



INTEGRATED PEST
MANAGEMENT PACKAGE ON OLIVE
Olive Fruit Fly Control

IDEASS^{ALBANIA}

Innovation for Development and South-South Cooperation



Introduction

by Josef Tedeschini and Brunhilda Stamo

The Integrated Pest Management (IPM) Package on olive is a strategy of olive pest control developed in Albania by the Plant Protection Institute (PPI), the leading institution of a wide research consortium. The IPM package gives the possibility to manage the olive fruit fly (*Bactrocera olea* Gml), the key pest of this crop that causes serious damage to the fruits and reduces the quality of the olive oil.

Olive production is a leading industry that contributes to local economic development and enhances the quality of life of the community. Albania is a traditional exporter of olives and olive oil and pests are the main constraint to production. In the past, olive fruits were treated with heavy quantities of broad-spectrum insecticides that are hazardous to the health and to the environment. At present, attempts are being made in Albania to reduce the use of chemicals by introducing new approaches, such as the integrated pest control (IPM) practices. In particular, the Plant Protection Institute (PPI), founded in 1971, promotes the adoption of practices that encourage a safe and efficient use of pesticides and support farmers in the implementation of innovative strategies.

The IPM package represents a sustainable means to combat the olive fruit fly and allows farmers to minimize environmental, health and economic risks. The IPM package consists of an innovative combination of three different methods:

- a specific monitoring system for the olive fruit fly, that can be easily adapted to different climatic conditions;
- the so called "Attract and Kill" method, that involves the use of pheromones and food attractants;
- cultural practices, such as the anticipated harvesting of olives to prevent heavy attacks of the olive fruit fly.

The IPM Programme in Albania is managed by the Plant Protection Institute, in collaboration with the Agriculture University of Tirana, the Fruit Tree Research Institute of Vlora, the Pennsylvania State University, the University of California and Virginia Tech. Between 2000 and 2004, this consortium provided assistance to the Albanian institutions for the production and exportation of olives, through a specific programme called "Integrated Pest Management Collaborative Research Support Programme" (IPM-CRSP). The objective of the consortium is to produce high quality olive oil, reducing losses and environmental

contamination and developing IPM practices to increase the quantity and quality of Albanian olives, both for domestic use and exportation.

At present, the IPM package is being adopted with excellent results in three organic olive farms in the Tirana and Vlora regions. Organic olives are certified by the BIOSWISSE international certification. The use of the IPM package brings relevant benefits to the environment, since it allows a reduction in the use of pesticides and in the amount of pesticides residues on olive products, thus increasing the beneficial fauna in the olive ecosystem. The relevant economic benefit is represented by the opportunity for farmers to produce organic olive oil and to introduce it into the national and international markets at very advantageous prices. Economic analyses show that the IPM Package gives the Albanian olive industry the potentiality to achieve benefits up to 39 million USD over the next 30 years.

It is estimated that the olive fruit fly is responsible for 30-40% of the losses in the olive production of the Mediterranean region. The IPM package can be used in all countries infested with olive fruit flies.

What problem does it solve?

The olive fruit fly *Bactrocera olea* Gmelin (Dipt., Tephritidae) is one of the most dangerous insect pests of the olive agro-ecosystem. The insect can survive and develop in any area of the world where olive trees are grown. In the areas where the olive fruit fly is not controlled, it has been responsible for losses up to 80% of the oil value. For some varieties of table olives, this pest can even destroy the whole crop. It is estimated that the insect is responsible for 30-40% of the losses in the olive production of the Mediterranean region.

The olive fruit fly is strictly monophagous and the gravid female lays her eggs inside the olive fruit. The resulting larvae feed digging tunnels through the mesocarp, which gets quickly infected with fungus. The affected olive fruit is unsuitable for processing and the quality of the resulting olive oil is sharply reduced. The adults, although active all year round if temperatures are suitable, are only of economic concern during the growth period of the olive fruit. Egg laying and damage normally commence in early summer although most of the damage occurs in the autumn when the fruit is maturing.



Olives showing oviposition "stings"



Fruit Fly



Eggs are laid singly under skin of immature olives and hatch in 2-3 days



In summer, larvae pupate in fruit



Larvae burrow into fruit and develop for 10-15 days



Olives showing exit holes of emerged fly

OLIVE FRUIT FLY LIFE CYCLE

The olive fruit fly overwinters as a pupa in the soil although a proportion of the population can emerge during the winter months.

