



## ENDURE

European Network for Durable Exploitation of crop protection strategies

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FOOD and Quality and Safety

### ***Deliverables DS4.3 and DS4.7***

**A first prototype of Endure-IC filled with potato data and tested by stakeholders**  
**List of all integrated crop protection strategies in potato validated by Endure**

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RE Restricted to a group specified by the consortium (including the Commission Services)	
CO Confidential, only for members of the consortium (including the Commission Services)	

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## Table of contents

Table of contents.....	3
Summary .....	4
1. Introduction.....	5
2. Content of Endure Information Centre .....	6
<b>2.1 Selection &amp; validation of documents</b> .....	<b>6</b>
<b>2.2 State of the art about the content</b> .....	<b>6</b>
3. The prototype .....	7
<b>3.1 Homepage</b> .....	<b>7</b>
<b>3.2 Search</b> .....	<b>7</b>
<b>3.3 Presentation</b> .....	<b>8</b>
4. Test of the prototype .....	10
<b>4.1 Method of the internal and external tests</b> .....	<b>10</b>
<b>4.2 Test results</b> .....	<b>11</b>
4.2.1 Results internal test.....	11
4.2.2 Results and follow up actions external test .....	11
Annex 1. List of best practices integrated crop protection.....	14
Annex 2. Test protocol .....	16

## Summary

Ambition of Endure Information Centre (Endure IC) is to be a front end of the Endure crop protection network. For this a first prototype of a virtual centre has been developed. This prototype exists of a database with a web based search option.

In 5 countries, more than 60 documents with best practices integrated crop protection in potato have been selected and validated by Endure members and can be made public by the prototype of Endure IC.

The prototype have been tested in two phases: internal by the project team and external by advisors, because they are the aimed target group. These tests have generated many good suggestions for improving the content and performance of Endure IC. In general the testers underpin the added value of Endure IC. Especially in the field of new elements, diseases and techniques and the support of opening up European research knowledge for advisors.

# 1. Introduction

This document describes two deliverables of sub-activity SA4.1.

- DS4.3: A first prototype of Endure-IC filled with potato data (including all integrated crop protection strategies in potato as being validated by ENDURE) and tested by stakeholders;
- DS4.7: List of all integrated crop protection strategies in potato validated by Endure.

Chapter two describes the collection and validation of documents with best practices integrated crop protection. This results in the list of DS4.7. Chapter three describes the prototype conform the state of the art at the first of July 2008. The fourth chapter contains the internal and external test procedure and results and shows the main suggestions and plans for improvement.

## 2. Content of Endure Information Centre

### 2.1 Selection & validation of documents

Conform the description in the deliverable report of DS4.2, the project partners in France, United Kingdom, Germany, Denmark and the Netherlands have selected documents with ready to use information about Integrated Crop Protection. This means that the information of these documents is scientifically sound, but also tested in field, practical to adopt, cost-effective and of course aims to result in less input and less dependency on chemical inputs. The selected information is available in different forms: websites, leaflets, reports, videos, articles, newsletters, books etc.

The Endure partners selected the information in France, United Kingdom, Germany, Denmark and the Netherlands by:

- Type of pest, disease or problem;
- Type of Integrated Pest Management measure;
- Type of document (leaflet, article, video, etc.);
- Type of information provider (at least 2 different providers).

The Endure partners have a good reputation and the ability to select and validate the 'best' documents about these measures. Each partner organized a small group of national experts for this task. There were some differences between the countries. In UK and DK selection was done with help of the extension service. In FR and NL this was done by applied researchers. In DE selection was realized by PhD-students with networks in farming practice. In all countries the validation check was based on expert judgement and done by (applied) researchers.

