

The use of variety information within the arable production chain

Ir. A.J. Scheepens

Ir. W.A. Dekkers M.Sc.

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Agricultural Telematics Centre

Agro Business Park 58

NL-6708 PW Wageningen

Tel: +31 317 479658



Applied Research for Arable Farming and

Field Production of Vegetables

P. O. Box 430

NL-8200 AK Lelystad

Tel: +31 320 291111

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0. INTRODUCTION

This inventory gives an overview of the role of variety information and variety identification data in the relevant processing chains. The processing chains have been analysed from the point a breeder has made an application to register a new variety into the REGISTER OF VARIETIES till the sale of the product to a consumer.

The data on varieties could be used on one hand together with other characteristics to identify a product and on the other hand as information for decision support systems to support the decision on the choice of a variety.

Unique product identification codes will become increasingly important in the agriculture production process. Both information on the product itself and information on the way of production and product handling in the production chain will become increasingly important. For farmer and market gardener it is important to react on the market demand. By a good information supply from the commerce to the farmer, one is better prepared. On the other hand commerce and consumers want more insight on the production process of the primary enterprise. Examples of initiatives which initiated a better provision of information and product diversification to commerce and consumer are : "Het Milieu Project Sierteelt(flowers), Milieu Bewuste Teelt (vegetables and fruit), Agro MilieuKeur(good farming practice)". These are projects which promote the growing of crops with minimal and controlled use of agrochemicals.

An essential requirement for a fast and efficient (electronic) information supply alongside of the physical product flow between various parties in the production chain, is a product identification code, which has to be used by every part of the production chain.

In general a product identification code is partly made up of variety/cultivar name and crop classification.

The product information makes use of a code which have a general broad acceptance. Within the vegetable, fruit and flowers sections this has been organised

from the intermediary position of auctions and mediation agencies. In various production sections where co-operative auctions play an important role by the market sales, the use of codes is stimulated and sometimes even has been mandatory by the auction organisations.

In this rapport the following arable product chains are distinguished:

- vegetables & fruit (indoors, open air & mushrooms);
- decorative crops (f.i. cut flowers, bulb flowers, shrubs (Syringe, Forsythia);
- perennials, arboriculture and shrubs;
- flower bulbs;
- arable crops;
- feed crops.

In this report product identification codes are described but also is described in which way variety information can be used for crop advice on crop husbandry. Indicated is which information is important to advice farmer or vegetable grower, commerce, or agricultural industry, and by which organisations provide this information is provided.

Problem areas have been formulated. It has been taken into consideration for which specific product chains a realisation and detailing of product identification code would become necessary. This in view of the common interest to standardise the code lists and the importance of uniform use of variety information in the various information systems.

1. THE CLASSIFICATION OF KIND OF PLANTS, CULTURE CROPS, GROUPS OF VARIETIES, WAY OF CULTIVATION AND GOAL OF CULTIVATION

In 1989 the PAGV made a proposal to agree on an uniform classification of varieties, groups of varieties, kind of plants, ways of cultivation and goals of cultivation (PAGV-report 82). This hierarchical classification is tuned between PAGV, LBO, RIVRO and RPVZ. The classification is crop independent and representative for all crop sectors.

The metamodel for classification of kind of plants was integral part of the "Informatie Model Open Teelten" (IMOT) and the Informationmodel Horticulture. This model is developed and is maintained by ATC. The model has been the basis of :

- registration forms;
- technical databasestructures;
- software interfaces between decision support systems and management systems.

By the implementation in software of the classification proposition the classification turned out to be not complete. For some crops a classification along division in ways of cultivation was not sufficient in the Informatiemodel Open Teelten. Therefor in agreement with the concerned parties a new entity type added "goal of cultivation" was added.

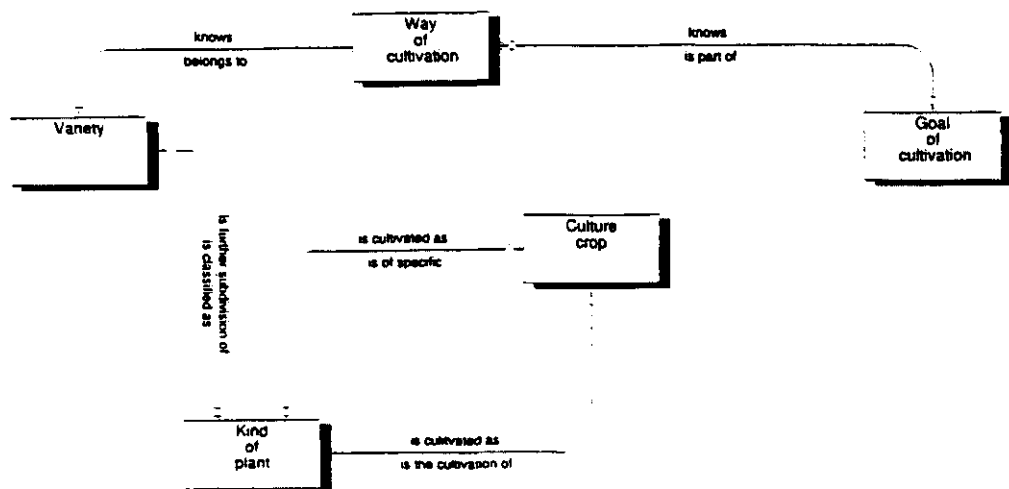


Figure 1 The presentation of varieties as culture crop, the classification of varieties per culture crop, way of cultivation and goal of cultivation etc.

The presentation of figure 1 is independent of crop and is representative too for varieties and crops in horticulture. This data structure could be a base for the composition of codes, which in combination with other characteristics like colour, type, quality and packing define the real product identification code.

In practice in agriculture systems no difference is made between kind of plants, only culture crops are important. Within practical systems little use is made of taxonomic names. A scientific name (family- and variety name) could be used as a characteristic of a Culture crop. If relevant(f.i. to aid weed control in a crop) a norm table with weeds is added. The relation between crop and herbicide indicates the admission to use this product to control weed in that crop. With the relation between a specific product and the weed, the effectivity of the product can be indicated.

The classification of the kind of plants can be changed based on new morphologic idea's. To be less dependent on change of names, in a common effort with UPOV, a list of so called "stabilised" names of plants has been composed.

To allot unique variety names, UPOV distinguishes several groups of crops, which made up mainly by a collection of families of culture crops. If in such a group a name occurs the same name can not be allotted to a new variety in this group.

Table 1 The partition of crop classes according to genus and probably eventually to family. This partition is maintained by UPOV

	Families making part of a crop group
1	Avena, Hordeum, Secale, Triticale, Triticum
2	Panicum, Setaria
3	Sorghum, Zea
4	Agrostis, Alopecurus, Arrhenatherum, Bromus, Cynosurus, Dactylis, Festuca, Lolium, Phalaris, Phleum, Poa, Trisetum
5	Bvariety <i>sica oleracea</i>
6	Bvariety <i>sica napus</i> , B. <i>Campestris</i> , B. <i>rapa</i> , B. <i>juncea</i> , B. <i>Nigra</i> , Sinapis
7	Lotus, Medicago, Ornithopus, Onobrychus, Trifolium
8	Lupinus albus L., L. <i>Angustifolius</i> L., L. <i>Luteus</i> L.
9	Vicia faba L.
10	Beta vulgaris L. var. <i>alba</i> DC., Beta vulgaris L. var. <i>Altissima</i>
11	Beta vulgaris ssp. <i>Vulgaris</i> var. <i>conditiva</i> Alef. (syn. : Beta vulgaris L. var. <i>Rubra</i> L.), Beta vulgaris L. Var. <i>Cicla</i> L., Beta vulgaris L. ssp. <i>vulgaris</i> var. <i>Vulgaris</i>

	Families making part of a crop group
12	Lactuca Valerianella, Cichorium
13	Cucumis sativus
14	Citrullus, Cucumis melo, Cucurbita
15	Anthriscus, Petroselinum
16	Daucus, Pastinaca
17	Anethum, Carum, Foeniculum
18	Bromeliaceae
19	Picea, Abies, Pseudotsuga, Pinus, Larix
20	Calluna, Erica
21	Solanum tuberosum L.
22	Nicotinia rustica L., N. Tabacum L.
23	Helianthus tuberosus
24	Helianthus annuus
25	Orchidaceae
26	Epiphyllum, Rhipsalidopsia, Schlumbergera, Zygocactus
27	Proteceae

2. THE USE OF CODE FOR VARIETIES AS PART OF PRODUCT IDENTIFICATION.

In this chapter for various chains of crops is indicated in which way varieties and products are identified in the chain and in which way this information is exchanged. The datamodel below shows in which way crop and variety data (f.i. name of the variety, name of the crop) are part of the product identification code.

Figure 2 shows the data model with entity types of importance by the product identification codes.

In the next paragraph's the role of variety and crop data by the composition of product identification codes is described. A product identification code contains together with variety code and crop specific code, information on characteristics of articles or containers. This information on characteristics is not taken into consideration in this report.

2.1. Product identification codes for vegetables and fruit

The Centraal Bureau for Tuinbouwveilingen (CBT, central bureau of auctions) controls codes for vegetables and fruit. It concerns products from the sectors of the vegetables in the open, vegetables under glass, mushrooms and fruit growing. The code of the CBT consists of three numeric positions, and is used by all affiliated vegetable and fruit auction's. The code is used to identify the product in the information flow between separate auctions and the affiliated vegetable growers.

The CBT develops new codes and maintains existing codes. The code is not systematic.

The used product identification codes does not contain information. The product identification codes is reused to establish the code of an article. An article is identified by the product identification and also by code type, colour, grading and

quality. The code for type of containers and volume of containers are part of the code. The final product identification code is also determined by variety, crop and

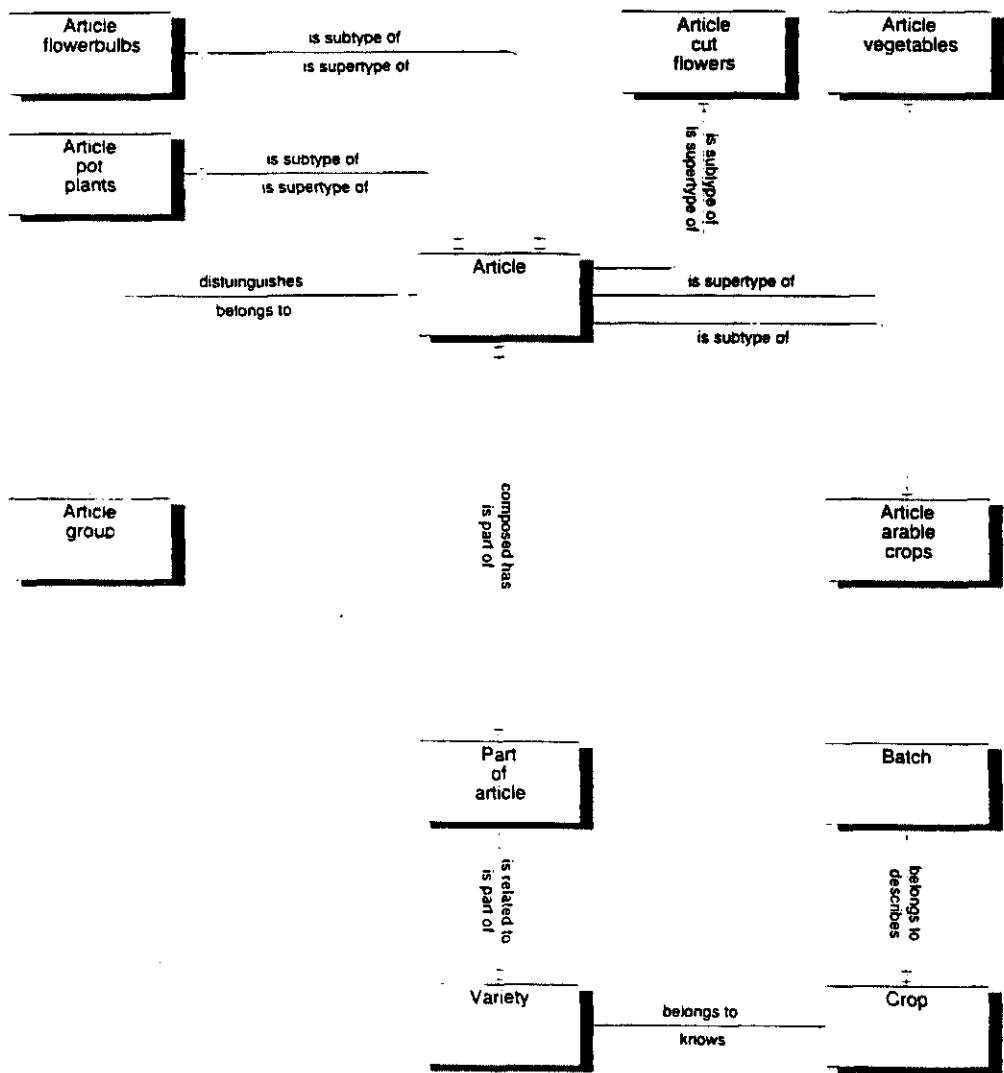


Figure 2 The data model with entity types of importance's by the product identification codes.

kind of product. The smaller products are mostly coded on the level of the culture crop. Examples are gardencrees, watercres, walnuts and chestnuts.

For main products in horticulture like tomatoes or paprika, a code is established at the level of the various kind of products of each crop. For instance for the crop paprika the following type of products are distinguished: red blocked, green, dark orange, red point, purple, yellow, brown and orange.

Examples of product identification codes of the CBT

Crop	Kind of product per crop	CBT-code
Tomato	tomatoes round	040
	yellow tomatoes	041
	tomatoes type in between	042
	orange cherry tomato	043
	yellow cherry tomatoes	044
	tomatoes cherry	045
	tomatoes meaty	046
	fruittomato	049
	peartomato	052
	plumtomato	050
cucumbers	cucumbers	001
	cucumbers mini	005
greenlof	greenlof	350
plums	plums	630
	Opal	645
	Victoria	651
potato	Alcmaria (early)	901
	Doré	905

2.2. Product identification codes for decorative crops

The Vereniging of Bloemenveilingen in the Netherlands (VBN, association of flower auctions) allots codes to florist's products. Florist's products include cut flowers under glass and in the air (incl. bulb flowers), potplants and flowerbed plants. This code is part of a detailed product identification code used for identification in the information exchange between auction and grower. The same code is used by all assortment oriented advertisement actions of Bloemenbureau Holland and books describing cut flowers -, indoor plants and gardenplants. The VBN names it code of article. The code of article of VBN consists of 5 numeric positions. Every code is unique for a specific article. From the composition of the code no information can be retrieved. The VBN-code of article is in use on all flowerauctions and more than 8000 suppliers use this code.

