The background of the slide features a close-up of vibrant green leaves with several clear water droplets resting on their surfaces. A white grid pattern is visible behind the leaves. A semi-transparent white box is positioned behind the main title text.

PVP Database in China

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❖ History

❖ Functions of PVP Database

❖ Future Plan



History



- ❖ Tools used to manage and process data:
 - ❑ 1999~2004 Ms Word and Excel
 - ❑ 2004~2011 Several small tools, including Report Producing System made by Ms Excel, PVP DUS management database made by Ms Access respectively, Special programs used to generate official documents made by VB, etc.
 - ❑ **2008~2011 Developing a new database**
 - ❑ 2011~2014 Application of the unified Database

History 2008-2011



- ❖ Project started from 2008
- ❖ A work team composed by 20 key persons
- ❖ PVP database has four parts:
 - ❑ Application Management System (AMS)
 - ❑ Variety Description Database (VDD)
 - ❑ Data Analysis System (DAS)
 - ❑ Image Analysis System (IAS)

Application Management System



- ❖ Developed by an agricultural software company
- ❖ Written by .Net and SQL
- ❖ Online operation
- ❖ Used by all relevant units of PVP

植保办公系统 - Microsoft Internet Explorer

文件(F) 编辑(E) 查看(V) 收藏(A) 工具(T) 帮助(H)

地址(①) http://www.cnppv.cn/pvps/default.aspx

← 输入关键字 直接搜索 转到

农业部植物新品种保护审查系统

桌面 | 帐户信息 | 注销 | 帮助

审查管理 | **测试管理** | 品种测试 | 品种保藏 | 复审处理

Reception and Examination | DUS Testing | Trial | Seeds Storage | Re-examination

“Welcome...”

tasks

任务管理
DNA检测
繁殖材料
试验管理
测试报告
测试指南
已知品种
综合统计
字典管理
导入导出



农业部植物新品种保护审查系统

general tasks

tasks



Main functions of AMS



- ❖ Role definition
- ❖ Task reminding
- ❖ Input new data and mistake check
- ❖ Calculate or convert data automatically
- ❖ Output in batches
- ❖ Inquiring, reporting and statistical analysis
- ❖ Message exchange

Variety Description Database



- ❖ Developed by an agricultural software company
- ❖ Written by .Net and SQL
- ❖ Online operation
- ❖ Used by DUS Testing Division and 14 sub stations
- ❖ So far, it contains 93 TGs (176 versions), 12899 Varieties



Login interface



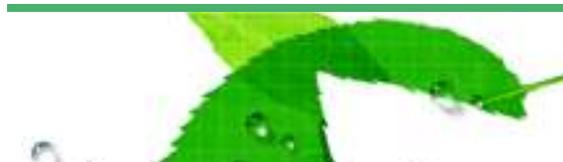
The screenshot shows a web browser window with the title '系统登录' (System Login). The main content area has a blue background with a grid of agricultural images. At the top center, there is a logo and the text '农业植物已知品种数据库' (Agricultural Crops Known Variety Database). On the right side, there is a '用户登录' (User Login) form with the following fields:

- 用户名: yangkun
- 密码: *****
- 登录 (Login button)

At the bottom center, there is a small text line: '技术支持: 北京爱得伟业科技发展有限公司' (Technical Support: Beijing Aided Industry Technology Development Co., Ltd.).



Structure of VDD



Basic information

MARKER	REPEAT	SIZE	SCALE	SCALE2	SCALE3
AP17	14	300	300	300	300
AP18	18	300	300	300	300
AP19	11	300	300	300	300
AP20	8	300	300	300	300
AP21	7	300	300	300	300
AP22	3	300	300	300	300
AP23	8	300	300	300	300
AP24	14	300	300	300	300
AP25	11	300	300	300	300