### 2.2 State of the art about the content

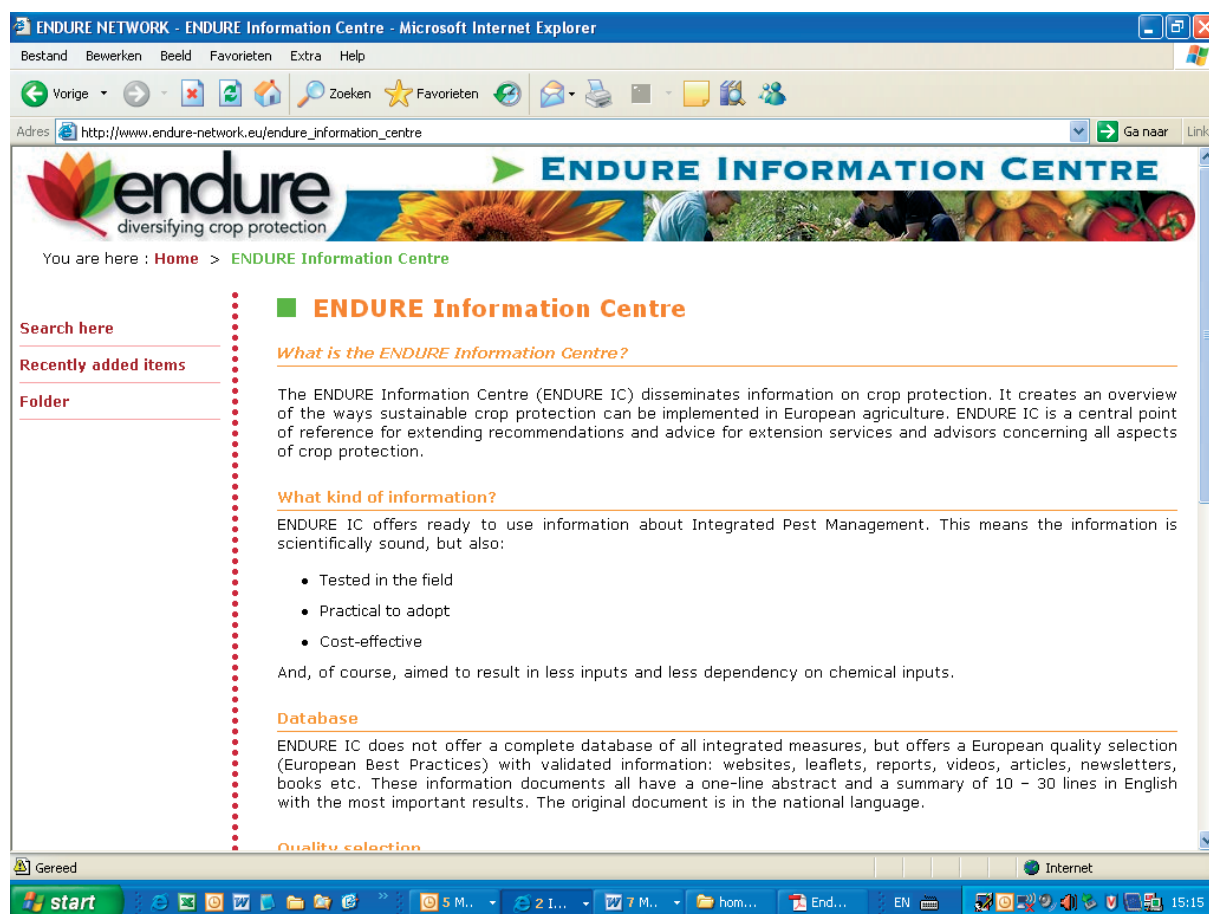
Per June 2008, the selection of documents is still limited to integrated crop protection in potato. At the end of 2008 information for weeds, wheat, pomefruit and tomato will be added with support of the case study groups. In 2009 new crops will enter Endure IC. Next to advisors, the target group of Endure IC will be broadened to policy makers. Annex1 shows the complete list of documents with best practices integrated crop protection in potato validated by Endure per June 2008 and available for advisors via Endure IC.

### 3. The prototype

The prototype Endure IC is a database with a web based search option and related to the public website of Endure. It can be entered with: [http://www.endure-network.eu/endure\\_information\\_centre](http://www.endure-network.eu/endure_information_centre). This chapter describes the state of the art of the prototype per June 2008.

