this multi-user, institutional version of the BMS. Breeding organisations of both the public and private sectors, specially in Africa and Asia, will greatly benefit from strengthening their data management practices by implementing this comprehensive solution.”*

*— Jan Erik Backlund, Development Director*



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MANAGE GERMLASM ?

View Lists View Germplasm

List Details

Browse or search for a list to work with.

Show List Builder

import x

Inventory

Total Lots: 18 Selected: 0

✓	#	DESIGNATION	LOCATION	AVAILABLE	WITHDRAWAL	STATUS			
<input type="checkbox"/>	1	KKNI 1	Default Seed Store	10.0g	0.0g				
<input type="checkbox"/>	2	KKNI 2	Default Seed Store	10.0g	0.0g				
<input type="checkbox"/>	3	KKNI 3	Default Seed Store	10.0g	0.0g				
<input type="checkbox"/>	4	KKNI 4	Default Seed Store	10.0g	0.0g				
<input type="checkbox"/>	5	KKNI 5	Default Seed Store	10.0g	0.0g				
<input type="checkbox"/>	6	KKNI 6	Default Seed Store	10.0g	0.0g				
<input type="checkbox"/>	7	KKNI 7	Default Seed Store	10.0g	0.0g				
<input type="checkbox"/>	8	KKNI 8	Default Seed Store	10.0g	0.0g				
<input type="checkbox"/>	9	KKNI 9	Default Seed Store	10.0g	0.0g				
<input type="checkbox"/>	10	KKNI 10	Default Seed Store	10.0g	0.0g				
<input type="checkbox"/>	11	KKNI 11	Default Seed Store	20.0g	0.0g				
<input type="checkbox"/>	12	KKNI 12	Default Seed Store	20.0g	0.0g				
<input type="checkbox"/>	13	KKNI 13	Default Seed Store	20.0g	0.0g				
<input type="checkbox"/>	14	KKNI 14	Default Seed Store	20.0g	0.0g				
<input type="checkbox"/>	15	KKNI 15	Default Seed Store	20.0g	0.0g				
<input type="checkbox"/>	16	KKNI 16	Default Seed Store	20.0g	0.0g				
<input type="checkbox"/>	17	KKNI 17	Default Seed Store	20.0g	0.0g				
<input type="checkbox"/>	18	KKNI 18	Default Seed Store	20.0g	0.0g				

Reserve inventory

Save changes

Cancel Reservations

From List Import

SID1-3

SID1-4

SID1-5

SID1-6

SID1-7

SID1-8

SID1-9

SID1-10

SID1-11

SID1-12

SID1-13

SID1-14

SID1-15

SID1-16

SID1-17

SID1-18

53

51

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48

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43

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41

47

46

45

Return to List entries view

List editing options

Inventory management options

Export Seed preparation list

Import Seed preparation list

Print Labels

Select All

Fig. 1. Seed Inventory Management: You can manage your inventory directly from the list you are working with: reserve, commit and export seed preparation lists, and print labels.

## Getting BMS Server PRO for your institution

The product is optimised for usage on a local or web server and will require technical assistance for installation. Interested institutions should contact our deployment team to enquire about feasibility and installation procedure at [deployment@integratedbreeding.net](mailto:deployment@integratedbreeding.net)

### Minimum server requirements

- Windows Server Machine
- 8-16GB of Ram
- At least 4 cores
- General purpose SSD

### Optimal set-up

- Windows Server Machine
- 16GB of Ram
- 4 cores
- High (I/O)
- General purpose SSD
- 500G of storage

### Supported Browsers

- Firefox 20 and above (recommended)
- Google Chrome 27 and above

*\*in some cases IBP will be able to provide a cloud installation on its Amazon or Aliyun servers. Contact the deployment team for enquiries.*

## Integrated Breeding Platform (IBP)

Plant breeders are at the forefront of the next food revolution, most particularly in developing countries. The Integrated Breeding Platform (IBP) provides the tools and knowledge they need to rise to a new level of breeding innovation. It offers a suite of integrated software solutions (the IBP Breeding Management System); several breeding services such as genotyping; and breeding materials and related information for a broad range of crops, including germplasm, trait dictionaries and predictive markers. Furthermore, the IBP empowers plant breeders through training, dedicated support and community spaces, making it the most comprehensive source for best practices in plant breeding.

### Breeding Management System (BMS)

The IBP's Breeding Management System (BMS) is a comprehensive and easy-to-use software suite designed to help breeders conduct their routine activities with more efficiency, so that they may develop improved cultivars faster and at lower cost. It combines information management, data analysis and decision-support tools that accommodate common breeding schemes, from conventional breeding through increasing levels of marker use, providing all the tools they need in just one place.. It is available in a Desktop Edition, a single-user software package for the personal computer; and in a Server PRO Edition for multi-user networks and teams. Download directly from the IBP Portal: [www.integratedbreeding.net](http://www.integratedbreeding.net)