DNA fingerprint

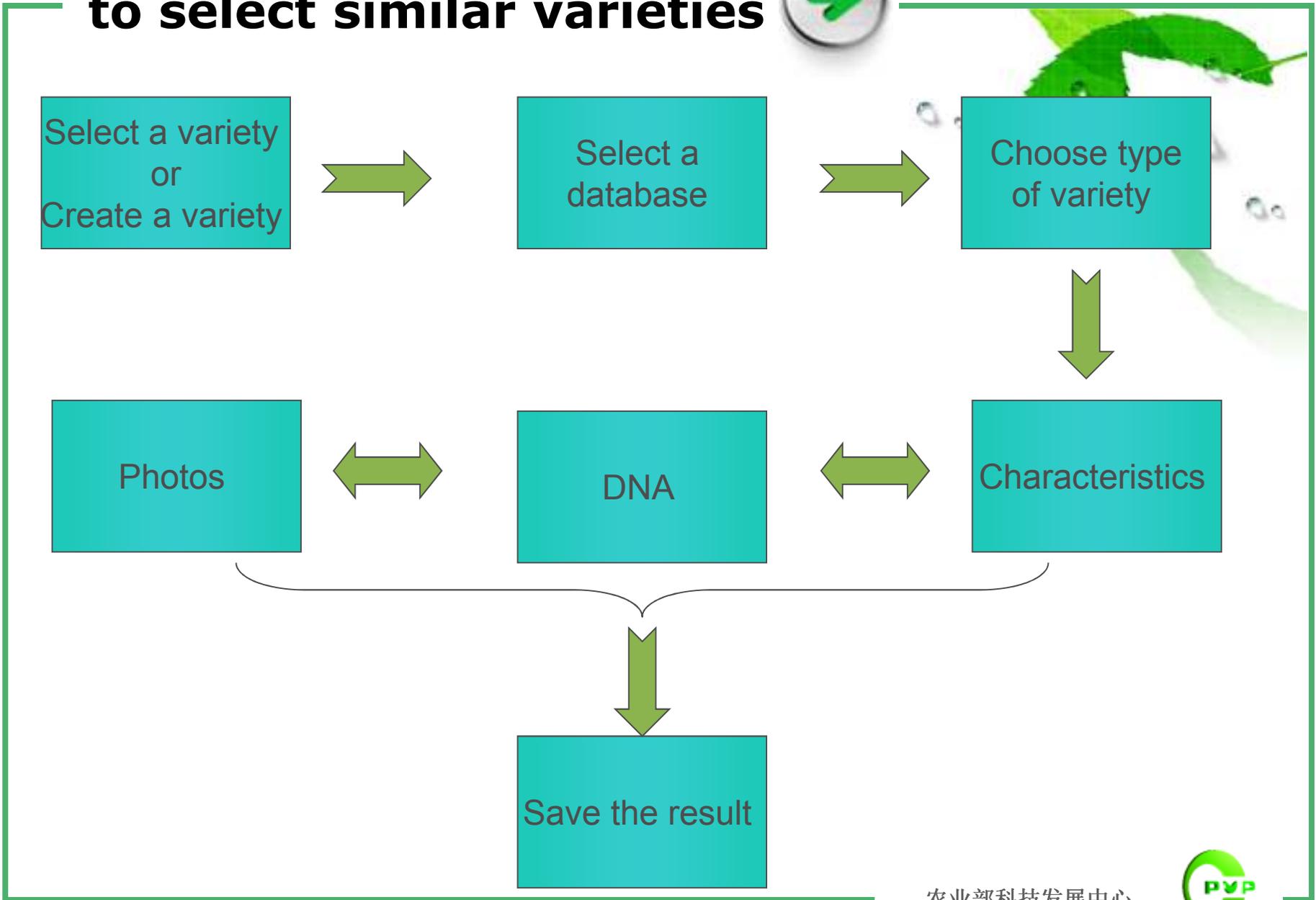
名称	代码	父ID	子ID	父名称	子名称
AP17	14	300	300	300	300
AP18	18	300	300	300	300
AP19	11	300	300	300	300
AP20	8	300	300	300	300
AP21	7	300	300	300	300
AP22	3	300	300	300	300
AP23	8	300	300	300	300
AP24	14	300	300	300	300
AP25	11	300	300	300	300