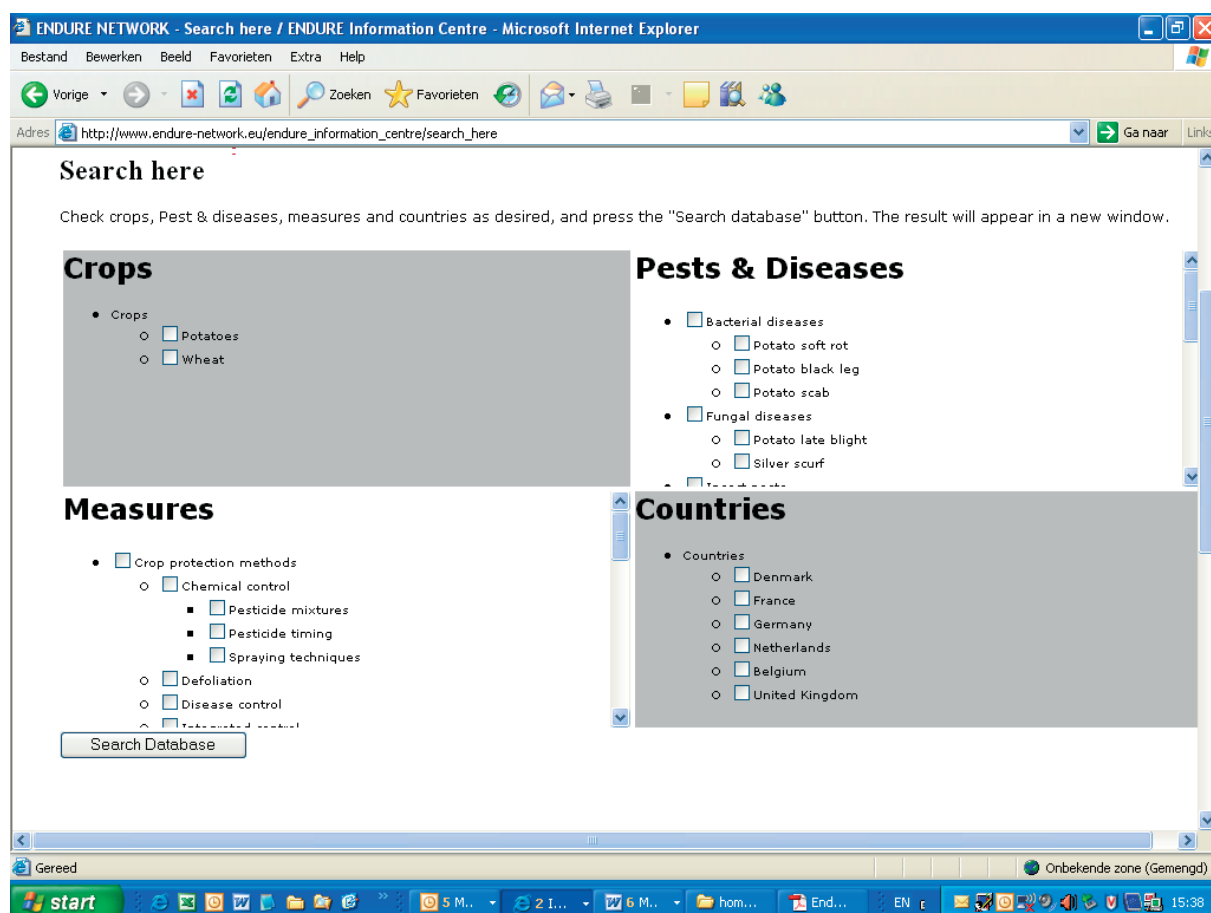
#### 3.1 Homepage

A homepage has been described with information about the goal of Endure IC, information about selection and validation criteria for new best practices and information about how to use the tool.



