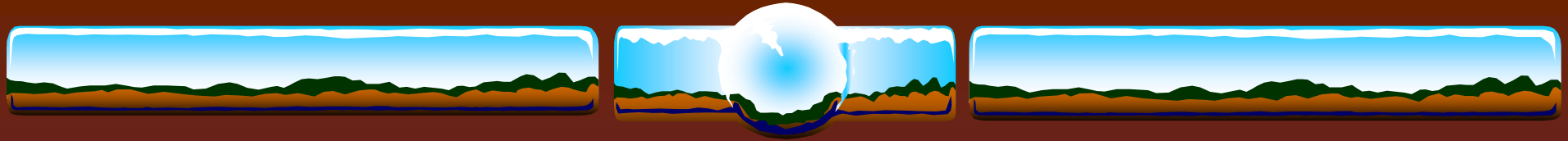


HONEYBEE DISEASES - THE CURRENT SITUATION IN GREECE

Dr. Angeliki Tsigouri



Εθνικός Οργανισμός Φαρμάκων
National Organization for Medicines



DATA on Greek apiculture

- BEEKEEPERS 24,000 (5,000 professionals)
- HONEYBEE COLONIES 1,300,000
- HONEY PRODUCTION 14,000 TONS/YEAR



SOURCE: Ministry of Rural Development & Food



BEE HEALTH

Directorate of Animal Health (Directorate General of Veterinary Services,
Ministry of Rural Development & Food)

LEGISLATION

- COUNCIL DIRECTIVE 92/65/EEC of 13 July 1992 laying down animal health requirements governing trade in and imports into the Community of animals, **as ammended**
- GREEK PRESIDENTIAL DECREE 184/1996

NOTIFIABLE DISEASES

1. American Foulbrood
2. *Aethina tumida*
3. *Tropilaelaps* spp



VETERINARY PRACTICE

- 2000-2002 EPIZOOTIC SURVEY
(OBLIGATORY- RELATIVELY LARGER NUMBER OF
APIARIES)
[Adult honeybees, capped worker brood → vet lab]
- 2003-2009 SURVEY ON VOLUNTARY BASIS
- VISITS AFTER BEEKEEPER'S REQUEST
- SAMPLES TAKEN BY THE STATE VETS OR BROUGHT
BY BEEKEEPERS
- SAMPLES EXAMINED BY THE STATE VET. LABS

PRIVATE VET. LABORATORIES, RESEARCH INST., UNIV.
LABS



SAMPLES EXAMINED AND FOUND POSITIVE/DISEASE/YEAR

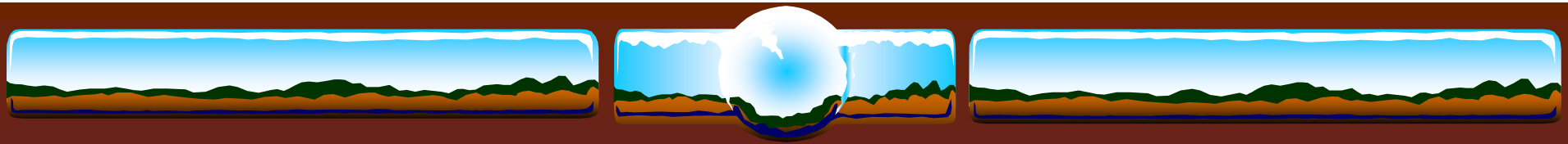
(Source: Bee Diseases Lab. /Center of Vet. Institutions of Athens, Ministry of Rural Development & Food)

YEAR	TOTAL SAMPLES	PEST/DISEASE					
		NOSEMA	VARROA	CHALKBR.	AFB	EFB	OTHERS
2000	592	201	14	24	4	2	2
2001	425	57	16	62	12	6	92
2002	827	276	18	20	9	11	227
2003	240	84	20	0	2	18	25
2004	226	89	17	9	13	22	58
2005	323	110	53	8	23	57	76
2006	135	49	11	6	5	15	16
2007	162	22	1	0	6	7	7
2008	262	32	12	1	38	5	20
2009	233	63	33	3	30	18	29
TOTAL	3425	983	195	133	142	161	552

