



Agricultural Research
for Improving Arable Crop Competitiveness

EuroCrop – research needs to improve
EU potato crop competitiveness



Dr Mike Storey
R&D Director
Potato Council



Hot weather pushes up price of fruit and veg

THE price of some vegetables has risen by more than a third because of last summer's heatwave, it emerged yesterday.

By **Sean Poulter**
Consumer Affairs Editor

affect the elderly, who are the biggest consumers of fresh produce.

This year's new potato crop were selling at 89p a kilo, which was up by 17 per cent on the price at the same time last year.

Looking at this year's salad crops, the increase for tomatoes works out at 23 per cent - or 36p a kilo.

for National Statistics. The price of a dozen medium eggs is up 22p to £1.81, while a pint of milk has risen from 33p to 37p.

The price hikes are particularly steep because UK produce shortages cannot be made up by imports from



News Site of the Year | The 2008 Newspaper Awards

TIMES ONLINE

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Where am I? > Home > Business > Industry Sectors > **Natural Resources**

From The Sunday Times

August 3, 2008

Britain's energy crisis: Twisting in the wind

Fuel bills are soaring due to our increasing reliance on imported gas. Wind power should be part of the answer but realising the government's grand plans could end up costing the average customer an extra £400 a year



TIMES RECOMMENDS

- > Taxpayers take another Northern Rock hit
- > More repossessions than stated, says Shelter
- > Iberia and Air France-KLM profits hit by soaring oil price

Daily Mail, Saturday, July 29, 2006

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Heatwave means we are running out of veg

By **Sean Poulter**
Consumer Affairs Correspondent

CHIPS 'CAN INCREASE THE RISK OF BREAST CANCER'

Frying can raise the risk of cancer

EXPOSURE to cooking oil used to fry chips can increase your risk of cancer, research has revealed.

By Fiona MacRae
Science Reporter

Scientists say potentially harmful particles are released into the air when oil is heated to the temperatures needed to cook chips or stir fries.

Repeated exposure to these chemicals can increase the chance of diseases such as lung, breast and bladder cancer.

All cooking oils produce the particles but vegetable oil is the most dangerous. Corn oil and olive oil also pose a risk, researchers say. Deep-frying chips, in particular, produces large amounts of the cancer-causing chemicals - polycyclic aromatic hydrocarbons.

For over a year now, water-based cooking methods, such as steaming and boiling, rather than cooking with oil, could further improve air quality, especially in crowded environments.

The team from the University of Singapore compared methods of Malaysian, Chinese and Indian cooking.

Their study, published in the Journal of Environmental Monitoring, analysed the quality of the air in the kitchens of these food stalls.

According to scientists, the deep-fryer case by the Malaysian chefs released more polycyclic aromatic hydrocarbons than the stir-fryer in



Hidden danger: Cooks are advised to air their kitchens well

It will also produce large amounts of hydrocarbons, just like the Malay food stall.

Chinese chef's last night advised people to cut down on fried food. The phrase, 'Qingzhi, of Cancer

to eat less fried food. Nutrition scientist Barbara Fraser said: 'A high-fat diet increases the risk of high cholesterol which, in turn, can increase the risk of coronary heart disease.'

Pot also has a high calorie content.

Acrylamide & health

Fussy eater is killed by diet of chips and toast

A PICKY eater has died after refusing to eat anything other than chips, buttered toast and baked beans.

BY JOHN HIGGINSON

teeth were removed but he never recovered



Tuesday, January 17, 2006 METRO 23

Soaking potatoes 'cuts cancer risk'

By Roger Highfield

SOAKING potatoes in water before frying them can cut levels of a potentially cancer-causing chemical by 50 per cent, according to a study published today.

The chemical acrylamide is found in a wide range of fried and baked foods - from bread to coffee and breakfast cereals - and a recent report suggests it may increase the risk of postmenopausal womb cancer and ovarian cancer.

The new study shows that

them for 30 minutes and soaking them for two hours reduced the formation of acrylamide by up to 23 per cent, 38 per cent and 48 per cent respectively but only if they were fried to a lighter colour.

Baked, fried and roasted food should be cooked to golden yellow rather than nut brown, and consumers should avoid overcooked foods and cut intake of crisps, chips, and other high-acrylamide foods, according to the conclusions of a recent £5million EU study.