#### 3.2 Search

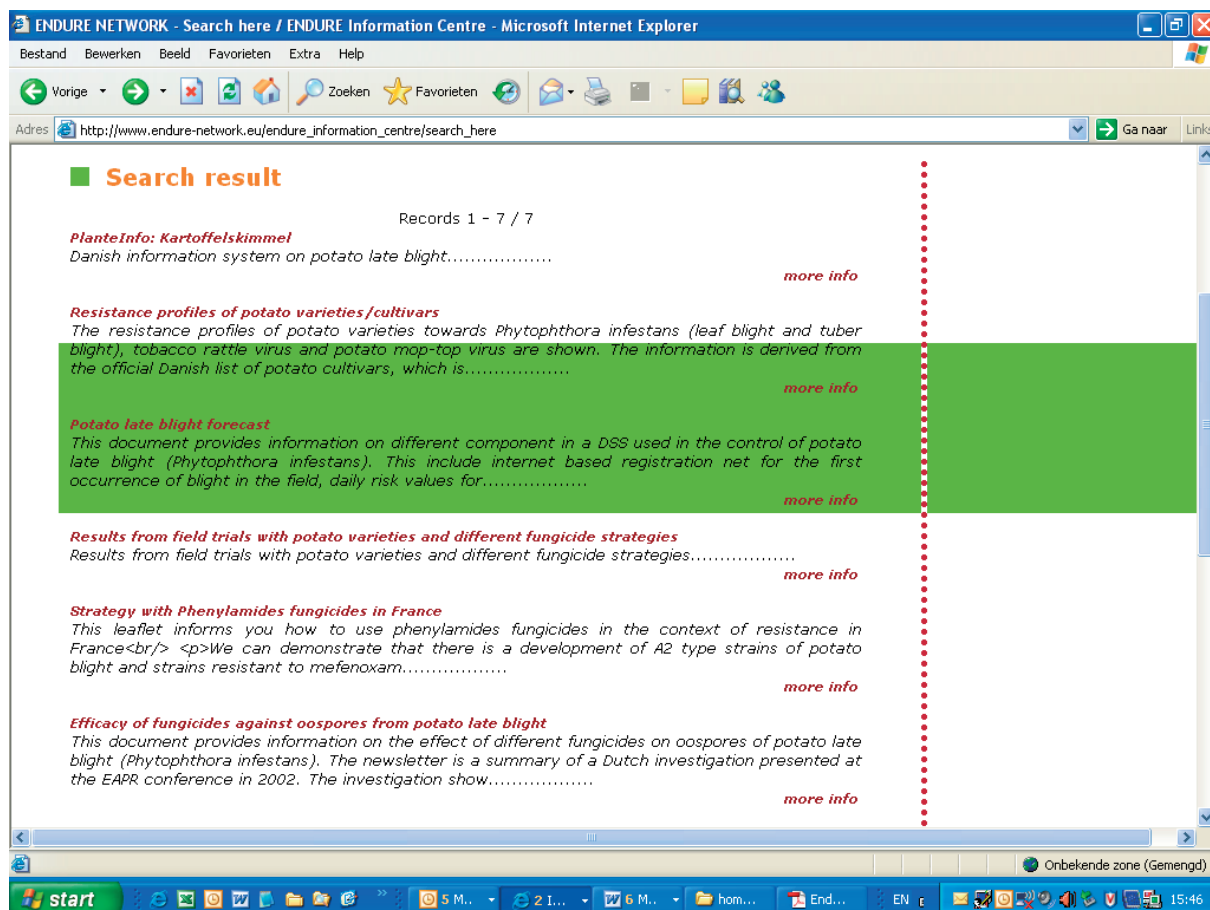
Users can search in Endure IC with a simple search screen. Documents are searchable through look-up tables: Crop, Pest/disease, Control Measure and Country. This structure corresponds with ideas about development of Endure ALPS in Endure activity IA4.



### 3.3 Presentation

Results are listed in a short presentation with an English title and a one-line summary. Then a choice can be made among an abstract, the full record with all metadata and the full text of the original document.





## 4. Test of the prototype

The development of Endure IC is a prototyping approach. In a project with so many different partners and stakeholders, it is difficult to start with a harmonized idea about how the system should look like. But with help of a prototype and test sessions it is possible to get:

- structured feedback from end users on the content and performance of Endure IC;
- ideas how Endure IC should develop further;
- suggestions how it can support advisors in their daily work.