Along this code of article to each article a code of group is allotted. This code is mainly for internal use. This code is used to group products for auction statistics. Some examples of this code of group are shown in the following table. Use has been made of a separate code for each crop to include grading data.

Examples of product identification codes for flowers and plants

Crop	way of cultivation	cultivar	code of article	Composed code of group			
				Level 1. ¹	Level 2. ²	Level 3. ³	Level 4. ⁴
Hibiscus	single flower	'Cardinal'	8796	2	02	035	01
Cymbidium	big flower branch/bl	A BU 'Raquel'	4370	1	05	028	02
Tulipa	single	'Abra'	1034	1	00	011	01
Primula	Primula obconica	'Achat'	8779	2	02	014	01

¹ The included crops are divided at the highest level

1. cut flowers
2. indoor plants
3. gardenplants

² Within the highest level groups are subdivided in :

- 1 cut flowers
 - 2 cut flowers
 - 3 summerflowers
 - 4 shrubs
 - 5 bulb flowers
 - 6 chrysanthemum ind. hybrids
 - 7 orchids
 - 8 indoor plants
 - 9 berry/fruitplants
 - 10 flowering plants
 - 11 bulb/tuberous plants
 - 12 Bromelia

³ the code of the culture crop

⁴ the code for the type or the way of growing

2.3. Product identification codes within the arboriculture

The code of an article of arboriculture is maintained by the Stichting Beurshal (Corporation for tree and shrub auction) in Boskoop and is generally used in the business transactions. Alongside a numeric code, there exists an alphanumeric code which is composed of the letters of the familyname and varietyname of the crop. This code is unique. In some registrationsystems this code is of use to the farmer

The numeric code is composed as follows :

the maingroup (2 digits)

the familyname (2 digits)

the varietyname (2 digits)

the cultivarname (Contains no system and is an unique number)

Examples of product identification code in the arboriculturesector

Crop	Cultivar/ variety ¹	Alphanumeric code	Composed numeric code			Unique code of article
			maingroup	familyname	varietyname	
Rosa (rose)	Pink star	RPST AR	43 (rose)	010	99	38451
Rosa (rose)	Red Moss	RRMO SS	43	010	99	38508
Prunus	Anna Spaeth	PVARIETY PAET	55 (fruitrees/ rootstocks)	096	99	39680
Rhododen dron	Rhododen dron decorum	RHTHE CORU	35	110	35	36342

¹ depended on the crop distinguishment is made in cultivars by the determination of names and codes for products

2.4. Cultivar code of flowerbulbs

There exists at the moment no general product identification codes for flowerbulbs which is supported by a co-ordinating organisation. Work is done on a stable set-up for code of flowerbulb cultivars, within the lines of the project Uniformering Data-communicatie Bloembollen (UDB)

2.5. Product identification code of arable products

SIVAK has composed product identification codes. This code is a composed code of culture crop, the goal of cultivation and way of cultivation. The standardcode exists of

5 digits. Product identification codes on the level of varieties are less used in the production chain of arable products. Arable farming produces in general bulkproducts. For this type of product variety connected information in the chain is less important.

The identification of variety is important by the communication between the seedpotatogrower and the NAK because of the seedpotato inspection.

2.6. Codes on the level of kind of plants

The Bayer code is composed on the level of kind of plant. The format is alphanumeric with 6 digits (AN6) and is derived from the latin name of the variety. Not only the culture crops are included in this list. The list contains also weeds like "ganzerik" (*Potentilla reptans*) etc.

The Bayer code is designed to show relations between on one hand the effect of a crop protection product on a weed and on the other side the culture in which a weed is controlled. The Bayer code is part of the Dutch crop protection knowledge bank.

Examples of kind of plants with Bayer code

Name	Latin name/cultivar	Cultivar	Code
Potato	Solanum tuberosum		SOLTUB
Apple	Malus	James Grieve	MABSYB
Apple		Jonagold	MABSYB

2.7. The use of variety information in crop cultivation

The normative data, which are conveyed can be used for advice. There are several ways to combine normative information and farm specific information to a farm specific advice:

- the **grower** collects and selects relevant information based on the literature, by means of a network like Agrotel, excursion- and studygroups, visiting information gatherings where new varieties are shown (open days, technical exhibitions, visitorsdays of CGO-experiments at experimental stations, etc.);
- the grower makes use of a **Management Information System (MIS)** or a crop advice system where an advice is generated by a combination of stored normative data and own farm information;
- by the **extension officer** based on his own knowledge and experience, supplemented by normative data of the list of varieties and if available an extension supporting system. In this way the officers is able to support a grower to take a crop management decision.

In the model shown in figure 3 variety data and their interdependence are shown.

The available information on which the choice of a variety is made, is large. It is difficult for a farmer to select just that information which is essential to him to make the right decision.

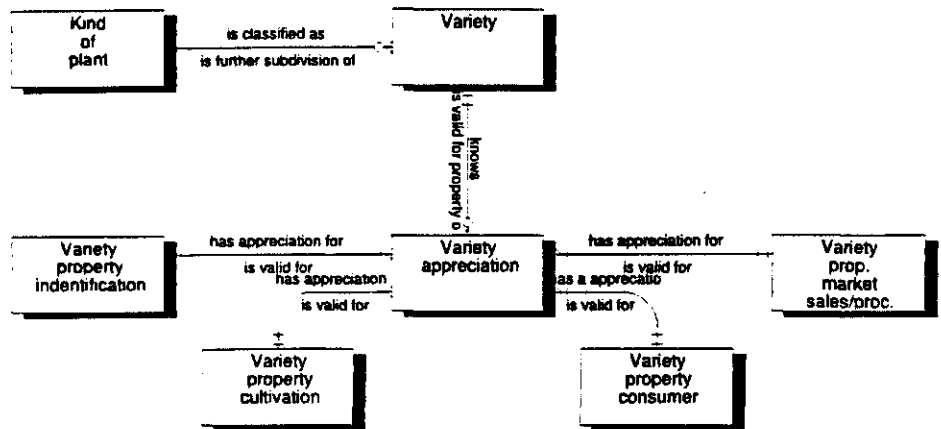


Figure 3 The datamodel for variety information

The choice of a suitable variety is determined by:

- **the kind of product;** colour for instance is a major selection criterion for cut flowers. The colour is very trendy. So it is of utmost importance to make a good estimation what variety or cultivar will yield the most trade. The importance of the choice of a variety and proper information gathering by the farmer is an important factor for the productivity. The choice of the proper variety is very determining. Additionally one should take into account that a choice for a product like a rose is more strategic than the choice of a product like lettuce. A grower of roses makes a choice for a certain variety, a choice he depends on for years. A grower of roses will restrict to cropping only one variety, with as consequence that he knows all ins and outs of the crop;
- **contractual obligations;** The grower is restricted in his choice of varieties because he is affiliated to a specific firm that offers a certain package of varieties;

- **the way of growing**, a farmer who strives for an environment conscious product, compares and gives priority to other characteristics than a grower who grows according to the common way of growing;
- **goal of cultivation**; it is obvious that for a table potato other properties are relevant than for chips potatoes. The experience of CPRO is that the commerce prefers the offer of a product which can be used for multiple goals;
- **quantitative properties like disease resistance**. Within the list of varieties and the growth advice systems varieties do have properties which indicate the resistance compared to one or more standard varieties.

Examples of cropping decisions for which variety information is needed :

- **which variety** am I going to grow, taking account of aspects as disease resistance, the normative yields and quality. Properties like the external properties, taste and colour play a role;
- **the planning** of following crops when the time of seeding and the expected growth duration are important. Information sources in this respect are actual information pages on Agrotel and the list of varieties. The crop support system KOBAS contains a cropplanning module for cauliflower and Brussels sprouts.
- Properties of varieties may play an **indirect** part by other crop management decisions.:
 - it is known that some varieties are susceptible to certain crop protection products. The information may become available by extension, Agrotel or by cropsupport systems. The crop support systems (BETA for sugarbeet, CERA for cereals and KOBAS for cabbages) take account of this susceptibility by the advice of crop protection products;
 - **diseaseresistance-** or susceptibility scores of a variety can be used to derive the necessity of spraying, or the preference of a crop protection product

3. CONCLUSIONS AND RECOMMENDATIONS

Product identification codes

With concern to the informationflow between grower and market salesorganisation (the auction, arboriculture) much has been done in horticulture to introduce product identification codes. For almost any product in the horticulture sector an umbrella organisation can be found who takes care that a product from the primary enterprise till the marketsalesorganisation is provided with an unique code. By this code the messagetrffic between both actors has been eased considerably,

This product identification code does not link very well to the product identification code which is used in commerce. The chains which are responsible for the physical productflow and informationflow from the auction till the consumer make use of their own commercial codes

In arable farming less use is made of unique code, which reach further then company- of co-operation. In the project Informatievoorziening Aardappelteelt (IVA, Informationprovision potato growing) a start is made. In the arable sector the message traffic within transport chains will increase fast too. A widely accepted product identification code composed of variety and crop attributes is a premise.

New varieties are in principle admitted to commercial traffic by the CPRO-DLO and related services and are provided with a code. This source code could be a healthy base for an uniform product identification code in the arable sector.

Variety information

The variety information can be spread by the various media to the various target groups. In the form of a reference book (list of varieties), recent reports of research on evaluation of varieties in technical journals for farmer and market gardener, on CD-rom and in the form of crop management systems or Management Information Systems as introduced on the market by various software providers, or by a network like Agralin (aimed at research) or Agrotel (aimed at farmer an market gardener).

Because of efficiency and also quality reasons it is important that the CPRO-DLO, as source organisation of the variety information, is able to provide this information, in an electronic way, to the various interested organisations. The financial reward of delivering this knowledge has to be guaranteed. This means that illegal copying of these data has to be prevented.

The information supply in the future

The role of the CPRO-DLO has changed from an executing organisation to an organisation with a more co-ordinating role.

The variety information will become available by several channels :

- cross sectoral;
- international co-operation (UPOV);
- direct as result of field experiments of the breeders;
- information from experience of farmers associations;
- practical experiments of commissioners and canneries.

The CPRO will take care that the data are registered and observed according to a fixed standard protocol, to make the data comparable. The variety information system has to be fed from all concerned parties. The input in the variety information system will come from (Groente en Fruit; week 35, page 18):

- already available data from seed firms;
- experiments in practice of farmers associations;
- production- and sales information of auctions;
- crop information of the extension service;
- data from commissioners and canning industry.

There will be information flows of the varieties informationsystems towards various concerned organisations in the chain, to the breeders, the growers, the commerce (commissioners and auctions) and the consumer. Everybody will become the better of it.

Appendix 1 A reference model for the provision of information between various actors in the vegetable chains

The figure below gives a schematic model of the processes, data and actors participating in the chain from the time of registration until a product available for the consumer. The model restricts to information flows which concern variety information for extension or needed for product identification codes in the chain. The model is made clear by a number of diagrams. The descriptions of the standards are included in the following appendices.