The three-year project rec-

EU proposals threaten crop yields



By William Surman

OVER the past 12 months the world population has swelled by 70 million and global food stocks have plummeted. Farmers have been unable to



How can the legislation be stopped?

In a bid to make Brussels more aware of the potential pitfalls of its proposals, **Farmers Guardian** has launched its new campaign Backing British Growers.

Over the coming weeks **FG** will be talking to eminent scientists, industry bodies and

convince Euro-politicians to reconsider what could be a disproportionate regulation. **Farmers Guardian** will also take a leading role in stimulating wider debate among decision makers and industry bodies. In addition we will be producing a dossier of facts for

POTATO COUNCIL UPDATE

Supporting the British Potato Industry

July 2008



Pesticides

Still time to share your

EU proposes stricter rules on pesticides

Scientists take issue with EU stance on pesticides

By Philip Clarke

Seven leading UK scientists have warned of the “dangerous precedents” that are being set as Brussels moves towards a system of licensing pesticides based on “hazard assessment” rather than “risk assessment”.

The letter, which was also signed by British Crop Protection Council chairman Hugh Oliver-Bellasis, applauded Mr Benn for being the only minister to speak out against the draft Directive when it was voted on by EU farm ministers last week.

In particular, he opposed the fact that the EU proposals had

al food shortages the proposal will have a devastating effect on farming and food production,” he said. “To introduce such measures in the midst of this crisis is an international scandal.”

The proposal now passes to the European parliament for a second reading. “The UK government needs to do everything it can to

EU agriculture ministers proposed stricter rules in June on the use of pesticides in Europe. The UK

Safety Directorate has predicted the total mean 15 per cent of pesticides will be removed from the market place. EU ministers have said that in exceptional cases, when available data do not offer sufficiently effective plant protection, other hazardous substances may be used only under strictly regulated conditions, no more than five years. The criteria used by ministers has changed the approval of

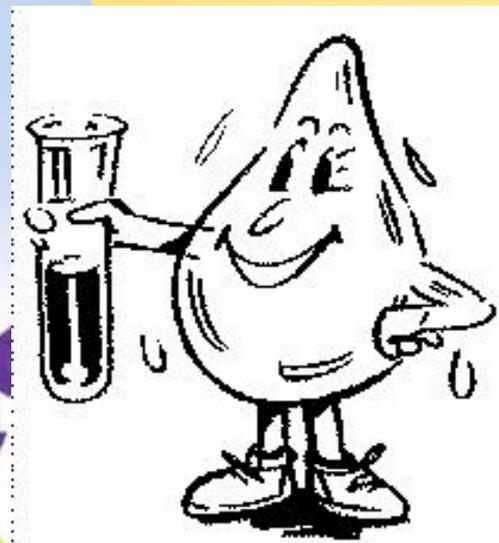
into consideration how products are used by the operator. The second reading will be held later this year and the industry is lobbying hard to fight the proposals. What can you do in the mean time:

- Write to your MEP
- Send your views to the Potato Council





Sustainability indicators





Agricultural Research for Improving Arable Crop Competitiveness

- What is EuroCrop?
- Developing a common vision for R&D for future competitiveness of Arable Crops in the EU
- “Scoping exercise - Horizon scanning” to 2015
- Why need to do it? – resilient research chain to meet future scenarios

