

To: EUREP (Euro-Retailer Produce Working Group)

## **PAN Europe**

### **Position on Good Agricultural Practice**

#### **October 2000**

The Pesticides Action Network Europe (PAN Europe), the European umbrella organisation of NGOs working on pesticides issues, applauds the setting of standards by the European supermarkets joined in EUREP. This initiative reinforces environmental policy as outlined in the 5th Environmental Action Plan (5EAP) of the European Union which states that a "significant reduction in pesticide use per unit of land and a transition to methods of integrated pest control" should be realised. Supermarkets take their responsibility to society and translate this policy into methods and practices. Although we welcome the EUREP/GAP-standards, we consider them as a first step in a process going towards an ambitious environmental level of protection. In this letter PAN Europe and the co-signing organisations present ideas for a further elaboration of the EUREP-GAP standards (we read the version of November 1999) and other improvements we think are necessary to gain full consumer confidence.

#### **IPM/ICM and EUREP/GAP**

We agree with the choice made by EUREP for integrated pest and crop management as the central system for agricultural production at this moment. IPM/ICM is a system which can be practised by every modern farmer and one which continually improves as new IPM/ICM-methods and techniques become available. At the same time we believe that organic production should be regarded as the most promising conversion system for the long-term. We therefore ask you to develop a long term strategy for a conversion to organic production and set targets for introducing organic products in the supermarkets.

A first priority is to clearly define IPM/ICM in order to prevent confusion and to distinguish it from common agricultural practices. Common agricultural practices have succeeded since world war II in producing huge amounts of food, but have also been a tragic disaster for the environment (pollution by pesticides and nutrients) and nature (reducing and eliminating biodiversity) plus a big risk for human health. Without defining the new system, many farmers could easily misunderstand IPM/ICM and view it as just another technique, while continuing old habits.

We are therefore not totally satisfied with the definition of ICM, the EUREP-organisation made: "Protection of crops against pests, diseases and weeds must be achieved with the appropriate minimum pesticide input and with a minimum adverse environmental impact (volume/type of active ingredients) and with the appropriate employment of non-chemical methods (biological and cultural/mechanical)". This definition does not exclude a rather industrial way of producing, and includes an integration of production with nature, environment and health. We are convinced that integration should be the central point in changing agricultural practices to modern practices, maintaining and restoring biodiversity and stopping the damage done to health and environment. Minimum input and minimum impact as in the EUREP-definition doesn't guarantee this.

So we would suggest altering the definition of IPM/ICM and at the same time appoint its key elements and principles. In the box we give our definition of IPM/ICM and its key elements and ask you to consider adopting them as the EUREP/GAP-definition and use the elements as a basis for GAP.

## ***IPM/ICM definition and key elements***

### **Integrated Crop Management (IPM/ICM).**

Definition: Integrated crop management is a method of crop growing, in which fertilisers and synthetic pesticides are used, but in which the environmental burden of these inputs is minimised by giving priority to preventive measures of crop growing and the use of non-chemical practices and methods.

#### **The ten key elements of Integrated Crop Management are:**

1. a soil structure serving as an adequate buffering system for agriculture;
2. a crop rotation frequency enhancing a balanced population of soil organisms, preventing outbreak of soil-bound pests;
3. use of the best available pest-resistant (non-GMO) crop varieties;
4. optimal crop distance and crop management to prevent growth of fungi;
5. availability of refuges for natural enemies of pests and for the prevention of pesticide-resistant pests;
6. economical nutrient management on the basis of information of already present nutrients in the soil and of the soil structure, and dosage only on the crop;
7. in principle only mechanical weeding (or other non-chemical methods like the use of heat); only exception in case of bad weather conditions;
8. use of pesticides based on information of presence of pests (scouting, sensors, on-line services) and only the use of selective (not harming beneficial organisms) pesticides which are not persistent, bioaccumulating or toxic;
9. priority is given to the use of "green" (non-synthetic) pesticides and pest-preventive substances;
10. minimal material resources input

It is of utmost importance that IPM/ICM should be used as a complete integrated system, ie a combination of nutrient strategy, pest management, conservation objectives and crop quality. This means that implementation of this integrated system can only be accomplished on the basis of a complete set of requirements. Picking and choosing some techniques does not result in a IPM/ICM-system, only the full set can do so. For instance it is well known that a bad nutrient strategy can result in more spraying with pesticides and in low product quality. So, there is an interdependency between nutrient, pest, and quality management, and a simultaneous action on all key elements of IPM/ICM can result in a maximisation of both environmental quality and product quality.

### ***IPM/ICM standards for every individual crop***

At the same time IPM/ICM is not a static system. IPM/ICM improves in time as new techniques and practices emerge. That is why we propose to define methods and practices for every individual crop or crop rotation system and to include them as a standard in EUREP/GAP.