- Most adults emerge in spring
- Eggs are laid singly under the skin of immature olives and hatch in 2-3 days
- Larvae burrow into fruit and develop for 10-15 days
- In summer, larvae pupate in fruit
- Life cycle in summer takes about 4 weeks

The control of olive fruit fly is usually based on the use of organophosphorus insecticides (bait and cover sprays). The continued use of such products has however been questioned in recent years especially by environmentalists. Pesticides residues have been detected in olive oil and in the environment where olives are grown. There is a strong tendency to replace these broad spectrum insecticides with methods or materials which are less destructive and deleterious to the environment and to human health.



During the last decades, all the olive growing countries of the Mediterranean region have devoted great effort to developing alternative methods for the monitoring and control of the olive fruit fly by means of semiochemicals, both sex pheromones and food attractants. The researches conducted were also aimed at inserting these methods into the IPM package, together with other cultural practices (early olives harvesting) as a means to escape from the high infestation of the *Bactrocera oleae*.

Attempts to control olive fruit flies by luring them into killing devices were first made in Greece in the 60's. McPhail traps, baited with a solution of hydrolyzed protein, were used to lure flies into them. Yellow sticky traps have also been used to attract the fly but, as emphasized by many authors, they can be detrimental to beneficial insects that also respond to the lure. Since the pheromones of the olive fruit fly were identified, pheromones traps have been developed and tested in Spain, Greece and Italy.

The introduction of semiochemicals-based products (sex pheromones and food attractants) and cultural practices, as control method in IPM packages of olive fruit fly control, has been very successful and has produced the most satisfying results in terms of efficacy, reduced crop losses, increased farmers' income, reduced use of pesticides and reduced pesticides residues on olive products.

IPM package in practice

The use of IPM package to control olive fruit fly is based on three elements:

- Implementation of the best monitoring system for the olive fruit fly.
- Adoption of the “Attract and Kill” system to control *B. olea*.
- Adoption of adequate cultural methods (proper timing for olive harvesting) to escape from the high level of olive fruit fly.

MONITORING OF OLIVE FRUIT FLY

In order to find out where the olive fruit fly is, to understand what it is doing and to assess the effectiveness of the applied control measures, it is essential to implement an effective monitoring system. Adult olive fruit fly populations are usually monitored with yellow sticky traps baited with sex pheromones and ammonium bicarbonate. Sex pheromones are attractive to male flies, whereas ammonium bicarbonate is primarily attractive to females. Both male and females are attracted to



the trap's yellow color. If used correctly, traps can provide information about:

- The presence or absence of olive fruit flies in olive groves
- Pest populations and their dynamics.

This information, together with a periodic damage assessment on samples of olive fruits, help field operators to decide on the optimum time for the olive fruit fly control. Traps used for monitoring purposes can be different from those used as a control measure. The traps should be hung on the south side of the olive tree on the outside of the canopy. Flies caught per trap/5 days are noted. The traps should be hung as high as possible at the beginning of olive fruit fly activity. In Albania, the most productive monitoring results are being achieved by using traps purchased in Italy.

“ATTRACT AND KILL” METHOD TO CONTROL OLIVE FRUIT FLY

How Does It Work?

The so-called “Attract and Kill” method consists of a green colored bag containing 70g of ammonium bicarbonate. On the outside the bag is covered with a pyrethroid insecticide (deltamethrin) and is also baited with a sex pheromone dispenser containing 80mg of spirochetal. Flies are attracted by the pheromones and the ammonium bicarbonate and land on the pyrethroid baited bags, receiving a lethal dose of insecticide. The “Attract and Kill” method does not require the use of sticky traps and therefore continues to be effective for an extended period of time. The devices used for this method have been purchased in Greece.



How Many Devices Will You Need?

If 80-120 olive trees are planted per hectare, one device for every tree is needed. If the olive trees have a small or medium size canopy, one device has to be attached every other tree. The larger the treated area, the better the results achieved. It is advisable to treat areas of at least 5 hectares. Growers with smaller groves should co-operate with their neighbors in order to treat an adequately sized area.

When Should You Use The Target Devices?