LEGEND

PERIOD OF APPLICATION OF EPIZOOTIC SURVEY

RESULTS PENDING

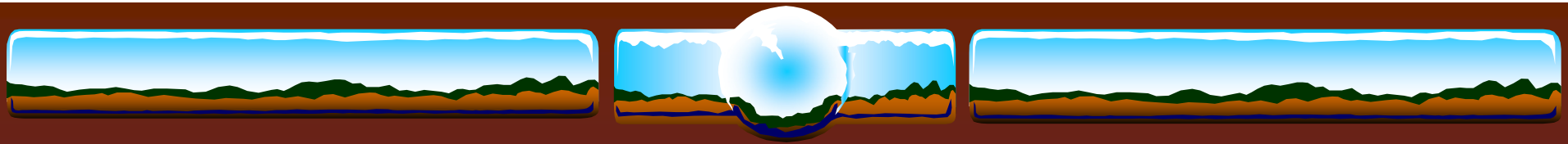


3 Years epizootic survey

(Source: Bee Diseases Lab. /Center of Veterinary Institutions of Athens)

YEAR	TOTAL SAMPLES	PEST/DISEASE					
		NOSEMA	VARROA	CHALKBR.	AFB	EFB	OTHERS
2000	592	201	14	24	4	2	2
2001	425	57	16	62	12	6	92
2002	827	276	18	20	9	11	227
	1844	534	48	106	25	19	321

