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# **Incentives for the Efficient Use of Natural Resources in the New Swiss Agricultural Policy**

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# Nutrient aspects in Swiss agricultural policy

## step 1

- Since 1994 direct payment program with strong focus on reduced environmental impact and more animal welfare
  - Incentive payments if farmer comply with a set of measures: crop rotation, N and P balance equilibrium etc.; since 1999 mandatory
- N and P balance have led to improved nutrient efficiency:
  - Mineral fertilizer use: N –25%, P –70%, K >–90%
  - Manure nutrients: N – 5% N, P >–20%
  - no decrease in yields
  - Antropogenic NH<sub>3</sub> emissions decreased by 13% since 1990
  - Farmers awareness for good manure management has increased considerably
- Manure covers approx. 70% of N fertilizer use (60% relative to N<sub>avail.</sub>), 75% of P fertilizer use and >80% of K fertilizer use

# Implementation of nutrient balance restrictions

- Every farm has to calculate the N and P balance with the tool "Suisse-Balance"
  - Nutrient input = fertilizer recommendation (max. +10%)
  - 60% of N in manure is counted as plant available
  - Fertilizer recommendations relatively restrictive (e.g. winter wheat 140 kg N/ha, 60 kg P<sub>2</sub>O<sub>5</sub>/ha, silage maize (17.5 t DM/ha) 110 kg N/ha, 60 kg P<sub>2</sub>O<sub>5</sub>/ha)
- Balance locally checked; random examination by Federal authorities
- Farmers quantify their mineral fertilizer purchase according to Suisse-Balance
- All manure movements between farms have to be recorded on "HoduFlu" (internet) → relevant for balance of both contracting parties
- In general good compliance

## Resource programs (step 2)

- Since 2008 additional voluntary programs for additional measures with special relevance for the environment
- Cantons plan, submit and implement program
  - Chose strategy and measures to include
  - Set clear quantitative aims what should be achieved
  - Detailed assessment of baseline situation
  - Monitoring program
  - Six year duration of program
  - 20% Cantonal contribution to incentive payment (80% Federal contribution)
- Farmers can apply to join program
  - Fixed level of additional incentive payment (e.g. CHF/ha)
  - Obligation to participate until end of program
  - Obligation to continue with measures after end of the program

# Resource programs

- 24 programs are implemented
- 24 of 26 cantons have a program
- Orientation of programs
  - Reduced ammonia emissions (17 programs)
  - Soil fertility (3 programs)
  - Soil/air/water
  - Biodiversity
  - Energy
  - Soil cover in vineyards

# New: Resource Efficiency Incentives

## step 3

- Starting in 2014 the Cantonal resource programs will be complemented by Federal Resource Efficiency Incentives
  - New programs launched by Federal Government (100% of payments)
  - Preparation and implementation simpler and more efficient than in present programs
  - Farmers in the whole country can subscribe for same measures
  - Contributions for restricted time

## Aims

- Enhance the sustainable use of natural resources (soil, water, air)
- Improve efficiency of use of production inputs (nitrogen, phosphorous, pesticides, energy)
- Broad introduction of well focused resource saving techniques (convince farmers of benefits)

# Measures to be included

- Air: low emission manure spreading techniques
- Soil: Conservation tillage
- Water: high precision pesticide application



## Example low emission manure spreading

- Trailing hose, trailing shoe, slot injection deep injection
- CHF 30.- per ha and application; max 4 applications per year
- No payments from 15 November to 15 February
- Reduced N losses accounted for in N balance: +3 kg N/ha/application
- Payment only if no similar Cantonal program

# Thank you for your attention