The system is designed to provide season-long protection against the attacks of the olive fruit fly. The device should be hung on the tree before the beginning of olive fruit fly's sexual activity and before the first attacks. The onset of sexual activity is indicated by an increasing catch in the pheromone-baited traps. In most Albanian

locations this usually occurs at the end of June, as shown by the monitoring of olive fruit fly activity. Do not delay your application. Apply in good time to prevent the population of olive fruit fly getting out of control. Replace the target device again during the first day of September when the population density of olive fruit fly start to be higher.

The adoption of this method is economically convenient as it doesn't require any follow-up fieldwork. It is an effective treatment against olive fruit flies which does not require the use of pesticides, therefore not leaving poisonous chemicals on fruits and leaves. The method is respectful of the ecosystem and it produces an adequate environment for the growth of other useful insects. It is completely biological and complies with the European regulations (2092/91), so it can successfully be used in olive organic agriculture cultivation.

The cost of the "Attract and Kill" method in Albania has been of approximately US\$ 1,00 per tree per year. It reduced by 99.5% the amount of insecticides used for olive protection (15 mg a.i. per tree per year, compared to 3 g, in case of bait sprays). The extension of the use of the "Attract and Kill" method and the mass production of the required material (especially traps) is expected to result in a considerable reduction in its cost.



CULTURAL METHODS TO ESCAPE FROM THE HIGH LEVELS OF OLIVE FRUIT FLIES

Olive harvest can be properly timed to maximize yields and minimize olive fruit flies infestation. When the temperature drops below 30°C, olive fly infestation increases and affects the oil quality due to the increase in the oil acidity percentage. If growers succeed in selecting the optimal time to simultaneously maximize yields and minimize olive fruit flies infestation, the use of chemicals to control olive flies can be reduced.

To find the optimal time when these two processes can be balanced several researches were done with the main olive varieties in Albania (Kalinjoti and Frantoi) identifying the period at which oil formation is at its high, collecting olive fruit samples at ten day intervals starting from the first days of September till the end November and monitoring the level of olive fruit fly infestation during autumn. The effect of harvest timing has to be adapted to each area and to each cultivar, according to the specific geographic and environmental conditions.

Results

The Plant Protection Institute, in collaboration with the Consortium and the Albanian Organic Agriculture Association (AOAA), established three organic olive farms for the first time in 2003 in the Vlorë region (with the producers of Kanina, Aliban and Shamogjin areas), totalling 5,400 olive trees. In 2003 organic olive oil was produced from 8,000 olive trees also in the Tirana area. The product is certified by an international certification body, BIOSWISSE. About 3 tons of organic extra virgin olive oil are expected to be exported to Switzerland.

The evaluation of the results of the IPM method was carried out taking into account the olive fly population density throughout the activity period of the pest, the fruit infestation level and the number of bait and chemical spray applications required for achieving an acceptable crop protection level. Olive fruit fly population density was monitored using the Chromo-traps baited with sex pheromones and attractant food. Fruit damage was assessed every week and the results were compared with those where insecticide was applied and with untreated trees until harvest of crop.

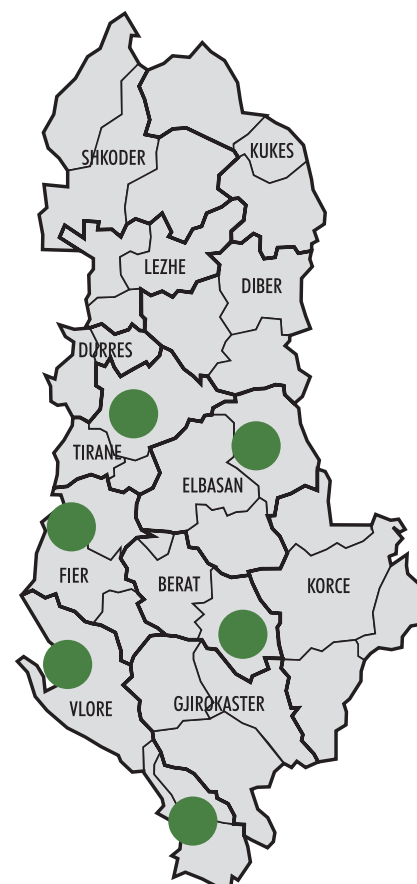
At present, the monitoring of the olive fruit fly and the implementation of IPM Package in Albania is carried out by research institutions. The IPM technology for the production of organic olives is being transferred to farmers in many different ways. In cooperation with Ministry of Agriculture and Food (MoAF), regional workshops have been conducted in various areas of the main regions where olive cultivation is predominant (Sarandë, Elbasan, Tirane, Berat, etc.).