### 4.1 Method of the internal and external tests

Endure IC was tested internal in April 2008 by all project partners and external in June 2008 by advisors. Results of the internal test were discussed during a meeting of the project team in Paris (16-17 April 2008). Based on this internal test the prototype was improved. Chapter 3 describes the state of the art of the prototype after this internal test. Results of the external tests in United Kingdom, France, Netherlands and Hungary were discussed during a telephone meeting (1 July 2008).

The internal test was an individual test. For this test a protocol or logbook had been developed. With help of this protocol testers could give structured feedback on content and performance of Endure-IC. Annex 2 presents this protocol.

The external test was a mix between individual testing and group discussions. It was seen as important to start with the individual part to prevent dominant persons influencing feed back from others.

There were some differences between the tests in the participating countries but in general 3-5 advisors with interest in potato and crop protection were invited to join the test session. Below the process for the meeting is given (in total 2 hours).

0.00-0.25 h	A first conversation between testers and test facilitator where information was given about Endure, Endure IC and the goal of the test.
0.25-0.60 h	An individual test, the tester worked on a few tasks individually and made notes about what was going well /not well. The test consisted of a free surf session and specific search questions. It is known that during free surf sessions often till 75% of the problems arise. To support this individual session the same test logbook was handed out as used for the internal test (Annex 2).
0.60-0.80 h	Plenary: a group evaluation of the test with testers and representative of the project team.
0.80-1.20 h	Plenary: a group discussion about relevancy, connections and associations between advisors daily practice and current and future Endure IC. Questions to stimulate the discussion were: <ul style="list-style-type: none"> <li>• Do you see an added value of Endure IC for your daily practice? <ul style="list-style-type: none"> <li>○ Would you use it?</li> <li>○ How would you use it?</li> </ul> </li> <li>• How can this added value be improved? (at the short and longer time)</li> <li>• Is the language a barrier for you to extract the information?</li> <li>• How should a relation between Endure IC and farm advisors or a farm advisors network be established?</li> </ul>

## 4.2 Test results

### 4.2.1 Results internal test

Below a summary of the results of the internal test is given. The results were discussed with the project group in Paris (16-17 April). A majority of the recommendations was integrated in the new version of Endure IC.

- Background information about Endure IC is missing. There is almost no space for Endure-IC if we combine it on one screen with the public Endure-site. It is necessary to develop a new homepage for Endure-IC where the relation with Endure must be crystal clear.
- Searching: must be improved in line with Endure-ALPS (Crop, pest/disease, Control measure/topic, region/country).
- Search results:
  - it is useful to have an overview with English title, country, language, keywords and first line summary.
  - After search a choice must be made among: abstract, full record and full text.
- The key word system has to be improved (translations in all languages and decrease of empty searches).
- A 'clear all fields button' is needed.
- To prevent we get lost we need breadcrumbs (home>search>search1>search2)
- Summaries
  - One line summaries are sufficient;
  - Summaries must be improved. For this a new format for the summaries will be developed.
- Integration of the full document in the Endure-IC database is needed instead of links. This because of problems with sustainability of the links. Only when there are relevant reasons to do not (for example the external server/ website will be for many years, or when providers have problems with delivering .pdf files).

### 4.2.2 Results and follow up actions external test

This paragraph describes suggestions for improvement of Endure-IC based on the external test in June in France, United Kingdom, Netherlands and Hungary and a telephone meeting of the project group at the first of July 2008.

For the follow up on these suggestions there are differences in the realization (timing and consequence). For this four categories are defined.

- 1) Direct August 2008: these are short term improvements and can be realized in August 2008. The intention is to have realized the majority of these suggestions before external tests in Germany and Denmark will take place (the end of August 08).
- 2) Direct September 2008: Results of these tests in DK and DE can be taken into account for the presentation at Potato Euro 2008 at 10 and 11 September. Besides there are some elements which can be improved directly, but input is useful from stakeholders outside the project team.
- 3) Rothamsted October 2008: These improvements costs more time and/or need more internal discussion. These aspects will be discussed during the SA4.1 meeting in Rothamsted at 1 and 2 October. Then a decision has to be made about need and possibilities for realisation in line with the appointments in the 2<sup>nd</sup> Joint Programme of Activities (JPA) of Endure.
- 4) La Grande Motte 2008: Suggestions in this category are useful for the long term and are additional to the 2<sup>nd</sup> JPA. An option is to implemented them in de new 3<sup>rd</sup> JPA. These suggestions will be kept in mind for the meeting about the 3<sup>rd</sup> JPA in La Grande Motte at the end of October.

