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Headline

- During the 3-year period of this contract 56 onion varieties have been tested from seed and 27 set variety/source combinations.
- All 12 trials grown during this period were successful
- "In field" open days have been added to the November indoor session and have well attended.
- New varieties have shown improvements in yield, quality and storage ability.

Background and expected deliverables

With high value vegetable crops, relatively small differences between varieties can have a significant impact on profitability. Independent, relevant results allow growers to maximise their profits. The wrong variety choice or use of incorrect husbandry on an otherwise suitable variety can be costly. The investigation and exploitation of variety interaction with husbandry, pesticide inputs and packing/processing requirements will result in increasing profitability and improved quality. Variety disease resistance is increasingly important in maintaining the production of high quality produce with reductions in pesticide use. There are benefits to incorporating variety resistance with disease forecasting into Integrated Crop Management (ICM) protocols.

Expected deliverables:

- growers to choose and manage the best varieties for profitable production.
- breeders to promote those varieties that offer advantages over their competitors.
- the packing and retail trade to identify the best varieties for quality and market suitability.
- the UK vegetable industry to provide value and quality to maintain and expand its market share.

Summary of the project and main conclusions

- The trials have continued to attract a high level of attention from growers, breeders, packers and advisors

Summary of Best Performances in NIAB Seeded Onion Trials 2003 to 2005

<i>maturity</i>	<i>established</i>	<i>recent</i>	<i>new year 1</i>	<i>new preliminary</i>
<u>Seeded</u> <i>early</i>	Barito	Rolex	Proteus	
	Wellington		Hybing	
<i>early mid</i>	Sprinter			
	Boston	Canto	ADV 00335	NIZ 37-58
	Hytech	Arthur	RS 291	ADV 01765
	Hyfort	Bugatti		
<i>maincrop</i>	Napoleon			
	Sunskin	Hybelle	ADV 39398	ADV 01836
	Samira			
	Renate			
<u>Reds</u> <i>early</i>			Red Dawn	
<i>early mid</i>	Red Baron		Kamal	
<i>mid</i>		Red Spark		
<i>mid late</i>			Romy	
<i>late</i>			Red Fort	

Summary of Best Performances in NIAB Set Onion Trials 2003 to 2005

Browns: Forum, Jagro, Hercules, Sturon, Rumba, Setton

Reds: Red Baron, Hyred

Financial benefits

For growers to choose and manage the best varieties for profitable production.

Action points for growers

Choose the best varieties for their market

Science Section

Introduction

NIAB has carried out independent assessment of varieties for many years with the results being published through one-year-results, variety listings, demonstrations and the Internet. With the constant development of new varieties from a range of seed houses 85 onion varieties have been screened over the past three years. The purpose of this project was to continue with independent assessment of new onion varieties under commercial growing conditions to provide information to growers and the industry on their performance in relation to established varieties. All trialling activities are supervised by a cross industry steering group which recommends sites, growing methods, records to be taken and endorses variety decisions.

Materials and Methods

a) Field

All trials are sited in commercial crops and treated in the same way as the adjacent crop. Drilled plots are established with a Stanhay Singulaire drill modified to cope with small seed quantities. Vigour of emergence, foliage habit, colour and maturity are recorded in the field.

b) Grading

Harvested bulbs are cured in the NIAB onion store and the graded to remove defect bulbs sorted for size. Bulb quality is assessed including skin colour, bulb shape, skin retention, bulb uniformity and firmness. Skin retention is checked by using the HRI developed Rotary tumbler.

c) Storage

Samples from each plot are stored in the NIAB ambient store and assessed throughout the winter and spring. In addition samples from the seeded trial are placed in a commercial cold store for long term storage assessment.

Results and Discussion

General

The yield, quality and storage of varieties continues to show improvements. In brown skinned seeded varieties the quartet of varieties from Syngenta: Sprinter, Sunskin, Napoleon and Wellington now set a high standard particularly in storability. Takii have recently entered varieties into these trials and Proteus is a promising very early variety.

Red varieties have enjoyed a surge of interest. For a decade Red Baron was the most important red variety with few rivals being offered. In 2004 and 2005 12 red varieties were screened in trials with Red Spark and Kamal showing most promise.

The set market has become very competitive with traditional varieties available from Holland, France and the UK. New genetics particularly Hercules, Forum and Troy from Bejo have also shown promise. Hyred offers an alternative red variety to Red Baron.

Technology Transfer

NIAB open days and Onion steering group meetings

HDC News

One year results through NIAB VAS and HDC

Display at the Onion Conference

Articles in the Vegetable Farmer and The Grower