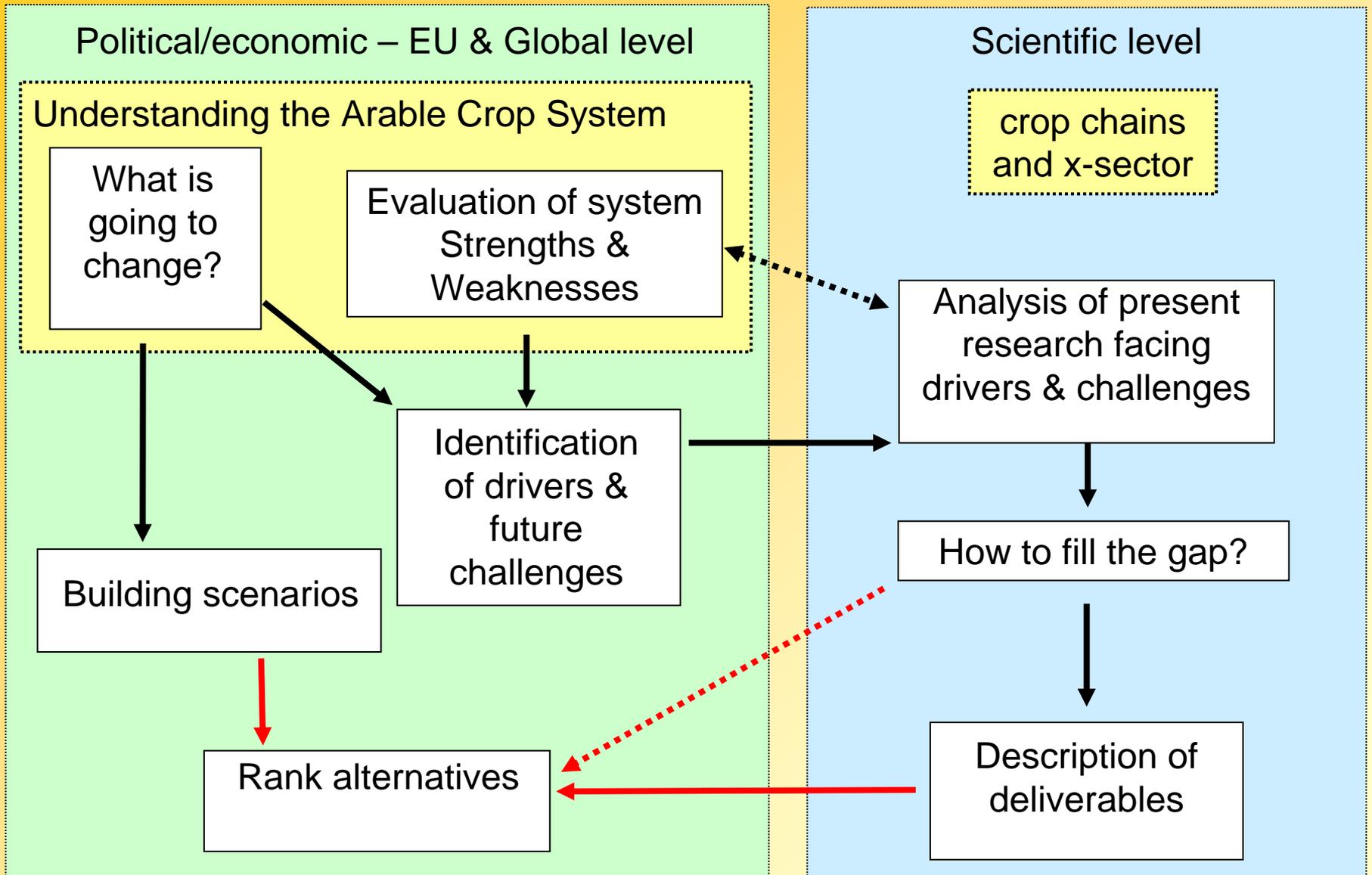
Legislation changes e.g. pesticides

Input costs e.g. energy and fertiliser