Cat.	Suggestion
1	<p><b>Users want a Google way of searching</b></p> <p>For realisation of a Google-like search documents from Endure IC will be indexed by Google (Google sitemaps). With Google CSE (= Custom Search Engine) a search can be made based on the full text of all documents and summaries in Endure IC.</p>
1	<p><b>Small improvements</b></p> <ul style="list-style-type: none"> <li>• Clear all Fields button</li> <li>• Selection of all tick boxes</li> <li>• Remove green shading (is lay out of Endure)</li> <li>• Latin names of diseases</li> <li>• Improvement users guide at homepage</li> <li>• Too many scrolls at search page</li> <li>• If document is focused on organic farming, put this in the first line summary</li> </ul>
2	<p><b>Users want an improved presentation of the list of search results</b></p> <p>Many different (conflicting) suggestions are given by the testers. This means a choice has to be made. A suggestion is a list of search results with: English title, language of the full text, keywords and a short first line summary.</p>
2	<p><b>Users prefers clear choices between full text, full record, complete abstract</b></p> <p>Suggestion is to make 3 icons for these options and to put them under a search result.</p>
3	<p><b>Users want a structured hierarchical way of searching (like windows explorer)</b></p> <p>In the prototype there are 4 search possibilities (crop, disease, measure, country). The suggestion is to make this more hierarchical. At this moment Endure IC only contains information about potato. With more crops, the list of diseases will change. This means behind the screen a link has to be made between crop and disease. With the 4 main search possibilities there will be many relations and a labour intensive maintenance. The expectation is that this can be adopted from Endure Alps (IA4).</p>
3,4	<p><b>Users want to have more content</b></p> <p>This will be realized partly by integrating new crops. For this in the 2<sup>nd</sup> JPA appointments are made about new crops in line with the case study groups.</p>
3	<p><b>Users want contact information</b></p> <p>Users want to have a possibility to contact a person about an article. An option is to fill in the names of the Endure contact persons. But for this a back office have to be organised (tasks, budget). Another option is to give the names of the information providers. Problematic for this is that many interesting ready-to use documents are 'grey' literature and names of providers often change (maintenance). How we can support this need with Endure IC?</p>
3	<p><b>Users only want free documents</b></p> <p>A suggestion is to skip documents where end users have to pay for. Conform the project plan DAAS will take the lead in the discussion how to deal with this aspect. It will be described and realised with Milestone MS4.12.</p>

3	<p><b>Country coordinators must be able to control/validate/change the information</b></p> <p>Suggestion is to change the WordPress procedure for uploading new documents to a direct input procedure,</p>
4	<p><b>Users suggest review articles</b></p> <p>This can give an overview about the crop protection situation in a country for a specific crop or review articles from the case studies.</p>
4	<p><b>Users gave suggestions for long term</b></p> <ul style="list-style-type: none"> <li>• Dynamic: State of the art / last information about diseases and pests that may be moving from one country to another.</li> <li>• Information about legislation in other countries.</li> <li>• Access on the move (search and presentation on telephone screen).</li> <li>• Endure IC must support the realization of an Advisory network.</li> <li>• Documents from other countries (central and southern Europe).</li> </ul>

## Annex 1. List of best practices integrated crop protection in Potato

This list contains the English names of documents with best practices integrated crop protection in potato from France, United Kingdom, Denmark, Germany and Netherlands. The documents are selected and validated by members of Endure and are available with Endure IC. The list shows the state of the art per June 2008 and will be enlarged.