Presentations on the management of olive pests have been made by the IPM CRSP project; during these events participants (inspectors, Albanian olive growers, farm advisers) were given further extension material. In cooperation with FAO, workshops and demonstrations have been organised and 10,000

Eco-traps have been distributed in order to facilitate the understanding of the IPM method and to improve the control of the olive fruit fly in Novosela district. Extension agents and farmers have been trained in the implementation of the “Attract and Kill” method. The farm demonstration trials are used to teach farmers about improved IPM technologies for olive insect pest and disease control. Through their participation in the demonstration trials, 35,000 olive trees were managed as based on IPM CRSP recommendations.

Since the innovation is based on a three-step methodology, it is important to analyze results step-by-step.

APPLICATION OF “ATTRACT AND KILL” METHOD



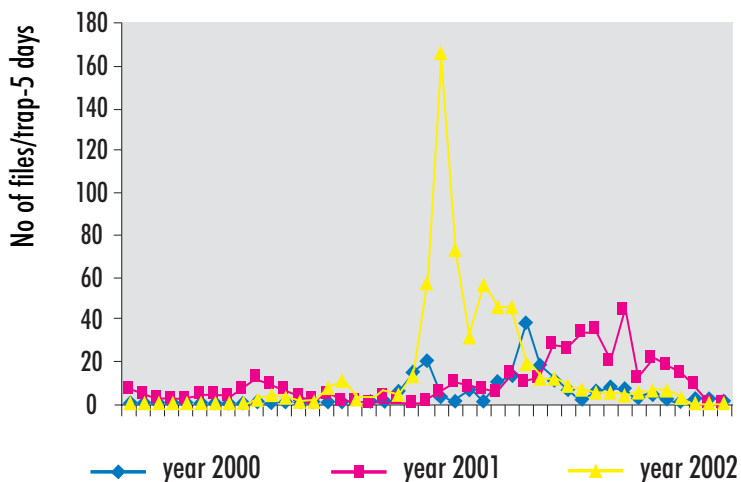


Fig 1. Mean capture of olive fruit fly on Chromo-trap

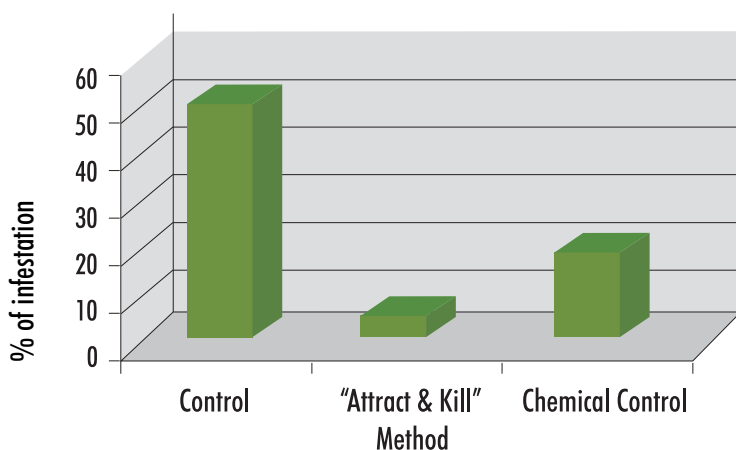


Fig 2. Olive fruit fly infestation during harvest time on Cv Kalinjot an isolated olive grove.