Description

Image



to select similar varieties



to select similar varieties



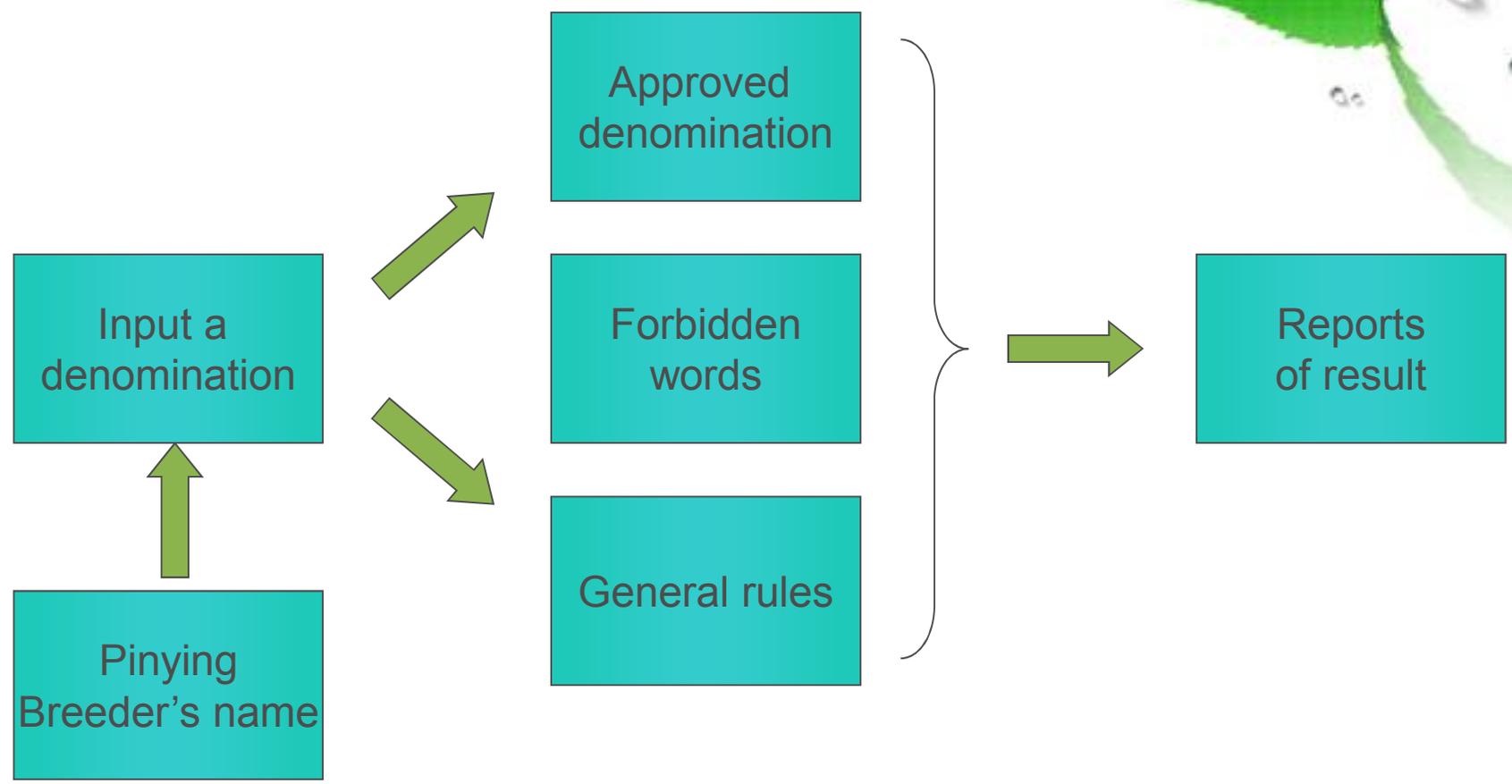
The image displays four screenshots of a software interface, likely for plant variety selection or management. The interface is in Russian and features a blue header with the logo of the organization. The screenshots show different views of the software:

- Top Left:** A screen showing a list of varieties on the left and a detailed view of a selected variety on the right. The detailed view includes fields for name, parent varieties, and other characteristics.
- Top Right:** A screen displaying a large table with multiple columns, likely representing different varieties or their characteristics. The table has a header row and several rows of data.
- Bottom Left:** A screen showing a table with columns for 'Анализ' (Analysis) and 'Вид' (Type). The table contains several rows of data, with some cells highlighted in red.
- Bottom Right:** A screen showing a table with columns for 'Вид' (Type) and 'Анализ' (Analysis). The table contains several rows of data. To the right of the table is a large image of a corn plant with a developing ear of corn.

The software interface includes various navigation buttons and a search bar. The overall design is functional and data-oriented.



to check denomination



to check denomination



农业植物已知品种数据库

[品种信息](#) | [对比筛查](#) | [近似品种初选](#) | [DRA筛选](#) | **命名审查** | [标准品种选取](#)

当前位置: [对比筛查](#) > [命名审查筛选](#)

品种名称关键字: 植物种类:

品种名称拼音: 拥有者:

限制名称的筛选结果 (5)

限制名称	命名规范	限制类型	拥有者
仅一个汉字组成	命名规范		
女圣区	国内地名		国家
圣露西亚岛	国家名称		国家
圣马力诺	国家名称		国家
圣稻	身份误解		山东省水稻研究所

批准名称的筛选结果 (26)

批准名称	植物种类	申请号	申请人	审定号	报审单位
圣香192	水稻	20120051.0	山东省水稻研究所		
圣香985	水稻	20120050.1	山东省水稻研究所		
圣稻2572	水稻	20120049.5	山东省水稻研究所		
圣稻101	水稻	20120048.6	山东省水稻研究所		
圣稻068	水稻	20111241.0	山东省水稻研究所		
圣稻172	水稻	20111240.1	山东省水稻研究所		

技术支持: 北京派得伟业科技发展有限公司



Data Analysis System

- ❖ Developed by a statistical expert
- ❖ Written by Delphi
- ❖ Green software in PC
- ❖ Used by sub-stations



Main functions of DAS



- ❖ Converting from raw data to pre-analyzing format
- ❖ Detecting abnormal datum
- ❖ Methods for examining distinctness (F, Fisher's exact, LSD, COYD)
- ❖ Methods for examining uniformity (off-types, COYU)

Main functions of DAS



文件(F) 原始数据整理(W) 异常值判定(A) COYD-COYU 异型株法(Y) 生成报表(B)

作物: [] 地点: [] 年份: 1995 到 2009 性状: []

	A	B	C	D	E	F	G	H	I
1	1	1	1	1	43	80			
2	2	2	1	1	53	79			
3	3	1	1	1	50	72			
4	4	7	1	1	43	668			
5	5	2	9	1	69	72			
6	6	1	1	1	96	72			
7	7	1	1	1	51	70			
8	8	2	8	1	64	63			
9	9	1	1	1	44	62			
10	10	2	1	1	49	62			
11									
12									

异常值判定

Dus
第4行, 第1列数值668异常!