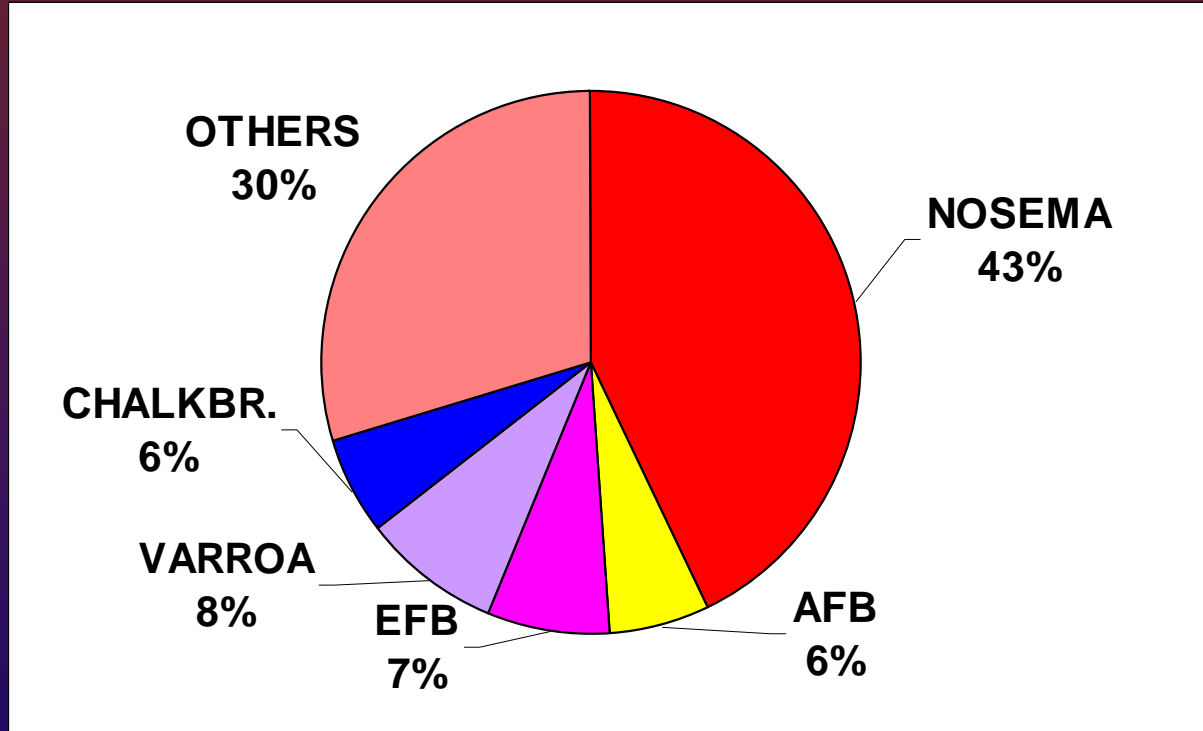
Positive: 57%
Negative: 43%

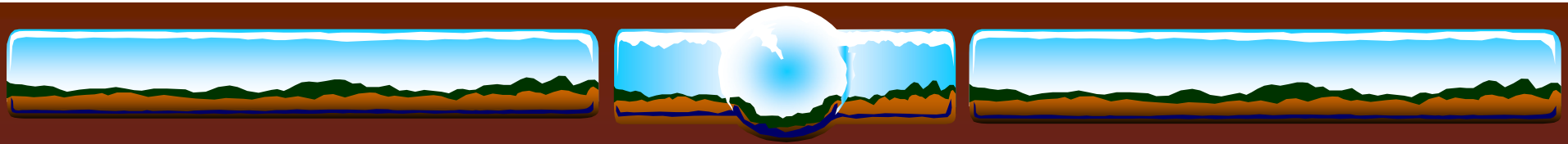


YEARS 2000-2009 (3,425 samples)