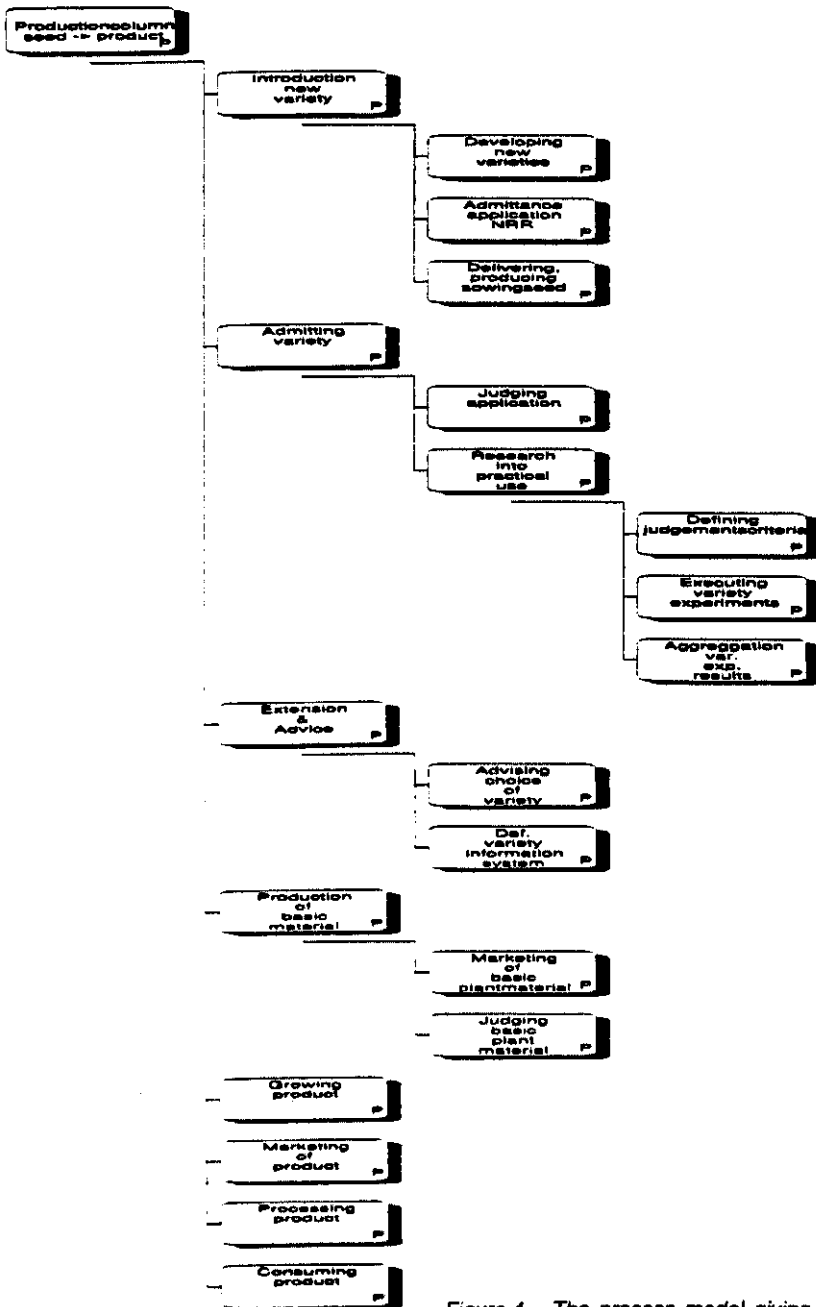
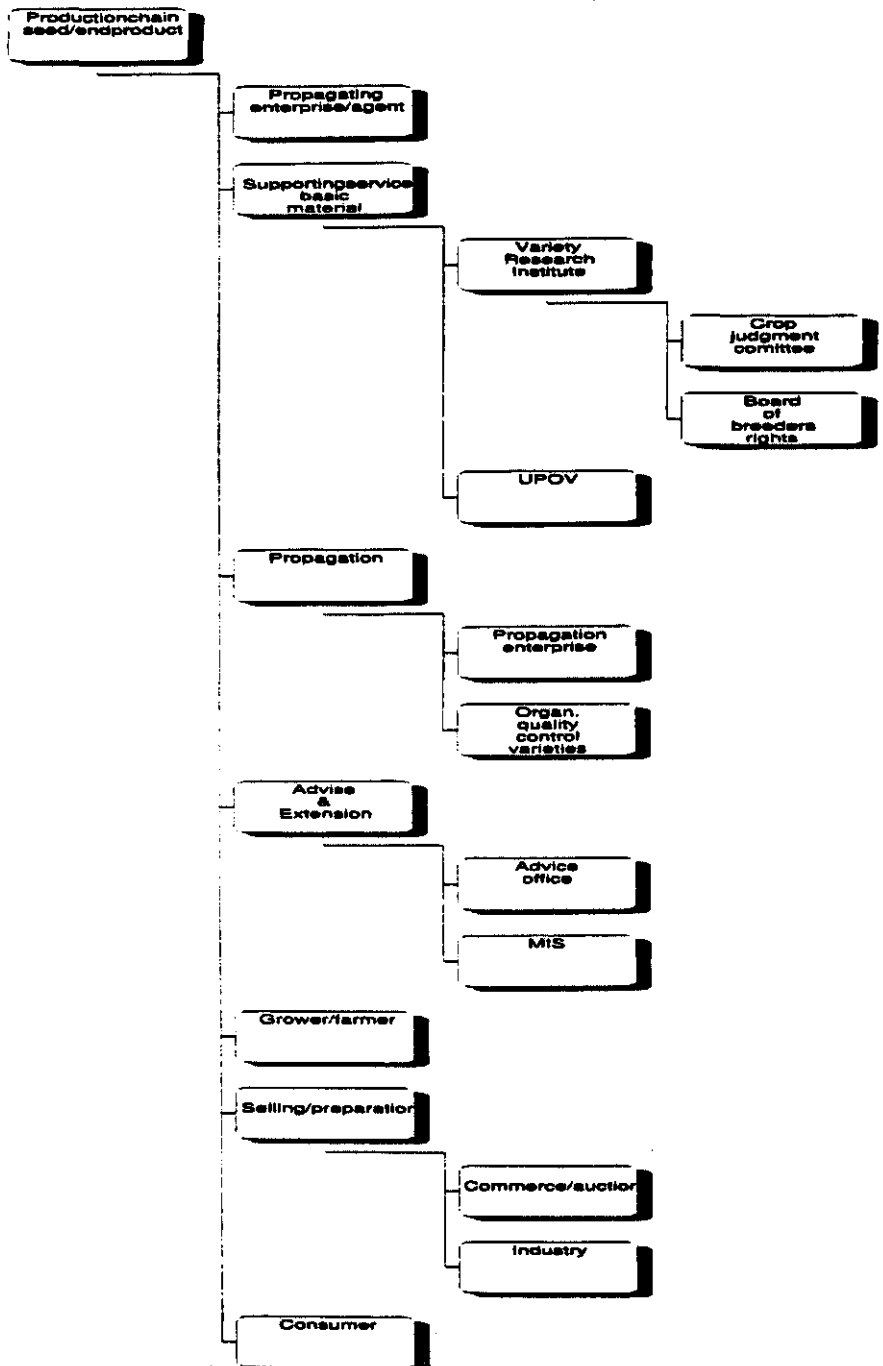


Figure 4 The process model giving an overview of the processes playing a part by the registration of a new variety, the growing of a product and the road to the consumer.

Figure 5 Description of the various actors, playing a role in the production chain.



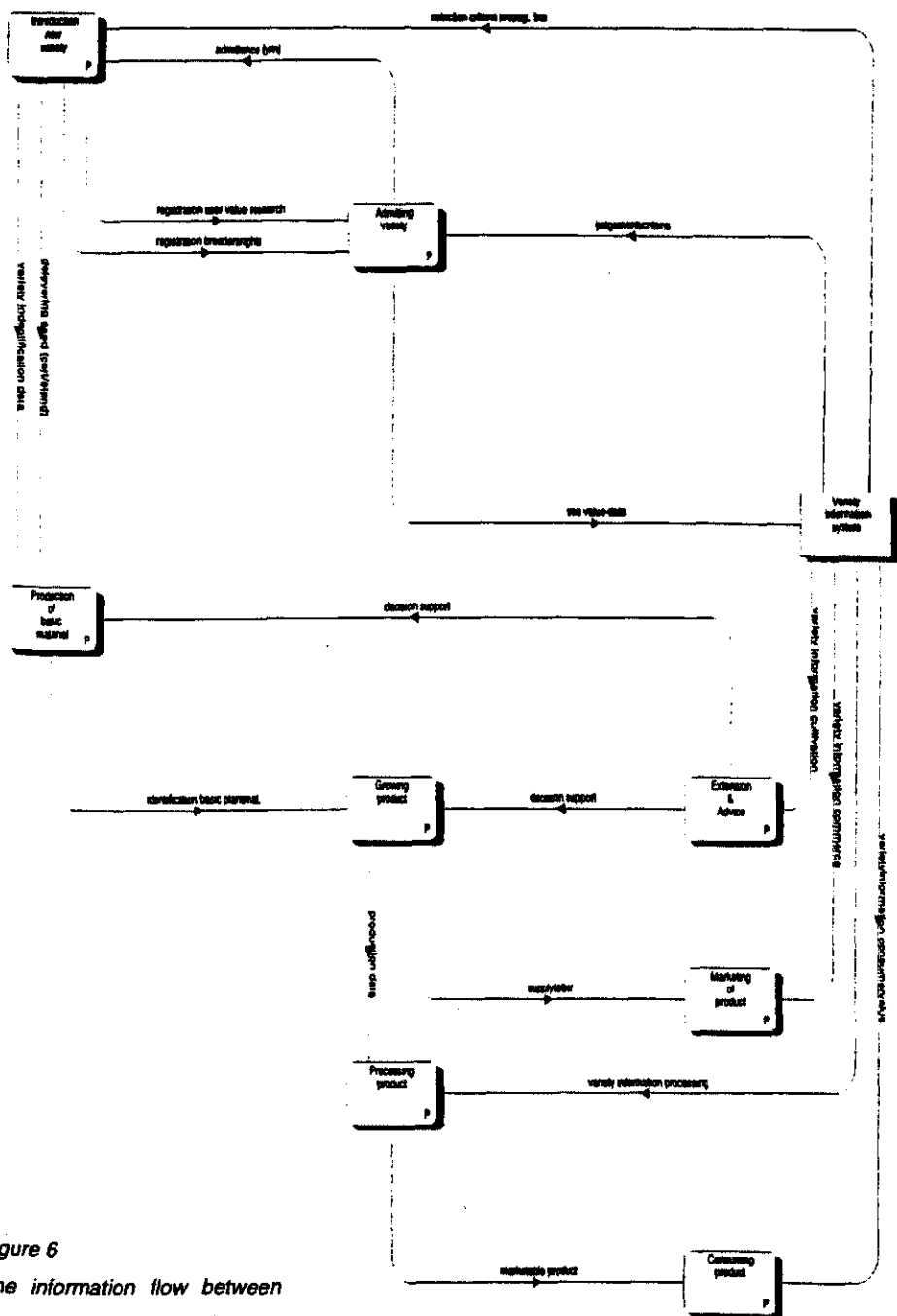


Figure 6
The information flow between
the processes embodying the
chain.

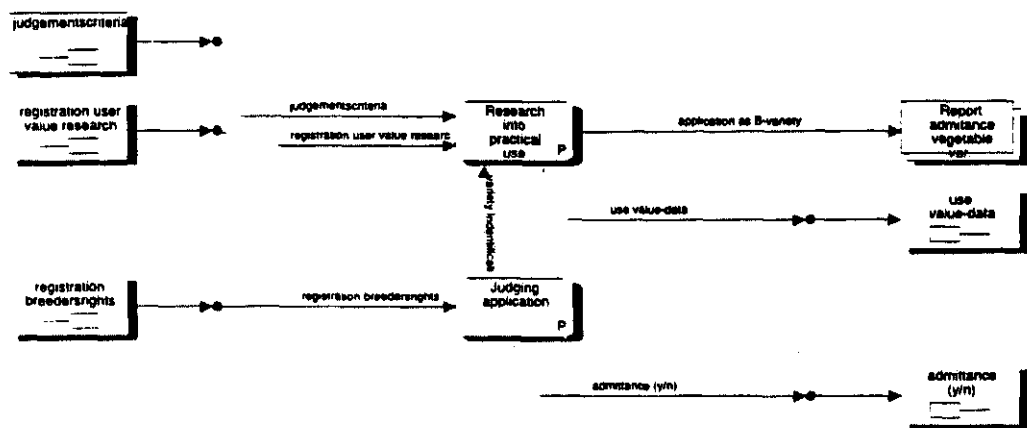


Figure 7 The information flow between the processes embodying the chain.

Appendix 2 Process descriptions

PROCESS Admittance application NRR

Part of : Introduction of a new variety

Last modification : 18-01-1996

Description : The registration of a selection with the goal of free tradability of the product of plantbreeding. The registration in the Nederlands Rassenregister(Dutch register of varieties) takes almost only place after rendering breedersrights. By positive judgement the selection is included in the Dutch register of varieties.

The selection is judged on criteria like:

- distinguishability
- homogeneity
- durability
- novelty

Explanation : -

Needed information flow:

. internal judgement product

Delivered information flow:

. application as b-variety
. production data

PROCESS Advising choice of variety

Part of : Extension & advice

Last modification : 11-12-1995

Description : The variety information system can be used as source of advice for individual growers to choose the most suited variety, that gives the best opportunity for a successful crop and good market sales.

Explanation : -

PROCESS Marketing of product

Last modification : 22-11-1995

Description : Take care that a product becomes available to the consumer

Explanation : The market sales of an arable product is usually done by the collecting commerce, several growers deliver on contract or connected on a co-operative base to the market sales organisations.

Examples of collecting organisations are:

- * for potatoes the potato commerce's firms
- * for vegetables, flowers and pot plants the auctions
- * for pot plants mediation agencies
- * commissioners (for instance onions, pulses etc.)

Needed information flow:

- . variety information commerce
- . supply letter

PROCESS Marketing basic plant material

Part of : Produce basic plant material

Last modification : 28-09-1995

Description : The market sales of basic plant material (vegetative or generative) to the growers.

Explanation : -

PROCESS Aggregation varieties experimental results

Part of : Research practical value
Admitting variety

Last modification : 24-11-1995

Description : The processing of the experimental results of the varieties to qualitative and quantitative information which can be used by the individual market gardeners and the extension service as base, for the choice of a variety for a specific crop.

Explanation : -

PROCESS Judging the application

Part of : Admitting variety

Last modification : 11-12-1995

Description : Judgement of a variety qualifies for admission in the Varietyinformationsystem. The breeding stock has to satisfy several requirements of novelty and autonomy, f.i.:

- * clearly distinguishable from varieties already registered
- * sufficient homogeneity;
- * sufficient durability.
- * novelty

Explanation : -

Needed information flow:

- . registration of breedersrights

Delivered information flow:

- . admittance (Y/N)
- . variety identification data

PROCESS Consuming product

Last modification : 27-09-1995

Description : The consumption of the product.

Explanation : -

Needed information flow:

- . variety information consumer value
- . marketable produce

PROCESS Generation of an advice

Last modification : 11-12-1995

Description : The assessment of a suitable advice based on the available information.

Explanation : -

PROCESS Judging basic plant material

Part of : Produce basic plant material
Last modification : 23-11-1995
Description : The judgment of breedingstock on several quality requirements
Explanation : -

PROCESS Delivering and producing sowing seed

Part of : Introduction new variety

Last modification : 22-05-1995
Description : The deliverance and production of seed for sowing that can be used by the individual farmer or market gardener as basic plant material for his crop
Explanation : -
Needed information flow:
 . productiondata
Delivered information flow:
 . variety identification data
 . deliverance of seed (cert/stand)

PROCESS Developing new varieties

Part of : Introduction of new variety

Last modification : 11-12-1995
Description : The whole process that makes part of the development of new varieties.
Explanation : -
Delivered information flow:
 . internal judgement product

PROCESS Defining judgementscriteria

Part of : Research practical value
 Admitting variety

Last modification : 23-11-1995
Description : The definition of criteria by which the new variety on culture- and use value has to be judged.
Explanation : -

PROCESS Defining variety information system

Part of : Extension & advice

Last modification : 11-12-1995

Description : Those actions related to the deliverance and circulation to third parties of relevant information concerning varieties.

Explanation : -

PROCESS Growing product

Last modification : 24-11-1995

Description : All activities related to the growth of and the harvest of a crop on the primary enterprise.

Explanation : -

Needed information flow:

- . identification basic plant material
- . decision support

Delivered information flow:

- . supply letter
- . production data

PROCESS Granting breedersrights

Last modification : 23-11-1995

Description : Granting breedersrights to protect the new variety against unlawful use by third parties.

Explanation : -

PROCESS Executing variety experiments

Part of : Research practical value
Admitting variety

Last modification : 28-09-1995

Description : The execution of variety experiments to collect data for the cultivation and use value research

Explanation : -

PROCESS Processing product

Last modification : 22-11-1995

Description : The industrial processing of a product.

Explanation : Examples :
industrial potatoes to starch products
wheat to bread
sugarbeet to sugar etc.

Needed information flow:

- . variety information relevant for processing
- . production data

Delivered information flow:

- . marketable product

Appendix 3 Informationflow

INFORMATIONFLOW judgementscriteria

Last modification : 18-01-1996

Description : Criteria by which a registered product of breeding is judged, to have sufficient cultivation and use value to be recommended as a useful variety

Explanation : Until now the attributes of this dataflow have not be defined in detail.