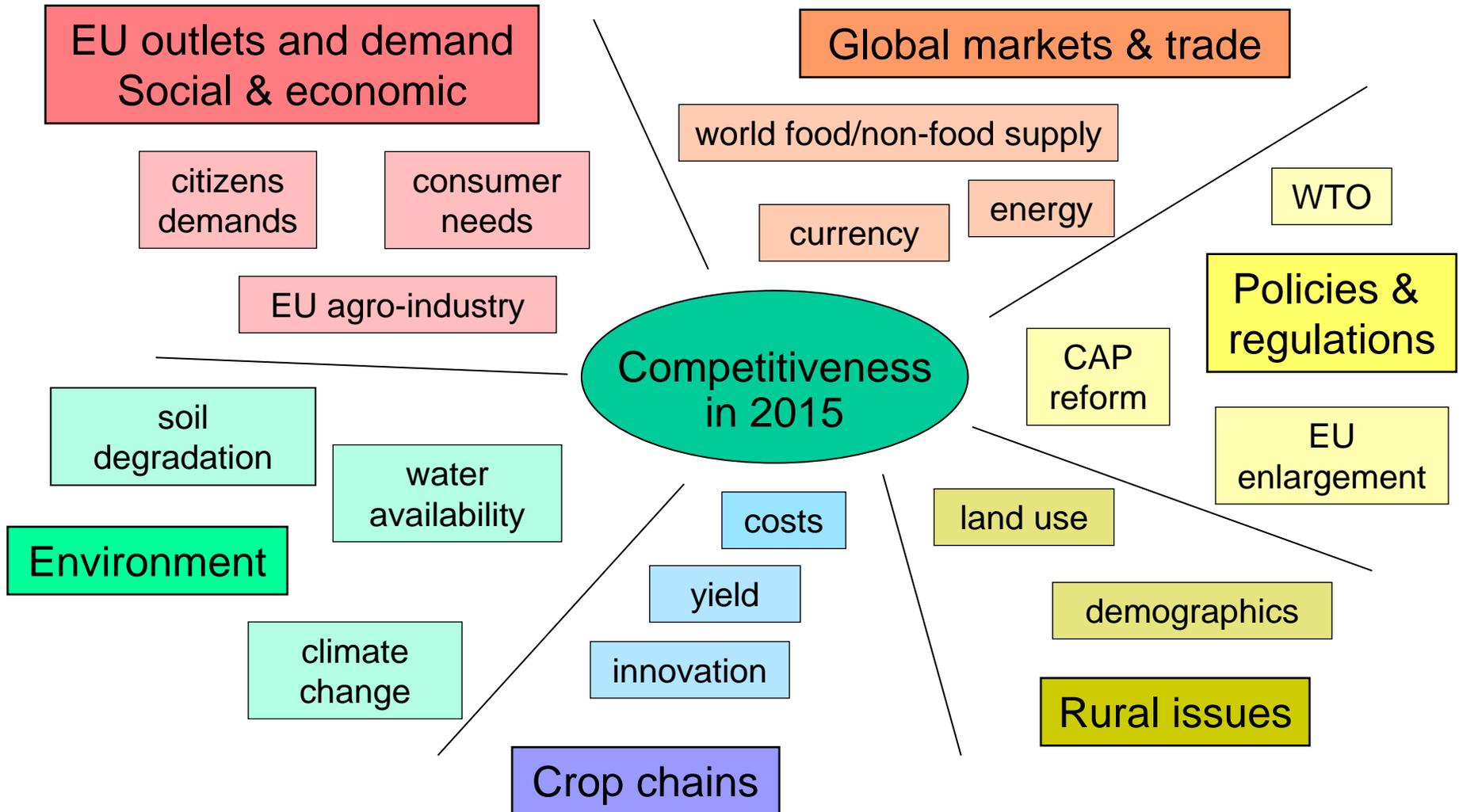
- Who needs to know? – EU / Member States/
research institutions/ industry