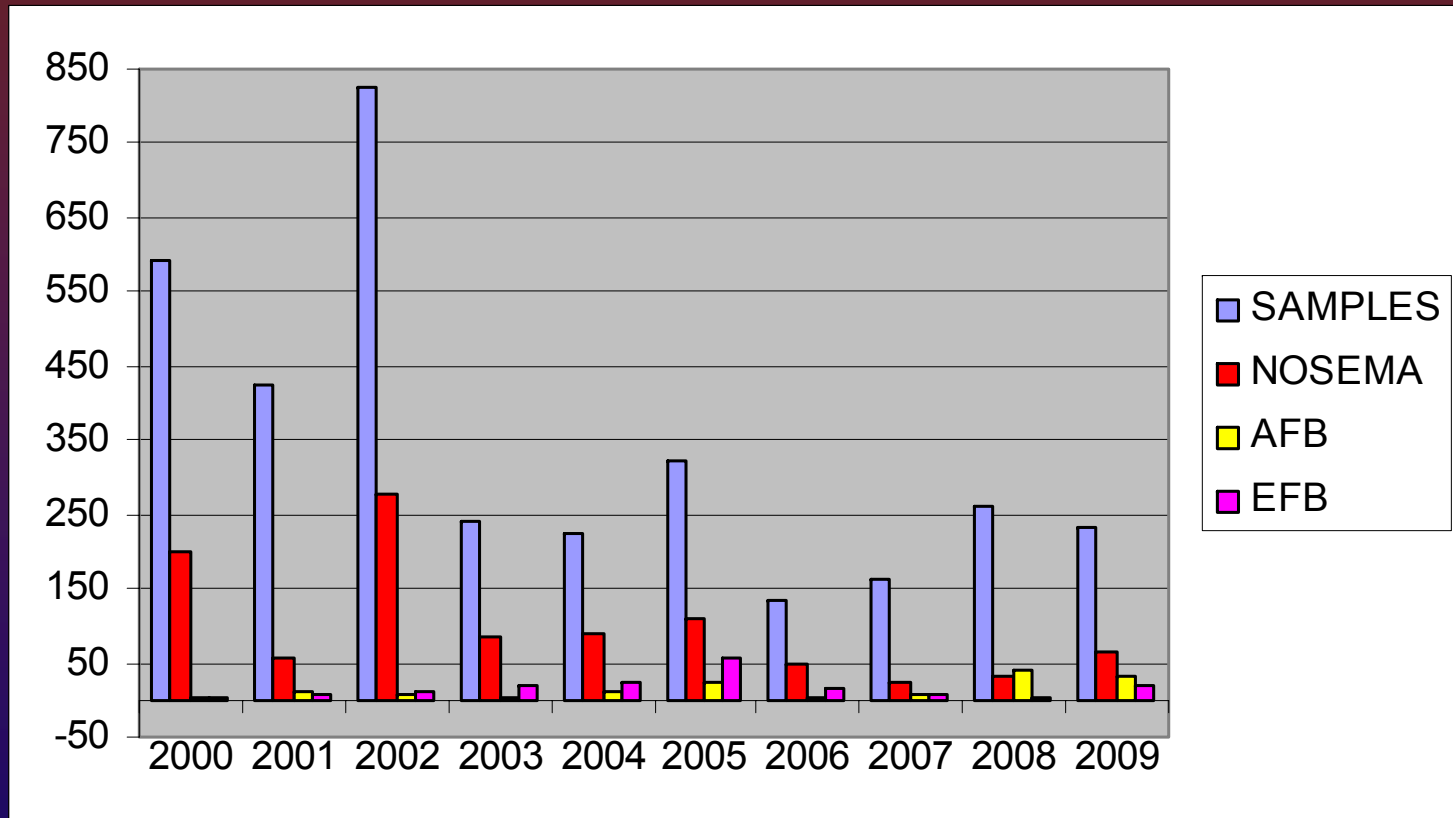
(Source: Bee Diseases Lab. /Center of Veterinary Institutions of Athens)