Used :

INFORMATIONFLOW registration use value research

Last modification : 22-05-1995

Description : The actual registration of propagating material/variety for the use value research

Explanation : -

.. Contents :

... Entity type Variety

... Attribute o 403545 Name propagator
o 403546 Name representative
v 403541 Code NRR nr
v 403542 Date NRR
v 403543 Breedersrights Y/N
v 403544 Name applicant

Used :

INFORMATIONFLOW registration breedersrights

Last modification : 12-06-1995

Description : The registration of breeders material with the aim to obtain the breedersrights.

Explanation : -

.. Contents :

... Entity type Variety

... Attribute v 403540 Code breeder

v 403544 Name applicant

v 403547 Status : applied

Used :
towards process Judging application

INFORMATIONFLOW supply letter

Last modification : 12-06-1995

Description : The supply letter is send in together with the product to the auction and contains the following information: name and address of the grower, productinformation crop, type, way of cultivation, amount, type of container

Explanation : -

. . Contents :

. . . Entity type Articlegroup

. . . . Attribute o 400431 Name product
o 400432 Code product
v 401571 Name

. . . Entity type Part of article

. . . . Attribute v 401573 part

. . . Entity type article

. . . . Attribute o 400010 Code product
o 400011 Name product
v 400009 Identification

. . . Relation article -composed HAS ONE OR MORE part of article
part of article IS PART OF an article

. . . Relation articlegroup DISTINGUISHES NO OR MORE article
article BELONGS TO ZERO OF ONE articlegroup

Used :
from process Growing product
towards process Marketing product

INFORMATIONFLOW application as b-variety

Last modification : 18-01-1996

Description : A breedersproduct in the vegetable sector can be admitted to business transactions by registration as a so called b-Variety.

The product has to meet the same criteria, which apply for admittance in the Dutch register of varieties.

Explanation : -

.. Contents :

... Entity type Variety

... Attribute v 403544 Name applicant

v 403547 Status : applied

Used :

from process Admittance application NRR

towards process Decision admittance vegetable varieties

INFORMATIONFLOW application for breedersrights

Last modification : 12-06-1995

Description : The application which is made by a breedingstation for a breeding product to obtain breedersrights.

Explanation : -

.. Contents :

... Entity type Kind of plant

... Attribute v 500499 Scientific name

v 500500 Dutch name

v 500501 Code kind of plant

v 500502 Family name

... Entity type Culture crop

... Attribute v 200079 Code culture crop

v 200997 Description culture crop

v 500767 Name culture crop

v 501233 Id1

... Entity type Variety

... Attribute v 403540 Code breeder

v 403544 Name applicant

v 500336 Name variety

v 500519 Name breeder

v 500520 Code variety

... Relation Kind of plant IS GROWN AS ZERO OF ONE Culture crop

Culture crop IS OF A CERTAIN a Kind of plant

. . . Relation Culture crop KNOWS ONE OR MORE Variety
Variety OF A CERTAIN a Culture crop

Used :

INFORMATIONFLOW decision support

Last modification : 18-01-1996

Description : Data which can be used by the individual farmer or gardener or by the
extension service to advise the individual farmer or gardener.

Explanation : -

. . Contents :

. . . Entity type Variety advice

. . . Entity type Variety

. . . . Attribute v 500521 Price expectation endproduct

. . . Entity type Crop

. . . . Attribute v 400020 Name

v 501461 Name crop

. . . Relation Variety advice GIVES INFORMATION ABOUT a Variety
Variety KNOWS ONE OR MORE Variety advice

. . . Relation Variety IS GROWN AS NO OR MORE crop
Crop GROWTH OF a Variety

Used :

towards process Growing product

INFORMATIONFLOW use value-data

Last modification : 12-06-1995

Description : The data originating from judging varieties. On base of these the decision is
made to grant admittance to variety to the list of varieties.

Explanation : -

. . Contents :

. . . Entity type Variety evaluation

. . . . Attribute v 500930 evaluation

. . . Entity type Variety group

. . . Entity type Variety

. . . . Attribute v 403541 Code NRR nr

v 403543 Breedersrights Y/N

v 500336 Name variety

v 500519 Name breeder

- . . . Relation Variety evaluation IS VALID FOR A PROPERTY OF a Variety
Variety KNOWS NO OR MORE Variety evaluation
- . . . Relation Variety group EXISTS OF ONE OR MORE Variety
Variety BELONGS TO NO OR MORE Variety group

Used :

INFORMATIONFLOW identification basic plant material

Last modification : 12-06-1995

Description : Those data which describe uniquely the basic plant material

Explanation : -

. . Contents :

. . . Entity type Variety per basic plant material

. . . Entity type Variety

. . . . Attribute v 500519 Name breeder

v 500520 Code variety

- . . . Relation Variety per basic plant material GIVES COMBINATION OF a Variety
Variety IS PART OF MIXTURE no or more Variety per basic plant material

Used :

towards process Growing product

INFORMATIONFLOW internal judgement product

Last modification : 18-01-1996

Description : The internal judgement of a variety selection on a breeding station.

Explanation : -

Used :

from process **Developing new varieties**

towards process Admittance application NRR

INFORMATIONFLOW delivering seed (cert/stand)

Last modification : 24-11-1995

Description : The delivering of certified of standard seed to a firm (or firm unit) where the seed is propagated till basic plant material for the actual cropping.
The propagation of the basic plant material usually takes place on special breeding stations.

Explanation : Examples of basic plant material are: planting material propagated from seed (f.i. tomatoes-, cucumber plants, in vitro propagation of ferns) which are propagated on special propagation enterprises. * planting material vegetatively multiplied: f.i. seedpotatoes, chrysanthemus cuttings, in vitro propagation of f.i. gerberaplants.

.. Contents :

.. . Entity type Variety

.. . . Attribute o 401550 UPK
v 403540 Code breeder
v 403541 Code NRR nr
v 403542 Date NRR
v 403543 Breedersrights Y/N
v 500519 Name breeder
v 500520 Code variety

.. . Entity type Kind of plant

.. . . Attribute v 500328 Description lifecycle
v 500329 Length lifecycle
v 500500 Dutch name
v 500501 Code kind of plant
v 501231 Id2

.. . Entity type Culture crop

.. . . Attribute v 200079 Code culture crop
v 200997 Description culture crop
v 500767 Name culture crop

.. . Relation Kind of plant IS DEVIDED IN NO OR MORE Variety
Variety IS FURTHER SUBDIVISION OF a Kind of plant

.. . Relation Kind of plant IS GROWN AS ZERO OF ONE Culture crop
Culture crop IS OF A CERTAIN a Kind of plant

. . . . Relation Culture crop IS GROWN OF one or more Kind of plant
Kind of plant GROWN AS no or more Culture crop

Used :

from process Delivering and producing sowing seed

INFORMATIONFLOW Production Data

Last modification : 22-05-1995

Description : -

Explanation : -

Used :

from process Admittance application NRR

towards process Delivering and producing sowing seed

INFORMATIONFLOW variety data

Last modification : 26-04-1995

Description : -

Explanation : -

. . Contents :

. . . Entity type Variety

. . . . Attribute v 403540 Code breeder
v 403541 Code NRR nr
v 403542 Date NRR
v 403544 Name applicant
v 500336 Name variety
v 500337 Description variety
v 500519 Name breeder
v 500520 Code variety

. . . Entity type Kind of plant

. . . . Attribute v 500499 Scientific name
v 500500 Dutch name
v 500501 Code kind of plant

. . . Entity type Culture crop

. . . . Attribute v 200079 Code culture crop
v 200997 Description culture crop

v 500767 Name culture crop
 . . . Relation Culture crop KNOWS ONE OR MORE Variety
 Variety IS OF A CERTAIN Culture crop
 . . . Relation Kind of plant IS GROWN AS ZERO OF ONE Culture crop
 Culture crop IS OF A CERTAIN a Kind of plant
 Used :

INFORMATIONFLOW variety identification data

Last modification : 27-04-1995
 Description : Data which uniquely identify the concerning variety
 Explanation : -
 . . Contents :
 . . . Entity type Variety
 Attribute o 403545 Name propagator
 o 403546 Name representative
 v 403540 Code breeder
 v 403541 Code NRR nr
 v 403542 Date NRR
 v 403543 Breedersrights Y/N
 v 500336 Name variety
 v 500337 Description variety
 v 500519 Name breeder
 v 500520 Code variety
 . . . Entity type Culture crop
 Attribute v 200079 Code culture crop
 v 200997 Description culture crop
 v 500767 Name culture crop
 . . . Relation Culture crop KNOWS ONE OR MORE Variety
 Variety OF A CERTAIN a Culture crop
 Used :
 from process Delivering and producing sowing seed
 from process Judging application

INFORMATIONFLOW variety information consumer value

Last modification : 27-09-1995

Description : -

Explanation : -

.. Contents :

... Entity type Variety evaluation

... Entity type Variety

... Relation Variety evaluation IS VALID FOR A PROPERTY OF a Variety
Variety KNOWS NO OR MORE Variety evaluation

Used :

towards process Consuming product

INFORMATIONFLOW variety information commerce

Last modification : 27-09-1995

Description : Normative properties of a variety who determine that the grown products are suited or not for a specific market segment. The grower determines which varieties he considers suited for a certain goal of cultivation.

Explanation : -

.. Contents :

... Entity type Variety evaluation

... Entity type Variety

... Entity type Variety property identification

... Entity type Variety property consumer

... Entity type Variety property market sales/processing

... Relation Variety evaluation IS VALID FOR A PROPERTY OF a Variety
Variety KNOWS NO OR MORE Variety evaluation

Used :

towards process Marketing product

INFORMATIONFLOW variety information related to processing

Last modification : 27-09-1995

Description : -

Explanation : -

.. Contents :

- .. . Entity type Variety evaluation
- .. . Entity type Variety
- .. . Entity type Variety property market sales/processing
- .. . Relation Variety evaluation IS VALID FOR A PROPERTY OF a Variety
Variety KNOWS NO OR MORE Variety evaluation
- .. . Relation Variety evaluation IS VALID FOR a Variety property market
sales/processing
Variety property market sales/processing KNOWS ONE OR MORE
Variety evaluation

Used :

towards process Processing product

INFORMATIONFLOW variety information related to cultivation

Last modification : 27-09-1995

Description : The data of a variety on which the individual grower bases a choice for a certain variety this in keeping with his cropping system and cultivation conditions.

Explanation : -

.. Contents :

- .. . Entity type Way of cultivation
- Attribute v 500384 Plant number
v 500385 Plant spacing
- .. . Entity type Variety evaluation
- Attribute v 500930 evaluation
- .. . Entity type Variety property per way of cultivation
- .. . Entity type Variety property per variety per way of cultivation.
- .. . Entity type Variety
- Attribute v 403541 Code NRR nr
v 403542 Date NRR
- .. . Relation Variety property per way of cultivation OF IMPORTANCE TO a Way of
cultivation
Way of cultivation KNOWS NO OR MORE Variety property per way of
cultivation

.Relation Variety property per way of cultivation IS VALID FOR VARIETY ONE OR MORE Variety property per Variety per cultivation.
Variety property per Variety per cultivation. IS VALID FOR VARIETY PROPERTY a Variety property per way of cultivation

. . . Relation Variety evaluation IS VALID FOR A PROPERTY OF a Variety
Variety KNOWS NO OR MORE Variety evaluation

. . . Relation Variety property per Variety per cultivation. IS VALID FOR a Variety
Variety KNOWS ONE OR MORE Variety property per Variety per way of cultivation.

Used :

INFORMATIONFLOW selection criteria propagation firm

Last modification : 27-09-1995

Description : Variety properties which are used by the propagation firm as selection criteria in the process of propagation.

Explanation : -

. . Contents :

. . . Entity type Way of cultivation

. . . Entity type GOAL OF CULTIVATION

. . . Entity type Variety property per way of cultivation

. . . Relation Variety property per way of cultivation OF IMPORTANCE TO
a Way of cultivation
Way of cultivation KNOWS NO OR MORE Variety property per way of cultivation

. . . Relation goal of cultivation IS PART OF NO OR MORE Way of cultivation
Way of cultivation KNOWS NO OR MORE Goal Of Cultivation

Used :

INFORMATIONFLOW cultivation and -seeding calendar

Last modification : 11-12-1995

Description : The cultivation- and seeding calendar gives information about the seeding-, planting- and harvesting time, the expected yield per 100m², the seeding-planting distance in cm, the number of plants per 100m²

Explanation : -

- Attribute v 401573 part
- Entity type article
- Entity type Variety property consumer
- Relation article -composed HAS ONE OR MORE article parts
article part IS PART OF an article

Used :

- from process Processing product
- towards process Consuming product

INFORMATIONFLOW production data

Last modification : 12-06-1995

Description : Cropping Data which for the processing of the product are relevant.

Explanation : -

. . Contents :

- . . . Entity type article

- Attribute o 400010 Code product
o 400011 Name product
v 400009 Identification
v 400012 Code containers

- . . . Entity type Batch

- Attribute o 400001 Specification day start
o 400002 Year number start
o 400004 Week number start
v 400003 Number of items

- . . . Entity type Crop

- Attribute v 400020 Name
v 400021 Variety name

- . . . Relation Batch BELONGS TO a Crop
Crop DESCRIBES NO OR MORE Batch

Used :

- from process Growing product
- towards process Processing product

Appendix 4 Description of the Entity type

ENTITY TYPE **article**

Last modification : 13-10-1989

Description : A plant or part of a plant (leaf, flower, fruit, bulb of tuber) originating of a farm and prepared for the market.

Explanation : The attributes 'name product' and 'code product' are optional attributes of Entity type article. These attributes are filled out only if the relation with the Entity type articlegroup are not applicable. In case they are applicable these attributes can be filled out by the Entity type articlegroup.

Key 1 :

. Attribute : v N 7.0 400009 Identification

The following set of relations are mutually exclusive (ex1 article) :

.Relation: article supertype ZERO OF ONE article cut flowers

.Relation: article supertype ZERO OF ONE article vegetables

.Relation: article supertype ZERO OF ONE article flowerbulbs

.Relation: article supertype ZERO OF ONE article pot plants

Attributes : o N 7.0 400010 Code product

 o AN 40 400011 Name product

 o AN 60 400014 Name container

 o N 4.2 400015 Quality product

 o AN 120 400411 Remarks about article

 o AN 60 402716 Description container

 v N 7.0 400009 Identification

 v N 7.0 400012 Code containers

 v N 6.0 400013 Number per unit containers

Relations :

~~++ composed has~~
~~++ is part of ++~~ Part of article

~~++ is supertype~~
~~++ is subtype of +~~ article flowerbulbs

~~+ is supertype~~
~~+ is subtype of o~~ article pot plants

~~exists of~~
~~leads to~~ Variety
~~belongs to~~
~~distinguishes~~ articlegroup
~~is supertype~~
~~is subtype of~~ article cut flowers
~~is supertype~~
~~is subtype of~~ article vegetables
~~is supertype of~~
~~is subtype of~~ article arable crops

Used in INFORMATIONFLOW:

supply letter
 marketable product
 production data

ENTITY TYPE article arable crops

Last modification : 18-01-1996

Description : An arable product originating of the farm and prepared for the market

Explanation : This Entity type is a subtype of Entity type article.