Two interactive levels

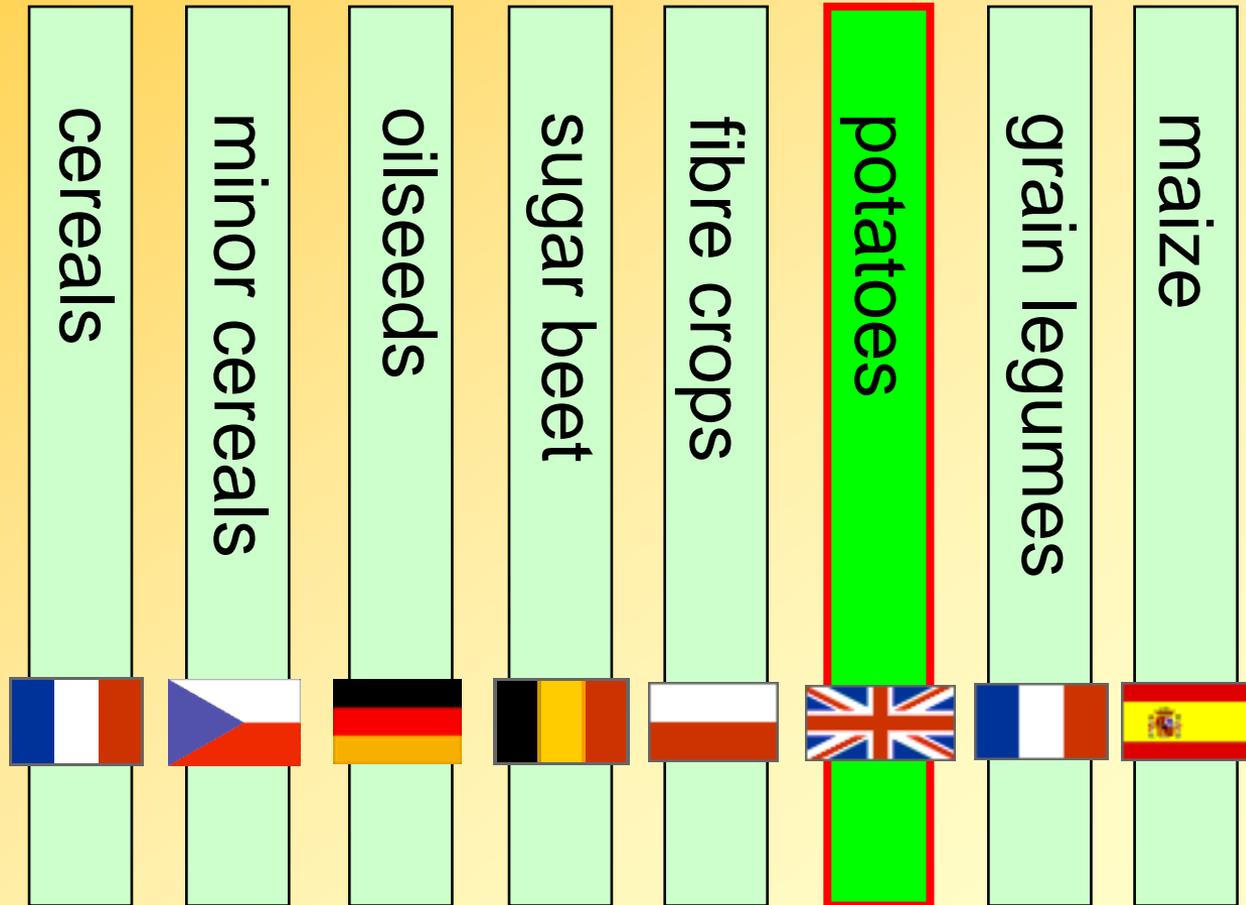


The Competitive Environment for Arable Crops



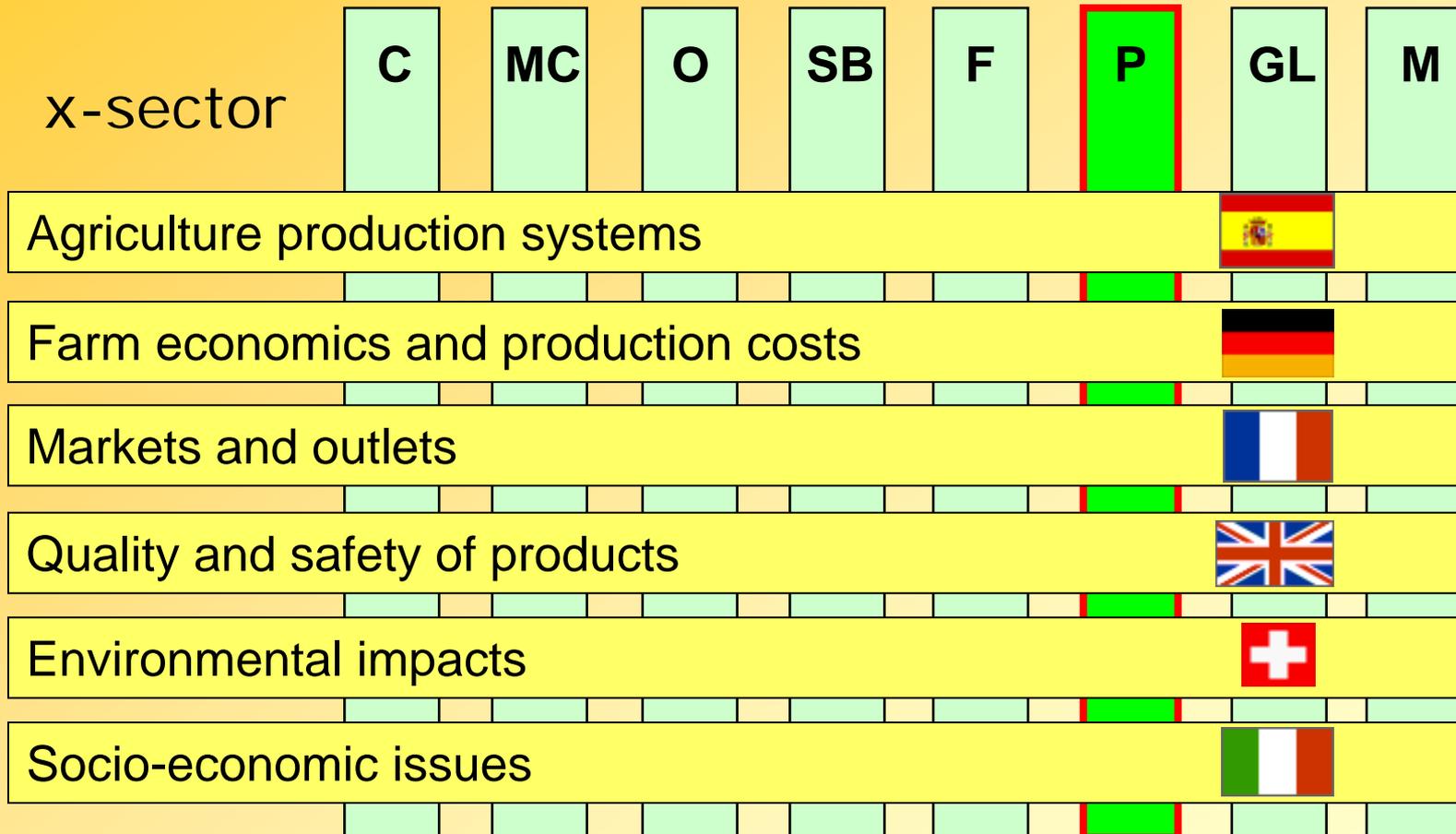
Crop chain analysis

Crop/value chains



A cross-cutting approach

Crop/value chains





Potato Drivers

Two key drivers identified for 2015

- **Continued demand for fresh potatoes and processed potato products**
- **Sustainable competitive potato production**



Drivers

Sustainable competitive potato production

Continued demand for potatoes

Challenges

Meeting crop specifications

Price

Food

Seed

Industrial

Themes

- Crop protection challenges
 - Marketable yields
 - Impact on the environment
 - Innovation in crop production
 - Citizens' demands - Assurance
 - Public & private research issues
- Production costs (seed, chemicals, nutrients)
 - Storage
 - Water, waste, transport, energy
 - Crop chain dynamics
 - Whole crop utilisation
- Quality & safety
 - Consumers' demand
 - Processing industries
 - Outlets, distribution
 - Competitor products & actors
- Quality standards
 - Phytosanitary regulations
- Starch, alternative products, bioenergy



Challenge, research and outputs