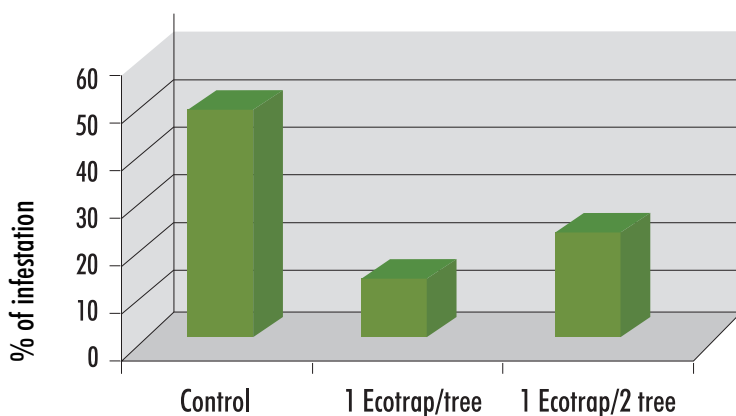


Fig 3. Olive fruit fly infestation at the harvest period

MONITORING OF THE OLIVE FRUIT FLY

Olive fruit fly (*Bactrocera olea* Gmelin) is the key pest damaging olives in Albania.

Trap catches (Fig 1) indicated that the olive fruit fly population varied through the year seasons. The first flies appeared during the second half of May and June. A low level of olive fruit fly population is observed during the hot and dry summer months and the mean capture/trap had never been over 20 flies/trap. At the end of August and during the autumn the olive fruit fly developed high population due to favourable conditions for fly reproduction (environmental temperatures, relative humidity and fruit susceptibility). The catches of olive fruit fly started to increase having a maximum captures on October 5 (38 flies/trap), on November 10 (44 flies/trap) and on September 5 (167 flies/trap) respectively for the years 2000, 2001 and 2002.

"ATTRACT AND KILL" METHOD

During the course of this research, it was observed that the "Attract and Kill" method can significantly reduce olive fruit fly infestation (Fig 2.). The results obtained until the end of November, both with isolated and non-isolated olive groves, showed that one killing device per tree provided adequate protection on late ripen cultivations, especially in years when the density of the olive fruit flies' population was limited. For that reason, curative treatments with insecticides were not necessary to keep the fly population and the fruit infestation at low level.

Good results have been obtained also using 1 Eco-trap every other tree in olive groves with a low or medium sized olive canopy. During the harvest period, the olive fruit fly infestation reached an acceptable level. (Fig 3)

It must be highlighted that good results have been obtained also in non-isolated olive groves where the “Attract and Kill” method was applied, using one Eco-trap per tree only in September. No significant differences have been registered when the Eco-traps have been applied twice (in June and in September) (Fig 4). In this case, it must be emphasized that the cost of the treatment is 50% lower.

Regarding cv Frantoi (an early ripen cultivar) on the year with a low pest population density, infestation level in the orchard protected by “Attract and Kill” technique were lower than those in untreated control and in the orchards protected by bait sprays.

However, in years with unusually damp weather, which favors the development of the olive fruit fly, both the “Attract and Kill” method and the bait sprays provided inadequate protection against infestation. In these cases, it could be necessary to apply additional insecticides or to anticipate the harvest of olives.

OLIVE HARVEST TIMING

The anticipated harvest of olives has proved to be a useful cultural method that contributes to the integrated control of olive fruit flies. Researches found that early harvest prevents fruits from being attacked during the olive fruit flies population peaks, while maintaining unvaried the yield and the quality of the oil. As olives mature, both the quality and the content of the oil increase (Fig.5).

Depending upon the olive variety, the harvest period in Albania usually falls in late November, when the population of the olive fruit fly reaches its most dangerous level (Fig.6). One of the options that were taken into consideration was to harvest olives before the level of the olive fruit fly infestation increases. However, data were needed on the quality and the yield of the olive oil made from early-harvest olives. Over a three year period, samples of olive fruits were collected at 10 days intervals during September, October and November. The varieties used were Frantoi and Kalinjot, two important oil-producing varieties in Albania.