OK

Form2

品种名: abc 样本量: 200 异性株数: 3

总体标准: [] x 接受概率: 95 x 确定 清空

品种名	样本量	总体标准	异性株数	允许最大异性株数	接受概率	一致性判断
ln	n	p	k	h	1- α	
abc	200	0.01	3	5	0.95	一致

异型株法

测试版 | D:\软件\异株-2 测试3--技术标准\dus2012\COYU.DUS

文件 数据处理 异常值判定 特异性统计检验 一致性统计检验 常用统计检验方法

	A	B	C	D	E	F	G	H
1	计算结果	当前日期	2014/5/13	15:59:06				
2	品种	平均	年份1	年份2	年份3			
3	R1	58	2.2732	2.3890	2.1001	2.3043		
4	R2	64	2.1151	2.3460	1.9955	2.0038		
5	R3	68	2.1387	2.5265	1.9955	1.8941		
6	R4	71	2.1343	2.5536	1.8719	1.9774		
7	R5	72	2.1723	2.6392	1.9838	1.8941		
8	R6	74	2.1027	2.5173	1.7000	2.0908		
9	R7	75	2.1044	2.5973	1.9955	1.7204		
10	R8	76	1.9840	2.6143	1.4730	1.8646		
11	R9	78	2.3062	2.6714	1.9720	2.2751		
12	R10	78	2.2295	2.4795	1.9955	2.2138		
13	R11	80	2.0508	2.4601	1.6016	2.0908		
14	C1	52	2.1935	2.3254	2.0844	2.1708		
15								
16	ANOVA Table							
17	变异来源	SS	df	MS	F-value	p-value		
18	年份	2.5052	2	1.2526	11.9319	0.0001		
19	品种	0.2754	10	0.0275	0.2623	0.9852		
20	误差	0.5788	20	0.0289				
21	总计	3.3594	32	0.1050				
22								
23	n=33952	UCp=2.4908						
24	C1	52	2.1935	2.4909				
25								

测试版 | C:\Documents and Settings\yk\桌面\dus2012\COYD.DUS

文件 数据处理 异常值判定 特异性统计检验 一致性统计检验 常用统计检验方法

	A	B	C	D	E	F	G	H
1	计算结果	当前日期	2012-011	9:19:20				
2	Class	Count			Percent			
3		Y1	Y2	Y3	Y1	Y2	Y3	
4	1	92	86	95	12.4400	11.8400	11.3800	
5	2	115	105	94	14.2100	13.5200	12.9900	
6	3	62	63	57	8.2400	7.8400	7.5300	
7	Heterogeneity	Di-Square=1.7049	df=4	p=0.7698				
8	候选品种	适合度平方	F值	自由度	p值			
9	Candidate 1-1	122.3725	143.5511	2	4	0.0069		
10	Candidate 1-1	305.8517	429.1686	2	4	0.0023		
11	Candidate 1-1	161.48946	1894.3794	2	4	0.0005		
12	Candidate 1-1	263.3179	308.8896	2	4	0.0032		
13	Candidate 1-1	6.0728	7.1238	2	4	0.1231		
14	Candidate 2-1	152.0083	178.3159	2	4	0.0056		
15	Candidate 2-1	457.8833	537.1277	2	4	0.0019		
16	Candidate 2-1	2004.5976	2351.5270	2	4	0.0004		
17	Candidate 2-1	330.8902	388.1563	2	4	0.0026		
18	Candidate 2-1	5.0435	5.9163	2	4	0.1446		
19								



Image Analysis System



- ❖ developed by a professional company
- ❖ written by VB
- ❖ secured in PC
- ❖ used by sub-stations

Image Analysis System



Hard wares of IAS



Costs



- ❖ 1. Development fee: 2,039,000 RMB
 - ❑ 1.1 AMS: 849,000 RMB
 - ❑ 1.2 VDD: 150,000 RMB
 - ❑ 1.3 DAS: 200,000 RMB
 - ❑ 1.4 IAS: 240,000 RMB
 - ❑ 1.5 Hardware of IAS 600,000RMB
- ❖ 2. Maintance fee: 300,000 RMB /year

Benefits

- ❖ 1. Made our work transparent, accurate and efficient.
- ❖ 2. Expanded the scope of known varieties for selecting similar varieties
- ❖ 3. Harmonized the TGs
- ❖ 4. Harmonized the key data among different units and made the exchange of data much easier

Future plan

- ❖ To enhance the speed of AMS and VDD
- ❖ To develop online application system
- ❖ To harmonize the four parts to work together
- ❖ To shorten the manual steps of IMS according to certain pictures
- ❖ To create English version of last three softwares

Appreciations



- ❖ We have learnt a lot from UPOV and it's members' experience, especially from The Netherlands, Japan, Germany, France, UK...
- ❖ Thank you for your sharing and help!
- ❖ Thank you for your attention!