Driver	Research challenge	Research need	Expected output
Continued Demand	Improve utilisation of potato in processed products	Improved understanding of functionality of potato as a raw material	<ul style="list-style-type: none">• Produce processed products & convenience foods with improved taste and texture• Exploit new cooking /processing technologies in 2015• Develop potato-based products with improved nutritional benefits

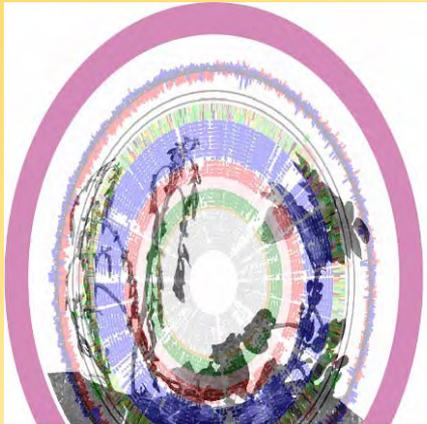


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Continued Demand	To identify and exploit compounds in potato for non-food uses	Evaluate phytochemical diversity in potato & related spp to exploit the chemicals for non-food uses	<ul style="list-style-type: none">• Phytochemicals for use in industrial processes – new market opportunities

Challenge, research and outputs

Driver	Research challenge	Research need	Expected output
Sustainable production	Evolutionary potential of pests & pathogen populations	Utilisation of genomics to improve crop protection	<ul style="list-style-type: none"> Information to design durable integrated control programmes