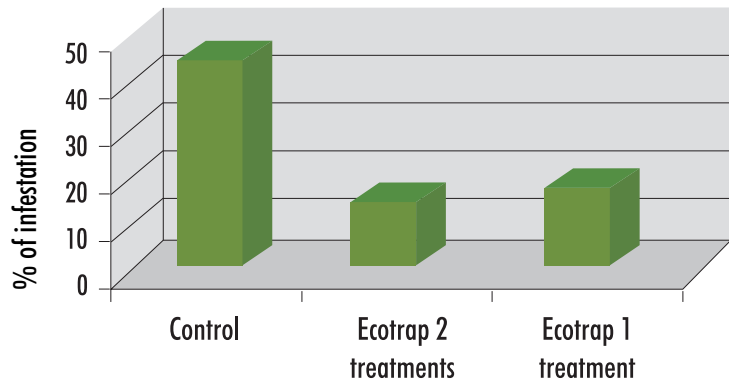


Fig. 4. Olive fruit fly infestation at the harvest period

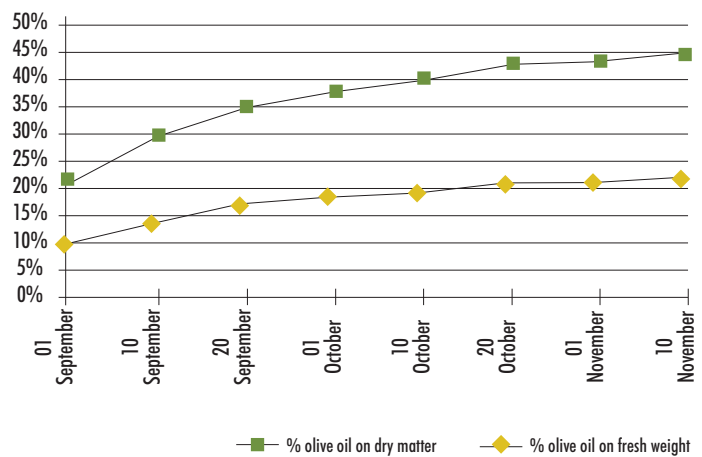


Fig 5. Olive oil content of Frantoi olives (note flattening of curve from late October through November)

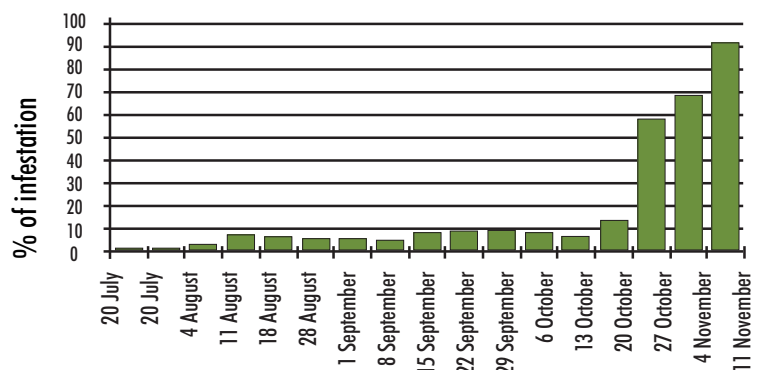


Fig 6. Olive fruit fly infestation in olive cultivar Frantoi (note increasing infestation level by third generation in late October and November)

The olive oils made from these fruits were analyzed at the OLITECN S.R.L. laboratory (Athens, Greece) and at the Chemiservice laboratory (Monopoli, Italy), both accredited by the International Olive Oil Council (IOOC). The olives harvested between mid October and early November were rated as extra virgin, whereas the mid November sample was rated as virgin (Tab.1). Research has provided an IPM cultural tactic that allowed an improved fruit quality due to reduced pest infestation, while maintaining acceptable oil yield and quality.

Tab. 1. Characteristics of olive oil produced on different date of harvest (year 2001)

| Characteristics of olive oil produced on: | 15 Oct | 01 Nov | 15 Nov | Max level |
|--|-------------------------------|-------------------------------|-------------------------|-----------------|
| ACIDITY%: | 0,95 | 0,71 | 1,39 | (1,00) |
| K270: | 0,123 | 0,106 | 0,117 | (0,200) |
| K232: | 1,821 | 1,460 | 1,757 | (2,500) |
| ΔK: | 0,000 | -0,001 | -0,001 | (0,010) |
| PEROXIDE (meq/kgO2) | 8,9 | 6,8 | 7,9 | (20,0) |
| POLYPHENOLS (AS cafeic acid) ppm: | 124 | 215 | 169 | |
| Oil type according to European Rule 7568/91 | Extra Virgin olive oil | Extra Virgin olive oil | Virgin olive oil | |

PRACTICAL CONCLUSIONS

The anticipated harvesting of olive has demonstrated to be a useful cultural method that aid in integrated control of olive fruit fly.