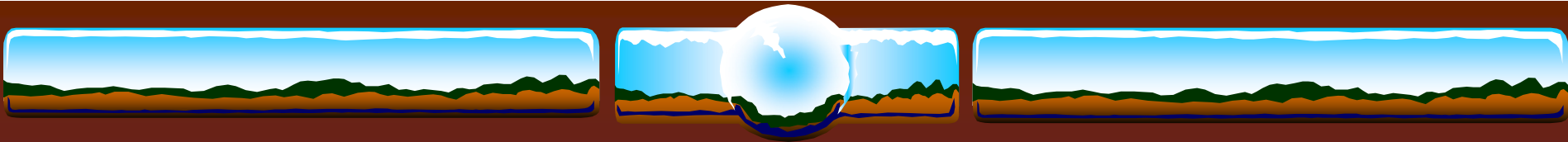
% OF PEST or DISEASE/TOTAL POSITIVE SAMPLES



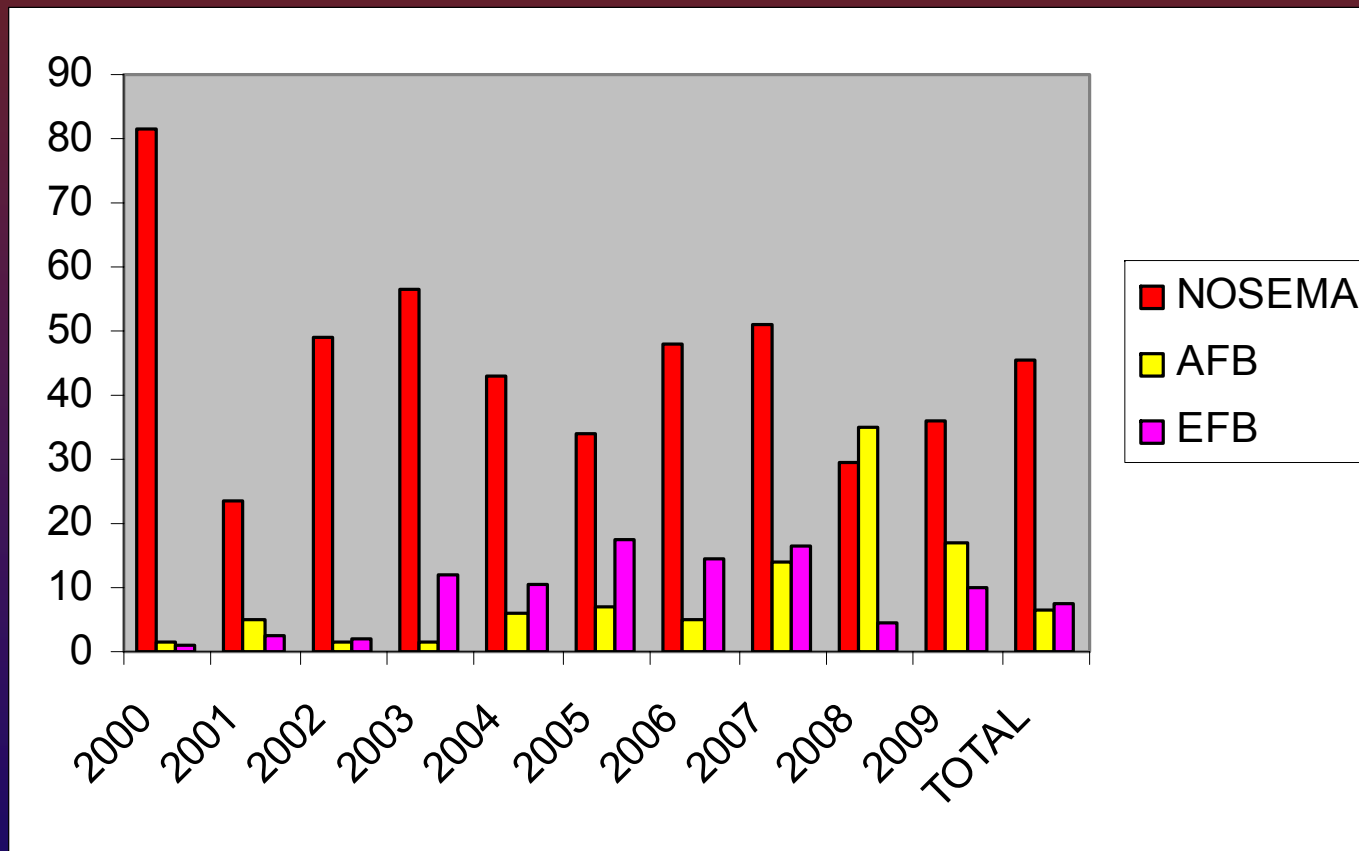


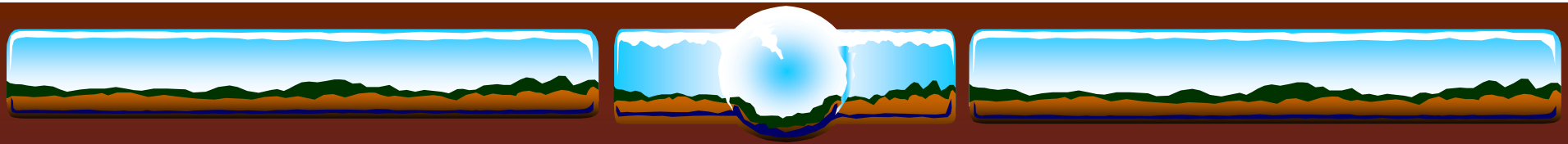
SAMPLES EXAMINED AND FOUND POSITIVE/YEAR FOR NOSEMOSIS, AFB & EFB (Absolute No of samples)