Blackleg disease
Pectobacterium



Potato Cyst
Nematode



Phytophthora
infestans



Challenge, research and outputs

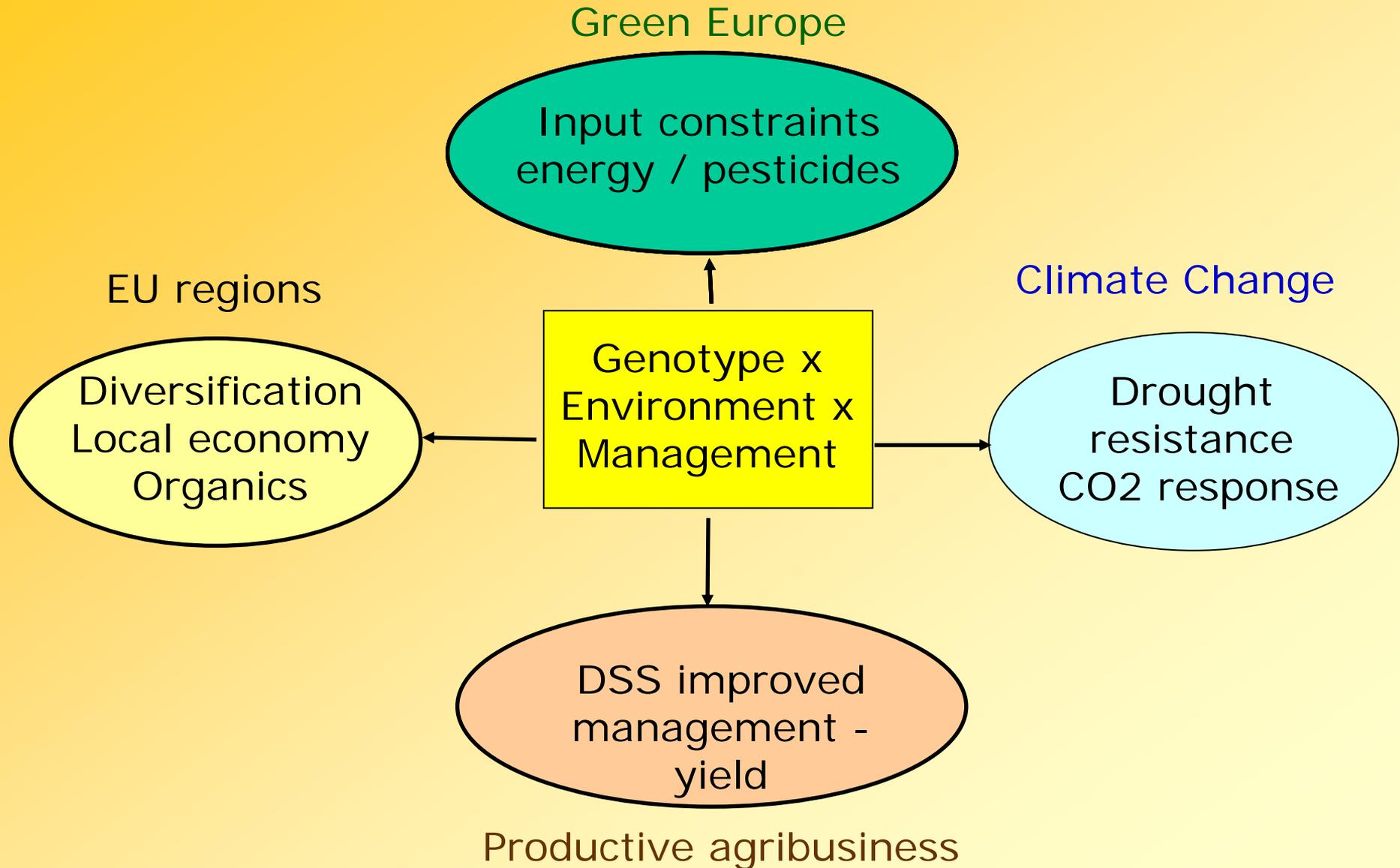
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Sustainable production	Evolutionary potential of pests & pathogen populations	Utilisation of genomics to improve crop protection	<ul style="list-style-type: none">• Information to design durable integrated control programmes
Sustainable production	Evolutionary potential of pests & pathogen populations	Mapping & interpretation of the genetic diversity of key potato pests / pathogens across EU	<ul style="list-style-type: none">• EU-wide information exchange to promote best practice for control• Ability to anticipate changes in pest / pathogen population distributions

