

# Pesticide Reduction Programmes

UK Grower Experience  
*(potato & root crops)*

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# Key approaches (1)

- Grower understanding of genuine customer concern regarding food safety & traceability (not just radical action groups!)
- Working with key retail customers such as Waitrose & Co-op driving *actual* pesticide reduction as opposed to pesticide justification
- Working closely with grower (grower groups, programmed production, agronomic support) is essential

## Key approaches (2)

- 1) Prohibited pesticide lists (with justification)
- 2) Controlled/monitored pesticide lists  
(with full risk assessment)
- 3) Agreed reduction targets (usage & dates)
- 4) Product substitution (using lower risk actives)
- 5) Working towards Environmental standards  
audits such as LEAF Marque to give a greater  
overall perspective

## Key approaches (3)

6) Research & development focus for pesticide alternatives:

- Non-chemical solutions (important cross-over from organic systems)
- Decision support systems
- Reduced rates of existing chemistry
- New chemistry (products with lower environmental impact)

# Pesticide reduction - examples

- Camera-steered inter-row cultivation in carrots
- Reduced linuron rates in conjunction with other lower risk herbicides in potatoes, weed burning
- Improved field selection/soil sampling, green manuring/bio-fumigation (caliente mustard) – reduced aldicarb use on carrots

# Pesticide reduction - examples

- Decision support systems for potato blight control (reduced fungicide application and/or product substitution esp. mancozeb)
- Potato cyst nematode reduction - trap cropping (*Solanum sisymbriifolium*) Use of garlic
- Sulphuric acid (haulm destruction) replacement (haulm burning, haulm pulling, desiccant alternatives)

# Pesticide reduction -examples

- Rhizoctonia control – field risk assessment (new soil test) rotation & crop type (set vs. loose skin)
- Wireworm – new pheromone traps to catch adult click beetles for improved field selection
- Aphicide use – re-appraisal of threshold levels with newer varieties
- Improved cold storage facilities, use of ethylene to replace CIPC as a potato sprout suppressant.

## However, both short & long term strategies are important.....

- Instant pesticide bans not always effective and may force growers out of production
- Reduction programmes must be practical & economically viable. Can't allow reduction programmes to compromise product quality
- What ever the strategy, it must be measured & managed with growers



# Pesticide Impact measurement

- Solanum Ltd use an Environmental Impact Quotient measure (Kovak et al 1992)
- Provides a crop-by-crop measure based a 1-5 rating in 11 categories (food safety, operator safety & environmental safety)
- Based on % a.i applied
- Allows us to 1) set target values 2) identify & use lower scoring actives 3) provides a focus for research

# Pesticide reduction - measured success

## EIQ Values

(Solanum Potato grower group)

	<150	150-250	250-400	>400
2003	22%	43%	13%	22%
2004	44%	36%	16%	4%

*% of all crops*