Relations :

~~is subtype of~~
~~is supertype of~~ article

Used in INFORMATIONFLOW

ENTITY TYPE article flowerbulbs

Last modification : 13-12-1995

Description : A flowerbulb originating of the firm and prepared for the market

Explanation : This Entity type is a subtype of Entity type article.

Key :

Used in INFORMATIONFLOW:

Used in INFORMATIONFLOW:

Description : A potplant originating of the firm and prepared for the market

Explanation : This Entity type is a subtype of Entity type article.

Key :

. Relation :

. v N 7.0 400009 Identification
(article)

Attributes : o N 5.2 400422 length/width
o N 2.0 400423 potsize
o AN 40 400424 potvariety
o N 6.0 400425 cuttings per pot
o N 6.0 400426 shoots per plant
o N 6.0 400427 buds/flowers per plant
o N 5.0 400428 age
o AN 60 400429 degree of root development

Relations :

~~+~~ ~~o~~ ~~is subtype of~~ ~~+~~ article
~~is supertype~~ ~~++~~

Used in INFORMATIONFLOW:

ENTITY TYPE **article cut flowers**

Last modification : 13-10-1989

Description : cut flowers -plantparts (flower, leaf) originating of the firm and
prepared for the market

Explanation : This Entity type is a subtype of Entity type article.

Key :

. Relation :

v N 7.0 400009 Identification
(article)

Attributes o N 5.2 400417 stem length
o N 6.0 400418 number buds
o A 1 400419 preliminary treatment
o N 3.0 400420 stalk weight

o AN 120 400421 state of ripeness

Relations :

~~+o is subtype of~~
~~is supertype ++~~ article

Used in INFORMATIONFLOW:

ENTITY TYPE **Part of article**

Last modification : 01-07-1992

Description : The part of an article as prepared for the market in an article composed.

Explanation : -

Key 1 :

. Relation :

v N 7.0 400009 Identification
(article)

v A 15 500336 Name variety
(Variety)

v A 6 500501 Code kind of plant
(Kind of plant)

Attributes : v 0 401573 part

Relations :

~~+o is related to~~
~~is part of ++~~ Variety

~~++ is part of ++~~ article
~~-composed has~~

Used in INFORMATIONFLOW:

supply letter

marketable product

ENTITY TYPE **articlegroup**

Last modification : 24-06-1992

Description : The total of articles which can be harvested from one crop at the same time.

Explanation : Certain data are recorded at the level of articles (container e.d.).

There are also data which are known or are relevant at the articlegroup level. For instance the production of a tomatocrop can not be planned per possible article, but to a degree as a total articlegroup (number of kg tomatoes).

If there exists a relation between article and articlegroup, than the attributes name product and code product are filled in only at the articlegroup.

Key 1 :

Attribute : v AN 40 401571 name

Attributes : o AN 40 400431 Name product
o N 7.0 400432 Code product
v AN 40 401571 name

Relations :

Used in INFORMATIONFLOW:

supply letter

ENTITY TYPE **Culture crop**

Last modification : 25-08-1993

Description : Group of culture plants which are grown as a crop in the Netherlands and who form an unity because of common properties.

Explanation : See PAGV report nr. 82 and LBO report nr. 70.

Key 1 :

Attributes : v N 4.0 200079 Code culture crop
v A 100 200997 Description culture crop
v A 30 500767 Name culture crop
v 501233 Id1

Relations :

is the cultivation of cultivated as	Kind of plant
knows of a certain	Variety
cultivated according to for the cultivation of	Way of cultivation
can be grown according to is valid for	Way of cultivation
describes cultivation of cultivated according to	Variety
is part of knows	Culture crop per group
is of specific is cultivated as	Kind of plant
exists of is part of	Varietygroup
knows of importance to	Variety property per Culture crop

Used in INFORMATIONFLOW:

application for breedersrights
variety data
cropping and -seeding calendar
delivery seed (cert/stand)
variety identification data

ENTITY TYPE **Culture crop per group**

Last modification 02-11-1993

Description Crosstable between culture crops and groups of culture crops.

Explanation -

Relations -

	knows	Culture crop
ENTITY TYPE	part of	Crop

Last modification : 05-06-1992

Description : Allocatable collection of culture plants grown on one or more fields and which can be considered in relation to planning and registration as an unity.

Explanation : A crop comes into being in the administration as soon as one or more fields are reserved for the crop. With other words as soon as the Entity type VELDBESLAG (field occupation of a crop) for a certain crop is filled in. This offers the possibility to take account of the crop which will be grown on a field at seeding-, plantingtime or at plantbedpreparation

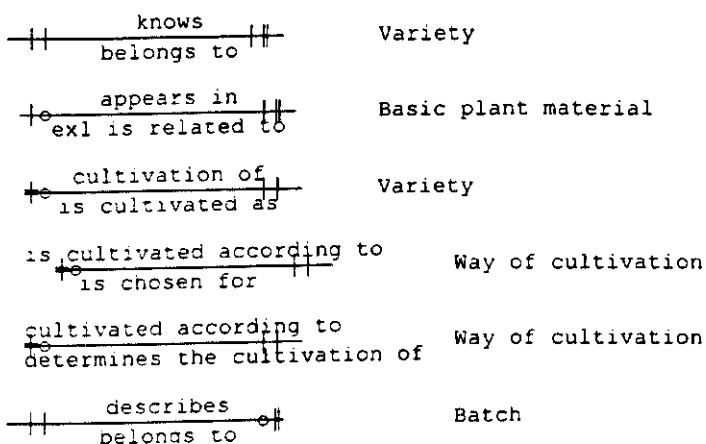
occupied

Key 1 :

.Attribute : v AN 40 400020 Name
v N 6.0 500215 Number crop

Attributes : v AN 40 400020 Name
v AN 60 400021 Variety name
v A 100 500146 Description
v N 6.0 500215 Number crop
v 501160 Id1
v A 30 501461 Name crop

Relations :



Used in INFORMATIONFLOW:

production data

decision support

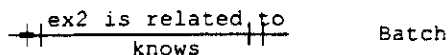
ENTITY TYPE Crop condition

Last modification : 27-06-1994

Description : A registered, whether or not measurable, random indication of (a part of) the plant in a batch, considering the external or measured properties.

Explanation : After discussion over the difference between the concepts "crop condition" and "crop stadium", "crop stadium" is placed as an attribute of the entity type "crop condition". Crop condition of the plant describes the physiologic and pathologic condition of the plant. Remarks of registrations in regard to the crop condition concern water gift, crop husbandry crop protection, fertilisation, market sales and climate control.

Relations :



ENTITY TYPE Batch

Last modification : 13-10-1989

Description : Uniform group of seedlings, cuttings, bulbs, tubers or plants of a variety or cultivar/variety which in the same period started growth and are cultivated in a similar way.

Explanation : the phase of cultivation of a batch, is described in the cultivation system, because in here also the plant spacing is described.

Key 1 :

.Attribute : v N 2.0 400375 identification

Attributes :

- o D 8 400001 Specification day start
- o N 4.0 400002 Year number start
- o N 2.0 400004 Week number start
- o AN 40 400377 name potttype/container type
- o AN 40 400378 name rooting medium

o AN 40 400379 name supporting material

v N 6.0 400003 Number of items

v N 2.0 400375 identification

Relations :

to belongs to
describes

Crop

knows
ex2 is related to

Crop condition

Used in INFORMATIONFLOW:

marketable product

production data

ENTITY TYPE **Kind of plant**

Last modification : 07-10-1993

Description : Group of plants with similar properties concerning the plant
systematic.

Explanation :

For a extended explanation see PAGV report nr. 82 of LBO report nr. 70.

(Classificatievoorstellen, cultuur gewassen, rasgroepen en teeltvormen).

Key 1 :

.Attribute : v A 6 500501 Code kind of plant

Attributes : v A 250 500327 Legal standards
v A 500 500328 Description lifecycle
v A 1 500329 Length lifecycle
v A 30 500499 Scientificname
v A 50 500500 Dutch name
v A 6 500501 Code kind of plant
v A 30 500502 Family name
v 500629 Id1
v A 1 501128 Monocotyl/dicotyl
v 501231 Id2

Relations :

is classified in is further subdivision of	Variety
is cultivated as is of specific	Culture crop
cultivated as is the cultivation of	Culture crop
belong to exists of	Varietygroup

Used in INFORMATIONFLOW:

application for breedersrights
variety data
delivery seed (cert/stand)

ENTITY TYPE **Variety**

Last modification : 13-10-1989

Description : Botanical terms for a taxonomic unit within a Culture crop. The taxonomic unit is of importance to man based on morphologic, physiologic of other properties which are of importance for the cultivation in agriculture, horticulture or in forestry, selected and generatively or vegatively are maintained. (Commission Terminology of the "Nederlandse Planteziektenkundige Vereniging")

A culture crop belonging to a group of plants, which for cultivation purposes can be viewed as an independent unit. (Dutch sowing seed and planting material law)

Explanation :

Synonym for VARIETY is CULTIVAR.

Key 2 :

.Attribute : v A 15 500336 Name variety

.Relation :

v A 6 500501 Code kind of plant
(Kind of plant)

Attributes : o AN 40 400018 name supplier variety
o AN 60 401550 UPK

material gives a combination of	Variety per basic plant
per cult. goal knows is valid for	Varietyproperty per Variety
is part of is related to	Part of article

Used in INFORMATIONFLOW:

application for breedersrights
 variety data
 application as b-Variety
 use value-Data
 variety information related to cultivation
 cultivation and -seeding calendar
 delivery seed (cert/stand)
 identification basic plant material
 variety identification data
 registration breedersrights
 admittance (Y/N)
 registration use value research
 decision support
 variety information commerce
 variety information in relation to processing
 variety information consumer value

ENTITY TYPE **Variety per basic plant material**

Last modification : 19-06-1990

Description : Indicates which varieties belong to a certain batch basic plant material

Explanation : -

Relations :

gives a combination of	Variety
appears in mixture	

Used in INFORMATIONFLOW:

identification basic plant material

ENTITY TYPE Variety advice

Last modification : 11-10-1989

Description : Advice related to the use of a certain variety as basic plant material for cultivating a crop.

Explanation : -

Key 1 :

. Relation :

- . v A 15 500336 Name variety
(Variety)
- .. v A 6 500501 Code kind of plant
(Kind of plant)

Relations :

~~gives information on over~~
~~knows~~ Variety

Used in INFORMATIONFLOW:

decision support

ENTITY TYPE Variety property per variety per cultivation.

Last modification : 22-08-1991

Description : Indicates which variety properties of a certain variety are of importance to a specific way of cultivation.

Explanation : -

Relations :

~~is valid for~~
~~knows~~ Variety

~~is valid for variety property~~
~~is valid for variety~~ variety property per way of cultivation

Used in INFORMATIONFLOW

variety information related to cultivation

ENTITY TYPE Variety property market sales/processing

Last modification : 25-09-1995

Description : A variety property which is of importance to the processing of the harvested product.

Explanation : -

Attributes : o N 1.0 403548 malting quality (barley)
 o N 1.0 403549 bread-making quality.
 o N 1.0 403550 suitability canning industry.
 o N 1.0 403551 suitability fresh consumption
 o N 1.0 403552 suitability processing fodder

Relations :



Used in INFORMATIONFLOW:

variety information commerce
variety information in relation to processing

ENTITY TYPE Variety property consumer

Last modification : 25-09-1995

Description : A variety property which is of importance to the consumer by his judgement and choice of a specific product.

Explanation : -

Attributes : o N 1.0 403553 aroma
 o N 1.0 403554 shelf life/vase life.
 o N 1.0 403555 taste
 o AN 40 403556 external properties

Used in INFORMATIONFLOW:

marketable product
variety information commerce

ENTITY TYPE Variety property identification

Last modification : 25-09-1995

Description : A property of a variety important for the identification of the concerning variety.

Explanation : -

Attributes : o AN 60 403557 electrophorese pattern
 o AN 120 403558 sprout (potatoes)
 o AN 40 403559 taxonomic properties

Used in INFORMATIONFLOW:

variety information commerce

ENTITY TYPE Variety property per Culture crop

Last modification : 13-12-1995

Description : -

Explanation : -

Relations :

~~to~~ ~~of importance to~~ ~~knows~~ ~~to~~ Culture crop

Used in INFORMATIONFLOW:

ENTITY TYPE Variety property per way of cultivation

Last modification : 12-07-1989

Description : Indicates which properties of varieties are of importance by the choice of a variety for a way of cultivation.

Explanation : -

Attributes : v 501379 Id1

Relations :

~~to~~ ~~of importance to~~ ~~knows~~ ~~to~~ way of cultivation

~~is valid for variety~~
~~is valid for variety~~
~~property~~

Varietyproperty per Variety per
cult. goal.

Used in INFORMATIONFLOW:

variety information related to cultivation
selection criteria propagation firm

ENTITY TYPE Variety property cultivation

Last modification : 25-09-1995

Description : A property of a variety of importance to the cultivation of the
concerning crop.

Explanation : -

Attributes : v AN 30 403560 Variety property cultivation

ENTITY TYPE Variety group

Last modification : 11-10-1989

Description : Selection of several varieties which distinguish by one or more
common properties.

Explanation : -

Relations :

+e	exists of		Variety
	belongs to		
+e	is part of		Culture crop
	exists of		
+e	exists of	e	Kind of plant
	belong to		

Used in INFORMATIONFLOW:

use value-Data

ENTITY TYPE **Variety appreciation**

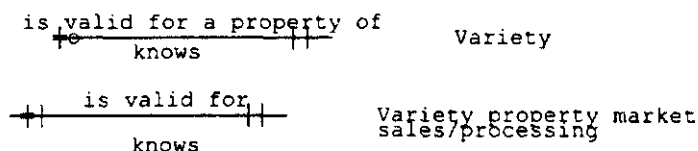
Last modification : 11-12-1995

Description : The appreciation of a property of variety for a certain variety.

