Creation of a PERMANENT GRASSLAND layer in The Netherlands

Netherlands Enterprise Agency
Content of this presentation

1. Introduction

2. Methods

3. How does it work
**Introduction**

In the new CAP it is important to know which parcels are Permanent Grassland

Why?

Because of greening conditions.

1. Annual ratio permanent grassland ratio should not decrease more than five percent to reference ratio

2. EFA needs to be on arable land and not on permanent grassland

3. And: The LPIS needs to include a land cover layer with permanent grassland
How to determine permanent grassland: Methods

1. Calculate with remote sensing imagery

2. The farmer declares

3. Use geometries of historic applications and combine them in GIS

Important to know:
The application registers a certain moment in the year (May 15th)
6 moments are needed to ensure a 5 year period of grass
Methods

Calculate with remote sensing imagery

Satellite imagery (containing infrared) can be used to monitor biomass of crops. Each crop has its specific curve throughout the year. When you know that, you can determine what crop is on the field.
Considerations of using the remote sensing method

Pro
- Most objective method

Contra
- Enormous calculations.
  - Whole of the Netherlands
  - at least 3 moments a year
  - 6 years in a row
- Incomplete basic datasets
  - Some years not available
  - The later years are sometimes incomplete
The farmer declares whether a parcel is covered with permanent or temporary grass.

Methods
Considerations of asking the farmer

Pro

• The whole declared area is known
• It is relatively easy to use to upgrade to a reference layer

Contra

• Declarations of permanent or temporary grassland are not 100% correct (in five years is easy to make mistakes).
Use geometries of historic applications

Select all parcels with any type of grass, do this for all the relevant years. Combine them in a GIS. Where there is 5 (or actually 6) years of grass found, it will be labelled as permanent grassland.
Considerations of using historic geometries

Pro

• Most accurate

Contra

• The boundaries of the parcels missing edges
• In a few cases missing years
Conclusion

No perfect method. But the use of historic geometries is most reliable, followed by the remote sensing method.

We decided to use all, we called it *Hybrid method*.

1. Start using historic geometries
2. Fill missing year parcels using Remote sensing data
3. Where there is no data available follow the farmer
How does het work

values in the applications

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conclusion

ARABLE

PERMANENT
GRASSLAND
How does it work missing years

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conclusion

- Arable
- Permanent Grassland
Final stage tuning geometries

Result millions of small parts.
Geometries never really match

A lot of time and effort was put into fine tuning the small parts.

Parts of 250 m² or smaller were added to adjacent parcels
How does it look in application form
Environmentally sensitive permanent grassland (ESPG)