



IRRI

# Multiple crops in a single database:

Assessment of PostgreSQL and MySQL technologies

**Maria Corina D. Habito**  
**Database Applications Specialist**  
**IRRI-CRIL**



CIMMYT<sup>MR</sup>

# Background

→ Find out if two open-source backends (MySQL, PostgreSQL) have Oracle VPD capabilities.

## In MySQL 5.x:

- **GRANT** command can go to the column-level in assigning security
- **Row-level security using VIEWS:** You create a VIEW for each user and give him/her access to this VIEW only and not to the base table

```
CREATE VIEW v_study_user123 AS (SELECT * FROM study WHERE userid=123);
```

## In PostgreSQL 8.x:

- Postgres has a security add-on called “**Veil**” (0.9.8 (Beta version), released August 2008)
  - Provides an application programming interface (API) allowing control of access to data at the row and column level in a base table
  - Security is always present, no matter what application or tool is used to connect to the database
  - The Veil security model is designed to cooperate with your applications
  - **More similar to the Oracle VPD approach**

## Moving forward...

- **Implement and test** the Oracle VPD strategy using:
  - 1) MySQL's column-level (via GRANT) and row-level security (via views)
  - 2) PostgreSQL's Veil package

# References

- **MySQL and column-level security?**  
<http://lists.liphp.org/pipermail/liphp/2007-March/010576.html>
- **MySQL Forums: Row-level security**  
<http://forums.mysql.com/read.php?30,57444,58330#msg-58330>
- **Postgres Veil**  
<http://veil.projects.postgresql.org/curdocs/index.html>