Explanation : In the model a entity type has been reserved for Variety properties.
The same variety properties are present by various differing varieties but can be appreciated differently per variety. A solution is found by the construct 'Variety - Variety evaluation - Variety property - property per Variety'.

Attributes : v A 25 500930 Appreciation
v 501247 Id1

Relations :



Used in INFORMATIONFLOW:

use value-Data
variety information related to cultivation
variety information commerce
variety information in relation to processing
variety information consumer value

ENTITY TYPE **GOAL OF CULTIVATION**

Last modification : 25-08-1993

Description : The goal for cultivating a certain crop. For instance : consumption, seed material, green manure etc.

Explanation : -

Key 1 :

Attribute : v N 1.0 502374 Code GOAL OF CULTIVATION

v N 6.0 502019 Code cult.crop/cultivation
v N 1.0 502380 Registr/control
v N 1.0 502382 Early/late cultivation

Relations :

is choosen for wordt cultivated according to	Crop
determines the cultivation of cultivated according to	Crop
belongs to knows	Variety
for the cultivation of cultivated according to	Culture crop
is valid for be grown according	Culture crop
knows of importance to	Variety property per way of cultivation
knows is part of	GOAL OF CULTIVATION

Used in INFORMATIONFLOW:

variety information related to cultivation
selection criteria propagation firm

ENTITY TYPE **Basic plant material**

Last modification : 13-10-1989

Description : Sorted material (seed, cutting, bulb of tuber) that originates of seed-,
motherplants of tissue culture, that eventually is yielded in the in the
production phase as by-product and serves as starting material for the
propagation-, breeding-, treatment- or production phase.

Explanation : -

Relations :

ex1 is related to appears in	Crop
ex1 is related to appears in	Variety

Appendix 5 Description of the attributes

date rapport	:	05/02/96
name rapport	:	d.d. textformat;
selection	:	elements in usergroup. nr : [64] ([]=all) inclusive elements with status D (deleted)? [N]
Explanation	:	
ddnr	:	dd-number the number by which a element uniquely is defined within ADED.
name	:	name of the dd-number Standard the abbreviated name is printed (30 positions) When the complete name is printed this is indicated with an asterisk (*) on position 80.
form	:	format of the dd-number inclusive width of the field and resolution
unit	:	unit of the dd-number
mnmx	:	minimum value or maximum value the dd-number could become
def.	:	definition
expl.	:	Explanation this field contains sometimes a short codelist
code	:	code Y/N Field indicating if the dd-number has a code list. (as yet not filled)
clst	:	Indication of codelist when a dd-number uses an extended codelist, reference is made to a separate code list. (as yet not filled)
Recog	:	the Informationmodel or project where the dd-number has been defined for the first time.
Ent.	:	Entity type the original Entity type where the dd-number is defined in a Informationmodel
stat	:	status of the dd-number
Status A	:	definitive; format and definition of the element are fixed
Status B	:	preliminary; format and definition still could be changed
Status D	:	expired; the element is not maintained any more. Expired elements stay for a number of years in ADED with status D before being deleted

mut. : mutation date
 date The last time when an element has been maintained
 Used : is used in
 enumeration of the events of informationmodels where the dd-number is reported

ddnr : 000000
name : Designation datadictionary
form : AN 8,0
unit :
mnmx : tot
def. : Identification of the type of datadictionary which is used in the exchange file.
expl. : "DD" : Datadictionary with DD-numbers of 6 positions numeric. In the file each dd-number is preceded by two zeros
 "ID" : Datadictionary with identifiers of 8 positions hexadecimal. This is used in the mobile electronics used for the CAN-bus.
code : N
clst :
Recog : for various goals
Ent. :
stat : A
mut. : 20/11/95
Used : 000027 Type of weather
 010001 Maximal header event
 120001 Header
 120002 Relocation-message
 140000 Header
 190010 Basis
 201837 Event header dairy
 201861 Header Standardcoupling 2.0
 202670 Event header
 202850 Event header EDI-Mineral
 203648 Event header I&R
 203650 Event Header
 219000 Engl.def. dairyfarming.

219001 Stand.coupl. cattle. Engl.
 401001 Variety information and identification
 510001 Header coupling BC-MIS
 510050 Header message from MIS
 510100 Subjectarea field
 510341 Header Meteomessage
 510600 Potato Informationsystem
 510601 Fertilizer research soil
 519999 Open cultivation - general
 520011 Standardcoupling version 2.0
 520013 VeeNET NRS
 520015 VeeNET Milkcontrol
 520018 EDIdairy (total)
 520019 EDI DAP
 705000 Tmp

ddnr : 200079
name : Code Culture crop
form : N 4,0
unit :
mnmx : -
def. : Countrywide agreed unique code of a Culture crop.
expl. : See standardcodes Culture crops and ways of cultivation ATC.
<<on 1/3/94 width of the field extended from 3 to 4 by PdJ/CG>>
code : J
clst :
Recog : Dairyfarming
Ent. : Culture crop
stat : A
mut. : 22/09/95
Used : 401001 Variety information and identification
 510055 Nitrogen research
 510057 Executed cultivation
 510058 Used basic plant material
 510400 Crop protection knowledge base

510630 Cultivation data table potato .
510699 IVA
519999 Open cultivation - general
520001 Informationmodel dairyfarming
520002 Informationmodel sheepfarming
520003 Informationmodel mineralbook

ddnr : 200997
name : Description Culture crop
form : A 100,0
unit :
mnmx : -
def. : Short description of a culture crop.
expl. :
code :
clst :
Recog : Dairyfarming
Ent. : Culture crop
stat : B
mut. : 12/11/92
Used : 401001 Variety information and identification
510500 Mineral bookkeeping
519999 Open cultivation - general
520001 Informationmodel dairyfarming
520002 Informationmodel sheepfarming
520003 Informationmodel mineralbook

ddnr : 400001
name : date_start
form : D 8,0
unit : jjjjmmdd
mnmx : -
def. : The date when the concerning cultivation is started.
expl. : Synonym : plantdate
code :

clst :
 Recog : Informationmodel Horticulture
 Ent. : Batch
 stat : A
 mut. : 25/07/94
 Used : 001471 MBR
 401001 Variety information and identification
 410001 Cluster GWB
 410002 Infomodel Horticulture
 410003 Cluster Climate
 410005 Cluster planning
 410010 GWBR-MBT1
 410013 Costprice potplants

ddnr : 400002
 name : yearnumber start
 form : N 4,0
 unit : jiji
 mnmx : -
 def. : The designation of the year when the cultivation has started.
 expl. : no remark
 code :
 clst :
 Recog : Informationmodel Horticulture
 Ent. : Batch
 stat : B
 mut. : 20/07/94
 Used : 401001 Variety information and identification
 410001 Cluster GWB
 410002 Infomodel Horticulture
 410003 Cluster Climat
 410005 Cluster planning
 410013 Costprice potplants

ddnr : 400003
name : number of items
form : N 6,0
unit :
mnmx : -
def. : The size of a batch pot plants or bulbs/tubers notated in plants or planted units (pots, containers), in the actual situation.
expl. : This attribute is mentioned only if the number of items deviates from what is mentioned by cultivationssystem.
code :
clst :
Recog : Informationmodel Horticulture
Ent. : Batch
stat : B
mut. : 28.09/94
Used : 401001 Variety information and identification
 410001 Cluster GWB
 410002 Infomodel Horticulture
 410003 Cluster Climat
 410005 Cluster planning
 410013 Cost price pot plants

ddnr : 400004
name : Weeknumber
form : N 0,0
unit :
mnmx : -
def. : Designation of the Calendar week where the concerning date belongs to.
expl. : no remark
code :
clst :
Recog : Informationmodel Horticulture
Ent. : Batch
stat : B

mut. : 03/11/93
Used : 401001 Variety information and identification
410001 Cluster GWB
410002 Infomodel Horticulture
410003 Cluster Climat
410005 Cluster planning
410013 Costprice potplants

ddnr : 400009
name : identification
form : N 7,0
unit :
mnmx : -
def. : An unique designation within the firm for a plant of plantpart of a certain grading and quality class, if needed with a characteristic container and preliminary treatment.
expl. : no remark
code :
clst :
Recog : Informationmodel Horticulture
Ent. : article
stat : B
mut. : 29/06/94
Used : 401001 Variety information and identification
410002 Infomodel Horticulture
410005 Cluster planning
410013 Costprice potplants

ddnr : 400010
name : code product
form : N 7,0
unit :
mnmx : -
def. : Code for the product as used in the commercial channel. In this code the difference becomes apparent between varieties and cultivars/varieties.
expl. : 1 =SIVAK, code Culture crop

2 =
3 = VAR-B code
4 = CBT product identification codes
5 =
6 =
7 = VBN code of article

code : J
clst :
Recog : Informationmodel Horticulture
Ent. : article
stat : A
mut. : 20/09/95
Used : 001471 MBR
401001 Variety information and identification
410002 Infomodel Horticulture
410005 Cluster planning
410010 GWBR-MBT1
410011 GWBR-MBT2
410013 Costprice potplants
510600 Potato informationsystem

ddnr : 400011
name : name product
form : AN 40,0
unit :
mnmx : -
def. : The name which belongs by the product identification codes as used op auctions or in
a sales channel.
expl. : no remark
code :
clst :
Recog : Informationmodel Horticulture
Ent. : article
stat : B
mut. : 29/06/94

Used : 001471 MBR
401001 Variety information and identification
410002 Infomodel Horticulture
410005 Cluster planning
410013 Costprice potplants
510600 Potato Informationsystem

ddnr : 400012
name : code containers
form : N 7,0
unit :
mnmx : -
def. : Code for the type of containers as known in the commercial channel.
expl. : no remark
code : J
clst :
Recog : Informationmodel Horticulture
Ent. : article
stat : A
mut. : 20/09/95
Used : 001471 MBR
400013 Delivery note
400014 Certificate of reception
401001 Variety information and identification
410002 infomodel Horticulture
410005 Cluster planning
410013 Costprice potplants

ddnr : 400013
name : number per unit containers
form : N 6,0
unit :
mnmx : -
def. : The number of items to fill a container with.
expl. : no remark

code :
clst :
Recog : Informationmodel Horticulture
Ent. : article
stat : B
mut. : 03/11/93
Used : 401001 Variety information and identification
410002 Infomodel Horticulture
410005 Cluster planning
410013 Costprice potplants

ddnr : 400014

name : container

form : AN 60,0

unit :

mnmx : -

def. : The name of the material of the containers used to pack an unit of the product.

expl. : Possible attribute values :- PE foil,
- preprinted cover,
- etc.

Explanation: By unit is meant number or bundle depended on the type of product

code :
clst :
Recog : Informationmodel Horticulture
Ent. : article
stat : B
mut. : 03/11/93
Used : 001471 MBR
401001 Variety information and identification
410002 Infomodel Horticulture
410005 Cluster planning
410013 Costprice potplants

ddnr : 400015

name : Quality product

form : N 4.2

unit :

mnmx : -

def. : A number by the market salesorganisation or buyer described obliged requirements of the product and if the requirements are satisfied obtains the product a quality designation

expl. : code list :
VBN/PVS/CBT/PGF

code :

clst :

Recog : Informationmodel Horticulture

Ent. : article

stat : B

mut. : 03/11/93

Used : 001471 MBR
401001 Variety information and identification
410002 Infomodel Horticulture
410005 Cluster planning
410013 Costprice potplants

ddnr : 400016

name : name

form : AN 40.0

unit :

mnmx : -

def. : The name which belongs to the code per Variety, as used within the firm and for operational goals

expl. : no remark

code :

clst :

Recog : Informationmodel Horticulture

Ent. : Variety

stat : B
mut. : 03/11/93
Used : 401001 Variety information and identification
410001 Cluster GWB
410002 Infomodel Horticulture
410004 Enterprise comp. Chrysantemusgrowth

ddnr : 400017
name : Description
form : AN 300,0
unit :
mnmx : -
def. : The description of the variety.
expl. : no remark
code :
clst :
Recog : Informationmodel Horticulture
Ent. : Variety
stat : B
mut. : 03/11/93
Used : 401001 Variety information and identification
410001 Cluster GWB
410002 Infomodel Horticulture

ddnr : 400018
name : name supplier variety
form : AN 40,0
unit :
mnmx : -
def. : The name of the supplier of the Variety, as known by the horticulturists
expl. : no remark
code :
clst :
Recog : Informationmodel Horticulture
Ent. : Variety

stat : B
mut. : 03/11/93
Used : 401001 Variety information and identification
410001 Cluster GWB
410002 Infomodel Horticulture

ddnr : 400020
name : name
form : AN 40,0
unit :
mnmx : -
def. : The current variety- and cultivarname by which the plant is described in the literature.
expl. : no remark
code :
clst :
Recog : Informationmodel Horticulture
Ent. : Crop
stat : B
mut. : 23/06/94
Used : 001306 EDI-Boom
401001 Variety information and identification
410001 Cluster GWB
410002 Infomodel Horticulture
410005 Cluster planning
410013 Costprice potplants

ddnr : 400021
name : varietyname
form : AN 60,0
unit :
mnmx : -
def. : The name by which the plantvariety is described in literature.
expl. : no remark
code :
clst :

Recog : Informationmodel Horticulture

Ent. : Crop

stat : B

mut. : 03/11/93

Used : 001306 EDI-Boom

401001 Variety information and identification

410001 Cluster GWB

410002 Infomodel Horticulture

410005 Cluster planning

410013 Costprice potplants

ddnr : 400041

name : name cultivationsystem

form : AN 3

unit :

mnmx : -

def. : A for the firm unique name to distinguish between ways of cultivation.

expl. : no remark

code :

clst :

Recog : Informationmodel Horticulture

Ent. : Croppingsystem

stat : B

mut. : 03/11/93

Used : 401001 Variety information and identification

410001 Cluster GWB

410002 Infomodel Horticulture

410005 Cluster planning

410012 GWBR-restgroup

510600 Potato Informationsystem

ddnr : 400375

name : identification

form : N 2.0

unit :

mnmx : -
def. : An unique code within the enterprise by which a specific batch is indicated.
expl. : no remark
code :
clst :
Recog : Informationmodel Horticulture
Ent. : Batch
stat : B
mut. : 03/11/93
Used : 001471 MBR
401001 Variety information and identification
410001 Cluster GWB
410002 Infomodel Horticulture
410003 Cluster Climat
410005 Cluster planning
410012 GWBR-restgroup
410013 Costprice potplants

ddnr : 400377
name : name pottype/container type
form : AN 40,0
unit :
mnmx : -
def. : The name of the used pottype/container type as used in the commerce.
expl. : no remark
code :
clst :
Recog : Informationmodel Horticulture
Ent. : Batch
stat : B
mut. : 03/11/93
Used : 401001 Variety information and identification
410001 Cluster GWB
410002 Infomodel Horticulture
410003 Cluster Climat