This method could be included in the IPM package on olive crop system.

In order to have optimum of olive oil accumulation, a good olive oil quality and in the same time to avoid the high attack of olive fruit fly the best time to start the harvest for cv Kalinjoti could be considered the first decade of November and for cv Frantoi it is the first and second decade of October depending on the years.

The olive oil analysis done at accredited labs by IOOC indicated that from anticipated harvesting it is possible to produce extra virgin oil.





International interest

The implementation of the IPM package to reduce the use of pesticides in the olive-production industry is highly advantageous.

Semiochemical-based products (Eco-Traps) have been successfully introduced on a pilot scale in a number of olive growing countries. These trials are now being extended to cultivations in Spain, Italy and Greece; at present, all Mediterranean countries are showing a great interest in the implementation of the IPM package.

The promising results obtained should stimulate further investigations on environment-friendly methods for the control of the olive fruit fly in large-scale trials over a broader geographical range.

The implementation of the IPM package in Albania is supported by United States Agency for International Development (USAID). The Pennsylvania State University, the University of California and Virginia Tech are working in close collaboration with the Albanian institutions to promote the production of organic olives for exportation. The olive oil analysis was performed at laboratories accredited by the International Olive Oil Council (IOOC), in collaboration with specialized structures in Greece and Italy.



Using IPM Package in other countries

Management of olive fruit fly (*Bactrocera oleae* Gml.) in a country will depend on a combination of early detection of pests, an effective attract and kill trapping of adult flies and cultural practices.

In order to adopt the IPM Package, a consortium of competent institutions must take interdisciplinary and combined action. The institutions that could be involved include: agricultural research institutions, universities, experts in olive production and extension services. It is important to emphasize that the action taken must be highly interdisciplinary and collaborative, due to the specific characteristics of the method.

In order to prevent infestation in commercial production areas it is essential to detect olive fruit flies early. The Ministry of Agriculture should develop a national management plan to detect and control olive fruit flies in the olive-growing

districts; the plan should include methods for the catch of adult flies as well as control procedures.

“The Attract and Kill” method is very simple and does not require an extensive technological background or a great amount of knowledge to be transferred to farmers.

The necessary technical equipment consists only of eco-traps, that are produced by specialized private companies in various Mediterranean countries and that can be easily found by the Institution that promotes the method in other countries.

Although the use of the IPM package for the control of the olive fruit fly is not subject to any legislative restriction, the semiochemical-based products (Eco-traps) needed for the “Attract and Kill” method can only be used after registration. The registration procedure varies from country to country.



The steps to be taken for the implementation of the IPM Package are:

- Set up of a Consortium with agricultural research institutes and universities to carry out the following activities;
- Identification of potential areas for the implementation of the IPM Package;
- Monitoring of the key pests;
- Control of the key pests (olive fruit fly) with the “Attract and Kill” method;
- Control of the key pests with cultural methods;
- Design of the appropriate IPM Package, based on the previous steps;
- Transfer of the IPM technology to the olive growers of the selected areas, through the Extension Services of the Regional Administrations;
- Identification of the farmers’ associations interested in implementing IPM Package;
- Theoretical and technical training of the farmers on the use of IPM Package;
- Organisation of regional workshops and demonstration trials on IPM technology;
- Practical training on the application of “Attract and Kill” method;
- Application of IPM Package, in collaboration with the Albanian olive growers Associations, independent growers and farm advisers.

To learn more

For further information about the implementation of IPM package to control olive fruit fly, please contact:

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Bibliography

- Arambourg. Y., 1986 - Entomologie oleicole Cons. Oleic. Int. Madrid f.360
- Broumas T., & Haniotakis G., 1987 - Further studies on the control of the olive fruit fly by Mass-Trapping. Proc. II Intern. Symposium Fruit Flies, Crete. Sept 1986 f. 561-565.
- Bueno A. M., Jones O., 2002 - Alternative methods for controlling the olive fly *B. oleae*, involving semiochemicals. IOBC WRPS Bulletin Vol. 25.
- Collier R. etj. 2003 - Prospects for integrated control of olive fruit fly are promising in California. California Agriculture Vol 57 f 28-31
- Delrio G. 1995 - Controllo integrato dei fitofagi dell'olivo. Inf fitopat 12 f 9-15
- Economopoulos AP., 2002 - The olive fruit fly *Bactrocera oleae* Gmelin: it's importance and control; previous Site researches and pilot testing. Report to Intern. Atomoc Energy Agency, Viena, Austria. f. 44
- Ferguson, L., G.S. Sibbett, G.C. Martin. 1994 - Olive Production Manual. University of California publication f. 156
- Guarino A. etj. 2001 - Le principali avversità parassitarie dell'olivo Bari f.134
- Haniotakis G. etj 1991 - An effective mass trapping method for the control of *D. oleae*. Journ. Econ. Entom. F. 84
- Iannotta N., Perri L., Rinaldi R., 1994 - Control of the olive fly by mass trapping in Calabria. Acta Horticulturae, 356: f. 411-413.
- IPM CRSP - Ninth Annual Report 2001-2002. Albanian Site f. 452-509
- IPM CRSP - Tenth Annual Report 2002-2003. Albanian Site f. 534-588
- Katsoyannos P. 1992 - Olive pests and their control in the Near East Fao Publication f. 178
- Mazomenos B. etj. 2000 - Attract and kill of olive fruit fly *B. oleae* in Greece as a part of an Integrated Control System. Samos, Greece. f. 10
- Montiel-Bueno A. 1986 - The use of sex pheromone for monitoring and control of olive fruit fly. Proc II Intern. Symp. Fruit Flies Crete, Greece Amsterdam Elsevier Science f. 483-95
- Neuschwander P. etj., 1978 - The infestation of *Dacus oleae* Gmel at harvest time and its influence on yield and quality of olive oil in Crete. Z. ang. Ent., 86 f. 420-433.
- Richard E. R., 2000 - Bionomics of the olive fruit fly *Bactrocera (Dacus) oleae*. UC Plant Protection Quarterly Vol 10. 3. f 1-5.
- Tedeschini J., Isufi E., Uka R., Bacaj M., Pfeiffer D., 2003 - "Attract and Kill" method using Eco-traps for controlling of OFF in Albania-(poster). 4th National IPM Symposium held in Indianapolis, 8-10 April 2003.
- Tedeschini J., Thomaj F., Panajoti Dh., Bacaj M., Pitts C., Pfeiffer D., Ferguson L., 2003 - Effect of harvest timing on olive fruit fly infestation and olive oil yield and quality (poster). 4th National IPM Symposium held in Indianapolis, 8-10 April 2003.
- Tedeschini J., Stamo B., Huqi B., Pace H., Bacaj M., McGiffen M., Ferguson L., 2003 - Organic method of Vegetation Management and Olive Insects control in Albania. -(poster). 4th National IPM Symposium held in Indianapolis, 8-10 April 2003.
- Tremblay E. 1990 - Entomologia applicata.

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The IDEASS Programme – Innovation for Development and South-South Cooperation – is part of the international cooperation Initiative ART. IDEASS grew out of the major world summits in the 1990s and the Millennium General Assembly and it gives priority to cooperation between protagonists in the South, with the support of the industrialised countries.

The aim of IDEASS is to strengthen the effectiveness of local development processes through the increased use of innovations for human development. By means of south-south cooperation projects, it acts as a catalyst for the spread of social, economic and technological innovations that favour economic and social development at the local level. The innovations promoted may be products, technologies, or social, economic or cultural practices. For more information about the IDEASS Programme, please consult the website: www.ideassonline.org.



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Innovation for Development and South-South Cooperation



ART - Support for territorial and thematic networks of co-operation for human development - is an international co-operation initiative that brings together programmes and activities of several United Nations Agencies. ART promotes a new type of multilateralism in which the United Nations system works with governments to promote the active participation of local communities and social actors from the South and the North. ART shares the objectives of the Millennium Development Goals.

In the interested countries, ART promotes and supports national co-operation framework programmes for Governance and Local Development - ART GOLD. These Programs create an organized institutional context that allows the various national and international actors to contribute to a country's human development in co-ordinated and complementary ways. Participants include donor countries, United Nations agencies, regional governments, city and local governments, associations, universities, private sector organizations and non-governmental organizations.

It is in the framework of ART GOLD Programmes where IDEASS innovations are promoted and where cooperation projects are implemented for their transfer, whenever required by local actors.