Furthermore a more unambiguous text is needed because the present EUREP/GAP-standards do not necessarily lead to IPM/ICM. For instance "appropriate minimum pesticide use" (8.a.1) and "apply recognised IPM techniques" (8.a.2) could be interpreted in many ways. So it is necessary to elaborate EUREP/GAP-standards to clear demands and update them regularly as new techniques come available. As an example of what we see as a IPM/ICM state-of-the-art standard now, we give our 'EUREP/GAP-standards' for potatoes, strawberries and tomatoes in the tables annexed to this position. We consider these as state-of-the-art IPM/ICM practices which can be applied by every modern day farmer without substantial extra costs.

Our main proposal to EUREP is to include specific IPM/ICM-minimum standards for every crop/rotation system. At the same time a list of general practices and methods compulsory for

every farmer to be applied, but not specific for an individual crop, should be included in the EUREP-standards. Our proposal for such a general list is described in the next paragraph.

### ***General methods and practices***

#### **- Non-spraying zones**

Non-spraying zones are an effective means of reducing spray drift. We propose a (standard) 3-meter non-spraying zone along canals and ditches (reduces drift by about 95%), and a 20-meter non-spraying zone along houses, private vegetable gardens, organic fields and conservation areas (reduces drift by >99,9%. Additional in the 3-meter non-spraying zone nutrients should not be applied to prevent emission and to enhance conservation targets.

#### **- Soil fumigation**

Soil fumigation is completely in contrast with IPM/ICM-system because a healthy and balanced population of soil organisms is necessary to prevent the outbreak of pests. Chemical soil fumigation is the first application to be banned in every modern system in operation. So the use of dichloropropene, metam-sodium, methyl-bromide and aldicarb should be banned from the start on in EUREP/GAP.

#### **- Black-list of pesticides**

Based on the precautionary principle EUREP/GAP-standards should contain a list of pesticides of which detrimental effects on environment or health are unveiled or likely to occur. All pesticides that are carcinogenic, mutagenic or toxic to reproduction, as well as those that are persistent or bioaccumulating should be included in the black list. Some endocrine disrupting pesticides like vinclozolin are substances to be considered to include in this black-list. The same goes for pesticides known to be a risk for the immune system or the nerve system. The black-list must be revised regularly (e.g every two years).

#### **- Polluting substances in fertilisers.**

Fertilisers may contain high levels of heavy metals (e.g. copper in pig manure; cadmium in P-fertilisers, Pb and Zn in sludge and compost derived fertilisers). Maximum levels should be established for heavy metals, e.g. a maximum of 15 ppm for Cd in P-fertiliser.

### ***Enforcement and independent control***

A system is as strong as its enforcement. We think EUREP-members need to go a big step ahead to get compliance from farmers with EUREP/GAP-standards. In the first place, as already stated, the text of the standards has to be improved so it can mean only one thing ("appropriate" is not enforceable). Second, EUREP-members are responsible for the compliance of individual farmers with the standards.

#### **- advise and discussion about registration results supplier/farmer**

Farm-level advise is essential in our opinion. The EUREP-member or his supplier should regularly visit all farmers to discuss the results of registration and advise improvements. A frequency of 2-5 visits per year per farmer (dependent of the crop variety) should be included in the enforcement chapter of EUREP/GAP.

#### **- independent control mechanism**

Control by independent bodies is a requisite for every professional system. Self-regulation by attitude improvement and independent control are two sides of the same coin. Both unexpected control in the farm should be carried out (1 x per year on average), and control on products (mainly analysis of pesticide residues).

**- enforcement strategy (punishment-system including cut-off values for removal).**

The credibility of the enforcement system depends on this strategy. What is done in case of a first time non-compliance, what if it occurs a second time? Which issues lead to a removal of a farmer from the system? These are questions that have to be dealt with and have to be included in the system.

***Transparency and accountability***

**- yearly report**

Consumer confidence can only be acquired if the EUREP/GAP-system is transparent and accountable. So a yearly report from every EUREP-member could be an appropriate means of communicating about the exact standards, the compliance, the control, the improvements over years and all other quantitative information consumers could want to have. Registration figures of energy, nutrients, pesticides etc. should be made available to the public.

**- stakeholder consultation**

A discussion with stakeholders (NGO's, consumer organisations, labour unions, etc.) on future policy for EUREP/GAP could also improve confidence of society in the system

***EUREP-member commitment***

**- time-planning implementation for every individual supermarket/EUREP-member.**

We are aware of the fact that not every EUREP-member is in the same phase of implementing EUREP/GAP-standards. We would like to know the time-planning for every EUREP-member for implementing the standards and think this time-planning should be made publicly available for every individual supermarket. There must be a strict time planning.

**- conversion plan to organic**

EUREP-members could make a big step ahead by conversion to organic methods of crop growing. Funds for experiments are important and a start with conversion can be made to a full conversion for specific crops (cabbage, onions, potatoes) to organic growth within a given time period.