410005 Cluster planning

410013 Costprice potplants

ddnr : 400378

name : name rooting medium

form : AN 40,0

unit :

mnmx : -

def. : The general in the horticulture used name of the rooting medium in which is planted.

expl. : Possible attribute values : - soil

- rock wool

- potting soil Jongkind 5

..- etc

code :

cist :

Recog : Informationmodel Horticulture

Ent. : Batch

stat : B

mut. : 25/07/94

Used : 401001 Variety information and identification

410001 Cluster GWB

410002 Infomodel Horticulture

410003 Cluster Climat

410005 Cluster planning

410013 Costprice potplants

ddnr : 400379

name : name supporting material

form : AN 40,0

unit :

mnmx : -

def. : The general in horticulture used name for the material to support the crop.

expl. : no remark

code :

cist :

Recog : Informationmodel Horticulture
Ent. : Batch
stat : B
mut. : 03/11/93
Used : 401001 Variety information and identification
410001 Cluster GWB
410002 Infomodel Horticulture
410003 Cluster Climat
410005 Cluster planning
410013 Costprice potplants

ddnr : 400411
name : Remarks about article
form : AN 120,0
unit :
mnmx : -
def. : Additional description of an article.
expl. : no remark
code :
clst :

Recog : Informationmodel Horticulture
Ent. : article
stat : B
mut. : 24/06/94
Used : 401001 Variety information and identification
410002 Infomodel Horticulture
410005 Cluster planning
410013 Costprice potplants

ddnr : 400413
name : colour
form : AN 20,0
unit :
mnmx : -
def. : The description of the stadium in the maturing process of the harvested fruits,
belonging to a vegetables article.

expl. : direction CBT
code :
clst :
Recog : Informationmodel Horticulture
Ent. : article vegetables
stat : B
mut. : 19/07/94
Used : 001471 MBR
401001 Variety information and identification
410002 Infomodel Horticulture

ddnr : 400414
name : class
form : AN 20,0
unit :
mnmx : -
def. : The description for and by the CBT/PGF of by the buyer specified quality requirements.
expl. : direction CBT/PGF
code :
clst :
Recog : Informationmodel Horticulture
Ent. : article vegetables
stat : B
mut. : 19/07/94
Used : 001471 MBR
401001 Variety information and identification
410002 Infomodel Horticulture

ddnr : 400415
name : size
form : AN 20,0
unit :
mnmx : -
def. : The size of the article vegetables, measured in grading as determined by the CBT

expl. : no remark
code :
clst :
Recog : Informationmodel Horticulture
Ent. : article vegetables
stat : B
mut. : 19/07/94
Used : 401001 Variety information and identification
410002 Infomodel Horticulture

ddnr : 400416
name : weight
form : N 4,0
unit : g
mnmx : -
def. : The weight of the article vegetables, measured in gram.
expl. : no remark
code :
clst :
Recog : Informationmodel Horticulture
Ent. : article vegetables
stat : B
mut. : 19.07/94
Used : 401001 Variety information and identification
410002 Infomodel Horticulture

ddnr : 400417
name : stem length
form : N 5.2
unit : cm
mnmx : -
def. : The length designation for the flowerstalk as used in the commercial channel
expl. : no remark
code :
clst :

Recog : Informationmodel Horticulture
Ent. : article cut flowers
stat : B
mut. : 20/07/94
Used : 401001 Variety information and identification
410002 Infomodel Horticulture

ddnr : 400418
name : number buds
form : N 6,0
unit :
mnmx : -
def. : The number buds that should be present on a branch.
expl. : no remark
code :
clst :

Recog : Informationmodel Horticulture
Ent. : article cut flowers
stat : B
mut. : 03/11/93
Used : 401001 Variety information and identification
410002 Infomodel Horticulture

ddnr : 400419
name : preliminary treatment
form : A 1,0
unit :
mnmx : -
def. : The designation of the article cut flowers is treated with a preliminary treatment.
expl. : no remark
code :
clst :

Recog : Informationmodel Horticulture
Ent. : article cut flowers
stat : B

mut. : 03/11/93

Used : 401001 Variety information and identification
410002 Infomodel Horticulture

ddnr : 400420

name : stalk weight

form : N 3,0

unit :

mnmx : -

def. : The weight of a to be specified number of branches of a product.

expl. : VBN code

code :

clst :

Recog : Informationmodel Horticulture

Ent. : article cut flowers

stat : B

mut. : 25/07/94

Used : 401001 Variety information and identification
410002 Infomodel Horticulture

ddnr : 400421

name : maturity stadium

form : AN 120,0

unit :

mnmx : -

def. : The designation of the stadium of physiologic development of a product (f.i. chrysanthemus) or a part of the product (f.i. bud).

expl. : no remark

code :

clst :

Recog : Informationmodel Horticulture

Ent. : article cut flowers

stat : B

mut. : 19/07/94

Used : 401001 Variety information and identification

410002 Infomodel Horticulture

ddnr : 400422

name : length/width

form : N 5,2

unit : m

mmmx : -

def. : The height or the diameter of the plant depending on the relevant quality mark of the market sales. The height is measured from the bottom of the pot or container.

expl. : direction VBN

code :

clst :

Recog : Informationmodel Horticulture

Ent. : article pot plants

stat : B

mut. : 29/06/94

Used : 401001 Variety information and identification

410002 Infomodel Horticulture

410013 Costprice potplants

ddnr : 400423

name : potsize

form : N 2,0

unit : cm

mmmx : -

def. : The diameter of the pot, measured at the top edge in centimetre.

expl. : no remark

code :

clst :

Recog : Informationmodel Horticulture

Ent. : article pot plants

stat : B

mut. : 20/07/94

Used : 401001 Variety information and identification

410002 Infomodel Horticulture

410013 Costprice potplants

ddnr : 400424
name : potvariety
form : AN 40,0
unit :
mnmx : -
def. : The designation of the potvariety in which the article potplant by cultivation is grown.
expl. : no remark
code :
clst :
Recog : Informationmodel Horticulture
Ent. : article pot plants
stat : B
mut. : 03.11/93
Used : 401001 Variety information and identification
410002 Infomodel Horticulture
410013 Costprice potplants

ddnr : 400425
name : cuttings per pot
form : N 6 C
unit :
mnmx : -
def. : The number cuttings per pot that is used by planting / potting.
expl. : VB% code
code :
clst :
Recog : Informationmodel Horticulture
Ent. : article pot plants
stat : B
mut. : 03.11.93
Used : 401001 Variety information and identification
410002 Infomodel Horticulture
410013 Costprice potplants

ddnr : 400426

name : shoots per plant

form : N 6.0

unit :

mnmx : -

def. : The number shoots that has developed per pot (plant) on the moment of sale

expl. : no remark

code :

clst :

Recog : Informationmodel Horticulture

Ent. : article pot plants

stat : B

mut. : 03/11/93

Used : 401001 Variety information and identification

410002 Infomodel Horticulture

410013 Costprice potplants

ddnr : 400427

name : buds/flowers per plant

form : N 6.0

unit :

mnmx : -

def. : The minimal number of buds/flowers that has to be present on a plant.

expl. : no remark

code :

clst :

Recog : Informationmodel Horticulture

Ent. : article pot plants

stat : B

mut. : 03/11/93

Used : 401001 Variety information and identification

410002 Infomodel Horticulture

410013 Costprice potplants

ddnr : 400428

name : age

form : N 5,0

unit : day

mnmx : -

def. : The designation of the age of the article potplant.

expl. : no remark

code :

clst :

Recog : Informationmodel Horticulture

Ent. : article pot plants

stat : B

mut. : 29/06/94

Used : 401001 Variety information and identification

410002 Infomodel Horticulture

410013 Costprice potplants

ddnr : 400429

name : degree of rootdevelopment

form : AN 60,0

unit :

mnmx : -

def. : The designation of the degree the potplant has made roots.

**expl. : Code proposition : -bad root development,
-medium root development,
-good root development
-very good root development**

code :

clst :

Recog : Informationmodel Horticulture

Ent. : article pot plants

stat : B

mut. : 03/11/93

Used : 401001 Variety information and identification

410002 Infomodel Horticulture

ddnr : 400430

name : bulbsize

form : N 3,1

unit : cm

mnmx : -

def. : A description of the size of a batch flowerbulbs, expressed in cm circumference of the average bulb.

expl. : no remark

code :

clst :

Recog : Informationmodel Horticulture

Ent. : article bulb flowers

stat : B

mut. : 19/07/94

Used : 401001 Variety information and identification

410002 Infomodel Horticulture

ddnr : 400431

name : name product

form : AN 40,0

unit :

mnmx : -

def. : The name what belongs to the product identification code as used on auctions or sales channel

expl. : no remark

code :

clst :

Recog : Informationmodel Horticulture

Ent. : articlegroup

stat : B

mut. : 29/06/94

Used : 401001 Variety information and identification

410002 Infomodel Horticulture

410005 Cluster planning

410013 Costprice potplants

ddnr : 400432

name : code product

form : N 7,0

unit :

mnmx : -

def. : Code for the product as used in the sales channel. In this code the difference becomes apparent between varieties and cultivars/varieties.

expl. : no remark

code : J

clst :

Recog : Informationmodel Horticulture

Ent. : articlegroup

stat : B

mut. : 26/09/95

Used : 401001 Variety information and identification

410002 Infomodel Horticulture

410005 Cluster planning

410013 Costprice potplants

ddnr : 401550

name : Uniform product identification code

form : AN 60,0

unit :

mnmx : -

def. : The code by which perennials and ornamental plants are known This code is administrated by the VBN.

expl. : no remark

code : J

clst :

Recog : Informationmodel Horticulture

Ent. : Variety

stat : A

mut. : 25/09/95

Used : 401001 Variety information and identification
410001 Cluster GWB
410002 Infomodel Horticulture

ddnr : 401571
name : name
form : AN 40,0
unit :
mnmx : -
def. : The name by which the articlegroup (in the commerce) is known.
expl. : no remark
code :
clst :
Recog : Informationmodel Horticulture
Ent. : articlegroup
stat : B
mut. : 03/11/93
Used : 401001 Variety information and identification
410002 Infomodel Horticulture
410005 Cluster planning
410013 Costprice potplants

ddnr : 401573
name : part
form : 0,0
unit :
mnmx : -
def. : part of an article
expl. : no remark
code :
clst :
Recog : Informationmodel Horticulture
Ent. : Part of article
stat : B
mut. : 03/11/93

Used : 401001 Variety information and identification
410002 Infomodel Horticulture

ddnr : 402575

name : Code cultivationsystem

form : A 4,0

unit :

mnmx : -

def. : Unique code for a cultivationsystem.

expl. : OLGR = in the open air in soil of potsoil

OLPC = in the open air in pot of container

OLSS = in the open air or substrate

GLGR = under glass in the soil

GLPC = under glass in pot or container

GLSN = under glass or substrate not recirculating

GLSR = under glass or substrate recirculating

GLVF = on substrate or feedingfilm

TOGR = temporary open cultivation in the soil

TOPC = temporary open cultivation in pot, container, ed.

TOSS = temporary open cultivation on substrate

TOVF = temporary open cultivation on feedingfilm

PTMT = vegetable garden

PTST = decorative garden

PTKP = indoor plants

OGSW = playing field

OGSV = sporting field

OGGG = golfgreen

OGWB = road plantings

OPWS = wind break

OGPB = public garden plantings

OVBB = forestry

OVNS = other not further specified.

OGW

code : J

clst :

Recog : Information. Potato cultivation

Ent. :

stat : A

mut. : 26/09/95

Used : 401001 Variety information and identification

410012 GWBR-restgroup

510600 Potato Information system

ddnr : 402716

name : Scientificname

form : AN 60,0

unit :

mnmx : -

def. : Name of the organism to describe it officially(source: Crop protection guide)

expl. : no remark

code :

clst :

Recog : Informationmodel Horticulture

Ent. : Organism

stat : B

mut. : 10/10/94

Used : 401001 Variety information and identification

410001 Cluster GWB

ddnr : 403540

name : code breeder

form : N 6,0

unit :

mnmx : -

def. : Code by in the Variety information system to uniquely identify a breeder of an applied variety

expl. :
code : J
clst :
Recog : agreement on uniform registration
Ent. :
stat : B
mut. : 13/12/95
Used : 401001 Variety information and identification

ddnr : 403555
name : taste
form : N 1,0
unit :
mnmx : -
def. : Property which gives an evaluation of the taste of a product or of a specific variety.
expl. :
code : N
clst :
Recog : for various goals
Ent. :
stat : B
mut. : 13/12/95
Used : 401001 Variety information and identification

ddnr : 403560
name : Variety property cultivation
form : AN 30,0
unit :
mnmx : -
def. : A variety property which is of importance by the choice and start of a cultivation.
expl. : Examples of properties of cultivation to judge a variety on :

- * dry matter content
- * physiologic properties
- * suitability mechanical harvest
- * suitability way of cultivation

- * properties of quality
- * properties of productivity
- * standard density
- * strength
- * sugar content (sugarbeet)
- * period of cultivation
- * earliness
- * seedingtime
- * diseases

code : N

clst :

Recog : for various goals

Ent. :

stat : B

mut. : 13/12/95

Used : 401001 Variety information and identification

ddnr : 500146

name : Description crop

form : A 100,0

unit :

mnmx : -

def. : Short Description or an entity.

expl. :

code :

clst :

Recog : Informationmodel Open Teelten

Ent. : Crop

stat : B

mut. : 25/08/94

Used : 401001 Variety information and identification

519999 Open cultivation- general

ddnr : 500215

name : Number crop/cultivation

form : N 6,0
 unit :
 mnmx : -
 def. : Unique (farmspecific) number of a crop.
 expl. :
 code :
 clst :
 Recog : Informationmodel Open Teelten
 Ent. : Crop
 stat : A
 mut. : 15/03/93
 Used : 401001 Variety information and identification
 510005 Task to do
 510011 Code list crops
 510053 Historic crop rotation
 510057 Executed operations
 510066 Crop / cultivation potato
 510069 Condition batch product
 510072 Observation
 510340 Meteo-Data
 510400 Cropprotection knowledge base
 510500 Mineral bookkeeping
 510600 Potato Information system
 510630 Cultivationtechnical data table potatoes.
 510699 IVA
 519999 Open cultivation- general

ddnr : 500327
 name : Legal standards
 form : A 250,0
 unit :
 mnmx : -
 def. : Indication of legal business, related to the concerning kind or plant
 expl. :
 code :

cist :