Chemical haulm killing: bottle-neck for integrated pest management in potatoes  
 Chemical weed control in potatoes  
 Control of Erwinia in potato  
 Control of Silver scurf in potato  
 Effect of green manuring on *P. penetrans*  
 Efficacy of fungicides against oospores from potato late blight  
 Environmental effects of agro chemicals  
 Erwinia chrysanthemi (*Dickeya* spp.): What it is, and what you can do  
 Fight against Blight : advice for growers of organic crops  
 Fight against Blight. ISSUE 4: VOLUNTEER CONTROL (GROUNDKEEPERS)  
 Fight against Blight. ISSUE 1: POTATO OUTGRADE HYGIENE  
 Foliar damage caused by pesticides  
 Fungicide Resistance Action Group UK (FRAG-UK)  
 Green manure crops for the control of *Pratylenicus* in starch potatoes  
 Growing instruction – Seed potatoes  
 Growing instructions - organic ware potatoes  
 Growing instructions - starch potatoes  
 Haulm desiccation: chemical is better  
 Haulm killing in potatoes  
 How to prevent silver scurf ?  
 Instructions regarding crop rotations  
 Integrated control measures aphids in potatoes  
 Integrated weed control  
 LDS (Low Dose rate Strategy) in potato  
 MAIN INSECTS - PESTS IN POTATO CROP  
 Machinery for mechanical weed control in potatoes  
 Mechanical weed control in potatoes  
 Mixtures of plant protection products in potatoes  
 More weed control strategies in potato crop  
 NemaDecide - For potato growing with a future  
 POTATO CROP FOR PRESERVING  
 POTATO CROP PROTECTION AGAINST DISEASES, PESTS, WEEDS AND HAULM  
 DESICCATION AND GERMINATION  
 POTATOES STORAGE AND PRESERVING  
 Phytophthora info  
 Placed organic slurry in potato  
 PlantInfo: potato late blight  
 Pflanzenziektekunde: Plant diseases  
 Possibilities to control weed by postpone ridging in potatoes  
 Potato early blight is increasing  
 Potato late blight forecast  
 Potato late blight: Guidelines for managing fungicide resistance  
 Potato virus Y (PVY)  
 Practical weed control (manual)

Prevention of wireworm damage by monitoring click beetles  
Resistance profiles of potato varieties/cultivars  
Results from field trials with potato varieties and different fungicide strategies  
Results of swap-cpp project on potatoes culture in Belgium  
Rhizoconia in potatoes  
Silver scurft in potato  
Soil pests protection in potato crop  
Spraying techniques in potatoes  
Strategies against potato volunteers  
Strategies for chemical weed control in potatoes  
Strategies for reducing the copper amounts in organic potato production: – Project “ÖKO-SIMPHYT”  
Strategy with Phenylamides fungicides in France  
To a good control on potato aphids  
To prevent germination after harvest  
Using potato as a trap crop for *G. pallida*  
Weed control by postpone ridging  
Weeds: for a better control  
What is common scab ?  
Wire worms: a long long way

## Annex 2. Test protocol

### External test of Endure Information Centre

Document for tester

Name tester: .....

Date test: .....

### Task 1. Find Endure Information Centre

Go to Endure-IC via [http://www.endure-network.eu/endure\\_information\\_centre](http://www.endure-network.eu/endure_information_centre)

### Task 2. Free surfing

Take 5 minutes time to surf freely on Endure-IC. What is your first impression? Write the answers below.

#### 2.1 As positive points I mention:

1)...

2)...

3)...

#### 2.2 As points to improve I see:

1)...

2)...

3)..

#### 2.3 What are your (additional) comments on design and navigation

- 
- 
- 
- 
- 
-



### Task 3. Search documents

Find a document about *Erwinia* in the *United Kingdom*, read the summary and glance through the complete document.

- Find documents from *France* published in *2006*, read the summary and glance through the complete document.
- Find a document about *Herbicides* and *Potatoes*, read the summary and glance through the complete document.
- Make an own search-query.

#### 3.1 Are the search results clear?

My comment:.....

#### 3.2 Are the one line summaries satisfactory?

My comment:.....

#### 3.3 Do the summaries give sufficient information?

My comment:.....

#### 3.4 Are the original documents relevant and useful for you?

My comment:.....

### Task 4. Other remarks and points for discussion

1).....

2).....

3)...