**- residues to zero.**

We advise to aim at a zero-level of residues (level of analytical detection). The scientific committee of the European Union has the opinion that the legal residue levels are not safe for specific groups like children. Any presence of residues in the products will give rise to discussion and undermines consumer confidence.

***Conclusion***

PAN Europe welcomes the EUREP/GAP-standards of the major European supermarkets, but we note that supermarket food still contains a high incidence of pesticide residues. We consider the standards as a first step towards a robust and ambitious system, and propose to guarantee that there is a real change to integrated methods of production and change the definition and the proposed ten key elements to ensure this. As a next step we ask EUREP to define detailed IPM/ICM-methods for every crop and different agricultural regions. EUREP members should also aim for zero residues, and meanwhile should provide informations in stores to consumers about the pesticides used on the food they sell. Suggestions for general methods, enforcement and accountability are made and also for new commitments of EUREP-members to realise a fast transition to sustainable methods of crop growing and trading.

**Annex: PAN Europe definition of IPM/ICM 'state-of-the-art'.**

**1. GAP for potatoes (consumption).**

IPM/ICM key elements	POTATOES
1. Soil structure	minimum clay %; humus %
2. Crop rotation	- Minimal 1:4; higher frequency wanted in future (1:6)- Analysis of nematodes on 25% of surface area per year
3. Varieties	Priority to phytophthora-resistance; sum resistance-number + ripeness >11; a substantial add (nematode resistance)
4. Fungi management	- A low number of plants per meter, ..- Working remnants of former crop under the soil.
5. Refugia	- 2% of surface area wild herbs/flowers; could coincide with the non-spraying/nutrient zone-maintaining and creating wooden banks
6. Nutrient management	- In winter green catch crop;- N-loss < 200 kg/ha; in two years lowered to 150 kg/ha- Pw > 60, no use of P-fertiliser- Pw < 60, maximum P2O5-loss 35 kg/ha
7. Weeding	Mechanical weeding before and during the crop season; only exemption weather conditions by written authorisation certifying organisation
8. Pesticide use	- Use of phytophthora alert systeem;- Maximum use of 10 kg/ha of active ingredient; in two years lowered to 8 kg/ha
9. Non-chemical pesticides	Use of plant reinforcing substances, bentonite, citrex
10. Resource management	No use of groundwater as water supply

## 2. GAP for tomatoes (glasshouses)

IPM/ICM key elements	TOMATOES
1. Soil structure	Not applicable, mainly artificial substrate; in future need to go back to soil system.
2. Crop rotation	Not applicable on the moment; Need to develop rotating system with other vegetables like cucumbers, sweet pepper, lettuce, radish.
3. Varieties	Priority to resistance against Botrytis
4. Fungi management	Temperature and humidity has to be controlled constantly (registration) and maintained at optimum level
5. Refugia	One full row of plants/herbs for maintaining biological control organisms (especially in winter)
6. Nutrient management	No loss of nutrients through recycling of feeding water (95% water recovery efficiency) and use of rainwater by collection in basins.
7. Weeding	Not relevant
8. Pesticide use	- Daily scouting for insects (plates); chemical spraying only locally (max. 10% surface area glasshouse); - no mist/fog application and no pesticides with a vapour pressure > 0,1 mPa;- maximum use of pesticides 7 kg/ha, lowered to 5 kg/ha in two years
9. Non-chemical pesticides	- Encarsia, Eretmocerus, Macrolophus against white fly;- Sluipwesp tegen mineervlieg
10. Resource management	- Recycling of artificial substrate/plastics;- Low energy input (max. 40 M3 natural gas/M2 surface area per year (limits winter crop growing), future 30 M3/M2 and lower- No CO2-fertilizing by burning natural gas- No use of peat

### 3. GAP for strawberries (open field).

IPM/ICM key elements	STRAWBERRYS
1. Soil structure	minimum clay %; humus %
2. Crop rotation	Minimal 1:4; higher frequency wanted in the future (1:6)
3. Varieties	Priority Phytophthora- and Mildew-resistance (variety Pavana for instance)
4. Fungi management	- Large distance between plants
5. Refugia	- 2% field area wild flowers/herbs (stimulating natural enemies of lice/spidermite).- maintaining and creating wooden banks alongside fields
6. Nutrient management	- In winter green catch crop;- N-loss < 250 kg/ha, lowered to 200 kg/ha in two years- Pw > 60, no use of P-fertiliser- Pw < 60, maximum P2O5-loss 35 kg/ha
7. Weeding	Full covering of the soil with straw, or for instance lycell-covering
8. Pesticide use	- weather sensor for Botrytis (experimental; in 2 years standard)- maximum of 8 kg/ha active ingredient; within two years lowered to 6 kg/ha
9. Non-chemical pesticides	- antagonist Ulocladium (Trichoderma in glasshouses) against Botrytis (experimental)- equisetum against mildew- Pseudomonas (on roots) to induce resistance against fungi (experimental)- biological control: sluipwesp against lice- biological control: Orion against trips
10. Resource management	No use of groundwater for water supply