Recog : Informationmodel Open Teelten

Ent. : Kind of plant

stat : B

mut. : 29/07/92

Used : 401001 Variety information and identification

510400 Cropprotection knowledge base

519999 Open cultivation- general

ddnr : 500328

name : Description lifecycle

form : A 500,0

unit :

mnmx : -

def. : A short description or the life of a kind or plant.

expl. :

code :

cist :

Recog : Informationmodel Open Teelten

Ent. : Kind or plant

stat : B

mut. : 29/07/92

Used : 401001 Variety information and identification

510400 Cropprotection knowledge base

519999 Open cultivation- general

ddnr : 500329

name : Length lifecycle

form : A 1,0

unit : j

mnmx : -

def. : Designation or the number years of lifecycle of a kind or plant.

expl. :

Possible attribute values :

1 = annual;

2 = biannual;
.....;
n = perennial .

code :
clst :
Recog : Informationmodel Open Teelten
Ent. : Kind or plant
stat : B
mut. : 18/05/94
Used : 401001 Variety information and identification
510400 Cropprotection knowledge base
519999 Open cultivation- general

ddnr : 500336
name : Name Variety
form : A 15.0
unit :
mnmx : -
def. : The name of a certain variety.
expl. : Referred is to the publications of the "Raad van het Kwekersrecht". (Board for the Plant Breeders' Rights)

code
clst
Recog : Informationmodel Open Teelten
Ent. : Variety
stat : B
mut. : 01/03/94
Used : 401001 Variety information and identification
510053 Historic cultivation plan
510058 Used basic plant material
510066 Crop : cultivation potatoes
510200 GIS-demo
510400 Cropprotection knowledge base
510500 Mineral bookkeeping
510600 Potato Information system

510612 Result. NAK-inspection, commerc.

510615 Quality inspection ZPC

510630 Cultivation technical data table potatoes.

510699 IVA

519999 Open cultivation- general

ddnr : 500337

name : Description variety

form : A 200,0

unit :

mnmx : -

def. : Short Description or the Variety.

expl. :

code :

clst :

Recog : Informationmodel Open Teelten

Ent. : Variety

stat : B

mut. : 04 01/91

Used 401001 Variety information and identification

519999 Open cultivation- general

ddnr : 500384

name Plantnumber

form N E C

unit

mnmx -

def. The number plants per hectare

expl.

code

clst

Recog Informationmodel Open Teelten

Ent. Way of cultivation

stat B

mut. 04 01/91

Used : 401001 Variety information and identification
519999 Open cultivation- general

ddnr : 500385

name : Plant spacing

form : A 100,0

unit :

mnmx : -

def. : The way plants are distributed on the field (an unique designation of the scheme planting to follow, to obtain the described plant density)

expl. :

code :

clst :

Recog : Informationmodel Open Teelten

Ent. : Way of cultivation

stat : B

mut. : 04/01/91

Used : 401001 Variety information and identification
519999 Open cultivation- general

ddnr : 500386

name : Contractcultivation

form : A 1,0

unit :

mnmx : -

def. : Indicates of the concerning way of cultivation is prescribed by contract

expl. :

code :

clst :

Recog : Informationmodel Open Teelten

Ent. : Way of cultivation

stat : B

mut. : 04/01/91

Used : 401001 Variety information and identification
519999 Open cultivation- general

ddnr : 500387

name : Goal of cultivation, description

form : A 25,0

unit :

mnmx : -

def. : Indicates the goal a crop is grown for.

expl. : The goal of cultivation could be :

- for the consumermarket
- for the seed- or planting material
- for processing raw material
- as green manure
- etc..

code :

c/st :

Recog : Informationmodel Open Teelten

Ent. : Way of cultivation

stat : B

mut. : 04/01/91

Used : 401001 Variety information and identification

510600 Potato Information system

510630 Cultivation technical data table potatoes.

519999 Open cultivation- general

ddnr : 500499

name : Scientificname

form : A 30,0

unit :

mnmx : -

def. : The Scientific (Latin) name for a kind or plant.

expl. : Possible attribute values :

- Dianthus barbatus
- Solanum tuberosum

code :

clst :
Recog : Informationmodel Open Teelten
Ent. : Kind or plant
stat : B
mut. : 22/07/94
Used : 001471 MBR
401001 Variety information and identification
410012 GWBR-restgroup
510400 Cropprotection knowledge base
519999 Open cultivation- general

ddnr : 500500
name : Dutch name
form : A 50,0
unit :
mnmx : -
def. : Dutch name of a kind or plant (weedvariety).
expl. :
code :
clst :
Recog : Informationmodel Open Teelten
Ent. : Kind or plant
stat : A
mut. : 07/10/93
Used : 001471 MBR
401001 Variety information and identification
410009 GWBR-CBS
510400 Cropprotection knowledge base
510600 Potato Information system
519999 Open cultivation- general

ddnr : 500501
name : Bayer code kind or plant
form : A 6,0
unit :

mnmx : -

def. : Unique designation of a certain kind of plant according to Bayer AG.

expl. : This is an attribute used in this form in the GBK. The last position of the code is reserved for the designation of the code is real Bayer-code (B), or is a code added to the list by the GBK (G).

Examples are :

LOLMUB = Italian ryegrass Variety

BRSOBB = Cauliflower.

code : J

clst :

Recog : Informationmodel Open Teelten

Ent. : Kind or plant

stat : B

mut. : 31/08/95

Used : 001471 MBR

401001 Variety information and identification

410012 GWBR-restgroup

510400 Crop protection knowledge base

510600 Potato Information system

519999 Open cultivation- general

ddnr : 500502

name : Family name kind or plant

form : A 30.0

unit :

mnmx : -

def. : Scientific designation of the family the variety belongs to .

expl. :

code :

clst :

Recog : Informationmodel Open Teelten

Ent. : Kind or plant

stat : B

mut. : 25/08/94

Used : 401001 Variety information and identification

510400 Crop protection knowledge base

519999 Open cultivation- general

ddnr : 500519
name : Name breeder
form : A 30,0
unit :
mnmx : -
def. :
expl. :
code :
clst :
Recog : Informationmodel Open Teelten
Ent. : Variety
stat : B
mut. : 04/01/91
Used : 401001 Variety information and identification
510600 Potato Information system
519999 Open cultivation- general

ddnr : 500520
name : Code variety
form : N 5,0
unit :
mnmx : -
def. : Unique number of a certain plant variety.
expl. : To code the Use is made of or the NRR-numbers as are allotted to all varieties of the list of varieties by the "Raad voor het Kweekersrecht". The numbers are published in the yearly publications of the Raad (telephone number of the "Raad voor het Kweekersrecht" : 08370-19031).
code : J
clst :
Recog : Informationmodel Open Teelten
Ent. : Variety
stat : A

mut. : 31/08/95
Used : 401001 Variety information and identification
510200 GIS-demo
510400 Crop protection knowledge base
510500 Mineral bookkeeping
510600 Potato Information system
510630 Cultivation technical data table potatoes.
519999 Open cultivation- general

ddnr : 500521
name : Price expectation endproduct
form : N 10,2
unit :
mnmx :
def. : An indication of the expected price of an unit of the endproduct.
expl. :
code :
clst :
Recog : Informationmodel Open Teelten
Ent. : Variety
stat : B
mut. : 04/01/91
Used : 401001 Variety information and identification
519999 Open cultivation- general

ddnr : 500767
name : Name Culture crop/Way of cultivation
form : A 30.0
unit :
mnmx :
def. : Name or a Culture crop.
expl. : For the naming see the list of standardcodes of IMOT.
code :
clst :
Recog : Informationmodel Open Teelten

Ent. : Culture crop
stat : B
mut. : 01/06/92
Used : 401001 Variety information and identification
510200 GIS-demo
510400 Crop protection knowledge base
510500 Mineral bookkeeping
510600 Potato Information system
510630 Cultivation technical data table potatoes.
519999 Open cultivation- general

ddnr : 500789
name : Nitrogen removal by the crop
form : N 3,1
unit : kg/ton
mnmx : -
def. : The average removal of Nitrogen by a crop cultivated by a way of cultivation
(Expressed in kg element per ton harvested product).
expl. :
code :
cist :
Recog : Informationmodel Open Teelten
Ent. : Way of cultivation
stat : B
mut. : 18/05/94
Used : 401001 Variety information and identification
519999 Open cultivation- general

ddnr : 500790
name : Phosphate removal with the crop
form : N 3,1
unit : kg/ton
mnmx : -
def. : The average removal of phosphate by a crop, grown by a way of cultivation
(expressed in kg element per ton harvested product).

expl. :
code :
clst :
Recog : Informationmodel Open Teelten
Ent. : Way of cultivation
stat : B
mut. : 18/05/94
Used : 401001 Variety information and identification
519999 Open cultivation- general

ddnr : 500791
name : Potash removal with the crop
form : N 3,1
unit : kg/ton
mnmx : -
def. : The average removal of pure potash by a crop, grown by way of cultivation
(Expressed as kg element per ton harvested product).

expl. :
code :
clst :
Recog : Informationmodel Open Teelten
Ent. : Way of cultivation
stat : B
mut. : 18 05/94
Used : 401001 Variety information and identification
519999 Open cultivation- general

ddnr : 500792
name : Delivery effect org matter
form : 0,0
unit :
mnmx : -
def. : Indication of the contribution of a way of cultivation to the increase of organic matter in
the soil.
expl. :

code :
clst :
Recog : Informationmodel Open Teelten
Ent. : Way of cultivation
stat : B
mut. : 04/01/91
Used : 401001 Variety information and identification
519999 Open cultivation- general

ddnr : 500930
name : Evaluation
form : A 25,0
unit :
mnmx : -
def. : The value allotted to a property of a variety by the CPRO.
expl. :
code : J
clst :
Recog : Informationmodel Open Teelten
Ent. : Variety evaluation
stat : A
mut. : 22/09/95
Used : 401001 Variety information and identification
519999 Open cultivation- general

ddnr : 501128
name : Monocotyl/dicotyl
form : A 1,0
unit :
mnmx : -
def. : Designation of a kind of plant belongs to the monocotyl or dicotyl group
expl. :
code :
clst :
Recog : Informationmodel Open Teelten

Ent. : Kind or plant
stat : B
mut. : 29/07/92
Used : 401001 Variety information and identification
510400 Crop protection knowledge base
519999 Open cultivation- general

ddnr : 501461
name : Name crop
form : A 30,0
unit :
mnmx : -
def. : Short name of a crop.
expl. :
code :
clst :
Recog : Informationmodel Open Teelten
Ent. : Crop
stat : A
mut. : 15/03/93
Used : 401001 Variety information and identification
510011 Code list crop
510200 GIS-demo
510340 Meteo-Data
510342 Location meteorostation/region
510400 Crop protection knowledge base
510500 Mineral bookkeeping
510600 Potato Information system
510630 Cultivation technical data table potatoes.
519999 Open cultivation- general

ddnr : 501601
name : Plant distance in the row
form : N 3,2
unit : m

mnmx : -
 def. : The distance in the row between to adjacent plants (measured from the hart of the plant).
 expl. :
 code :
 clst :
 Recog : Informationmodel Open Teelten
 Ent. : Way of cultivation
 stat : A
 mut. : 29/03/93
 Used : 401001 Variety information and identification
 510058 Used basic plant material
 510066 Crop / cultivation potatoes
 510600 Potato Information system
 510603 Physical Condition crop
 510630 Cultivation technical data table potatoes.
 510699 IVA
 519999 Open cultivation- general

ddnr : 501637
 name : Row distance
 form : N 3 2
 unit : m
 mnmx : -
 def. : The distance between two rows (measured on the hart of the row).
 expl. :
 code :
 clst :
 Recog : Informationmodel Open Teelten
 Ent. : Way of cultivation
 stat : A
 mut. : 29 03 93
 Used : 401001 Variety information and identification
 510058 Used basic plant material
 510600 Potato Information system

519999 Open cultivation- general

ddnr : 502019

name : Code culture crop./Way of cultivation

form : N 6.0

unit :

mnmx : -

def. : Standard code of a culture crop grown for a specific purpose Example: winter wheat as seed material

expl. : For the code see "IMOT, Classifications, Standard labels and Codes" section "Culture crop/way of cultivation".

the code or 6 positions is composed in the following way:

position 1 t/4 "code Culture crop" : f.i. potato, sugarbeet, winterwheat;

position 5 "goal of cultivation" : f.i. for the consumption, seed, canning;

position 6 "Way of cultivation" : f.i. spring crop, autumn crop, in pots, etc

code : J

clst :

Recog : Informationmodel Open Teelten

Ent. :

stat : A

mut. : 31 08 95

Used : 401001 Variety information and identification

510053 Historic cultivation plan

510066 Crop cultivation potatoes

510200 GIS-demo

510400 Crop protection knowledge base

510500 Mineral bookkeeping

510600 Potato information system

510630 Cultivation technical data table potatoes.

510699 IVA

519999 Open cultivation- general

ddnr : 502374

name : Code goal of cultivation

form : N 1 0

unit :
mnmx : -
def. : Unique code for the goal of cultivation.
expl. : <<co-ordinate with TBS>>
1 = consumption
2 = industrious
3 = seed/ planting material
4 = fodder
5 = greenmanure
6 = sowing sees

The digits above have a fixed meaning, the digits 7, 8 and 9 are can be used without restriction.

code : J
clst :
Recog : Information. potatocultivation
Ent. :
stat : A
mut. : 31/08/95
Used : 401001 Variety information and identification
510600 Potato Informationsystem
510630 Cultivation technical data table potatoes.

ddnr : 502380
name : Registr./Control.Cultivation
form : N 1.0
unit :
mnmx : -
def. : Designation of the crop or product grown by a registered/controlled way of cultivation
expl. : 0 = no registered/controlled cultivation
1 = registered/controlled cultivation
code :
clst :
Recog : Information. potatocultivation
Ent. :

stat : A
mut. : 29/09/93
Used : 401001 Variety information and identification
510600 Potato Information system

ddnr : 502382
name : Early/late cultivation
form : N 1,0
unit :
mnmx : -
def. : Designation of the crop is grown early or late.
expl. : 1 = early cultivation
2 = late cultivation
code :
cist :
Recog : Information. potatocultivation
Ent. :
stat : A
mut. : 29/09/93
Used : 401001 Variety information and identification
510600 Potato Informationsystem