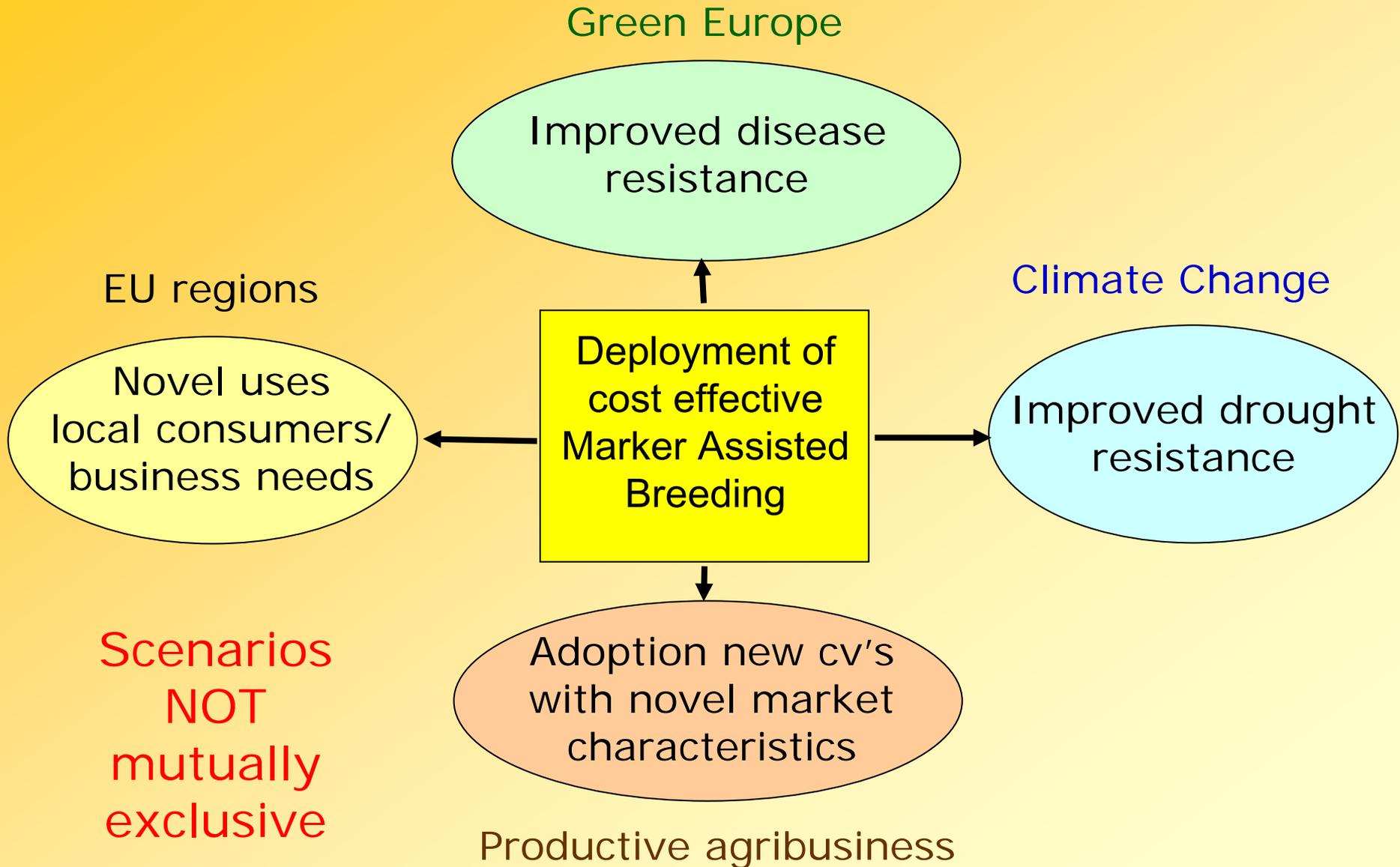


Scenarios 2015

EU SCENARIOS

- Competitive productive agri-business
- Europe of regions - subsidiarity
- High environmental performance – Green Europe
- Challenge of climate change







Key technologies - Utility

Exploit genomics and related technologies – potato & pathogens

Development and deployment of commercially viable Marker Assisted Breeding

Realise potential of GM e.g. through gene stacking, multiple trait modification

Appropriate robust sustainability indicators for policy makers and public - measuring and comparing impacts to improve resource use efficiency



What does it mean?

- Direction for EU research support for potatoes – part of AC system
- Identifies strategic science skill to remain competitive
- GB well placed internationally – e.g. SCRI
- Germplasm collections crucially important resource
- Need to engage internationally in joint initiatives – scale of programmes and levels of funding
- GM issues higher on the EU agenda - need to prepare and engage in renewed debate



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