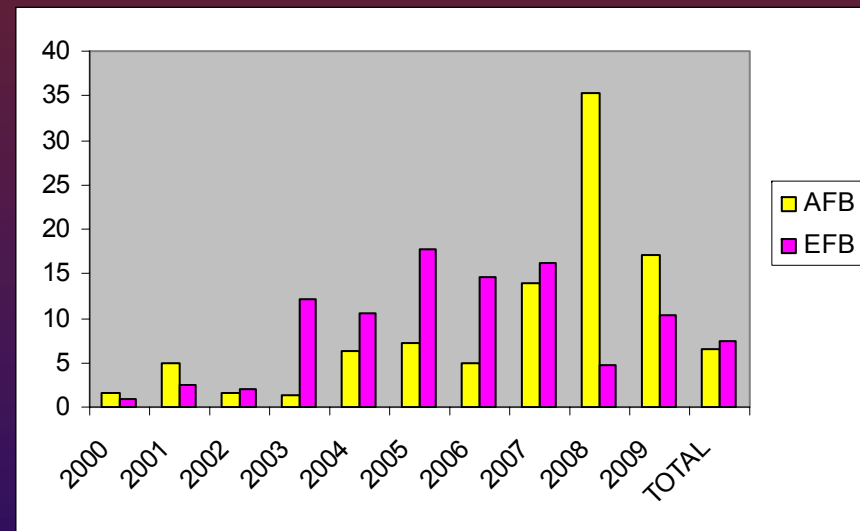
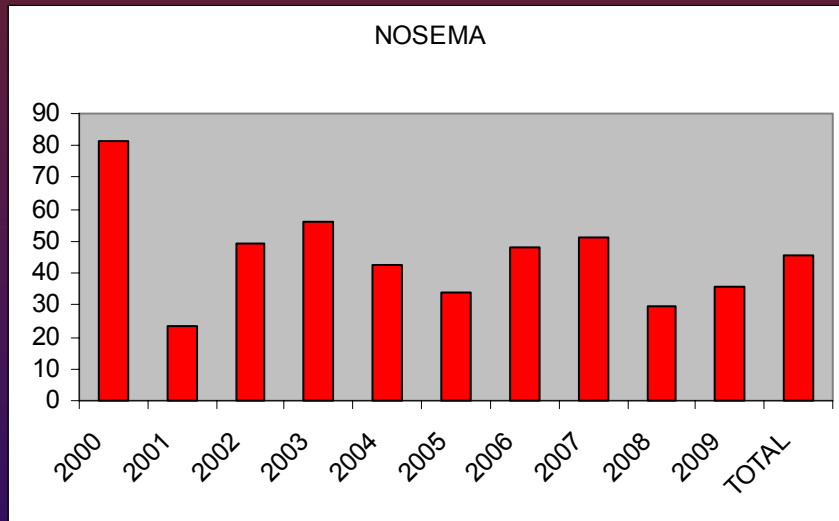


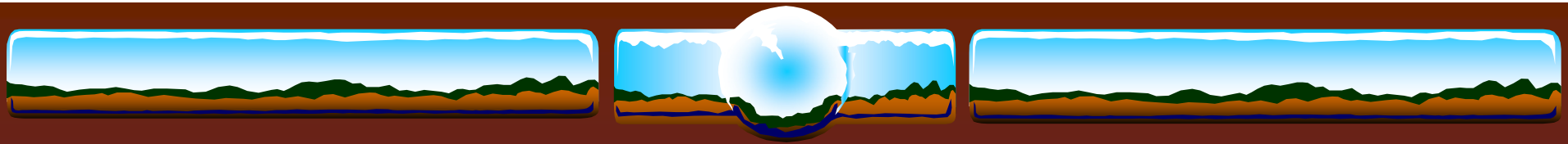
% OF SAMPLES POSITIVE FOR NOSEMOSIS, AFB & EFB /TOTAL POSITIVE SAMPLES/YEAR





% OF SAMPLES POSITIVE FOR NOSEMOSIS, AFB & EFB /TOTAL POSITIVE SAMPLES/YEAR



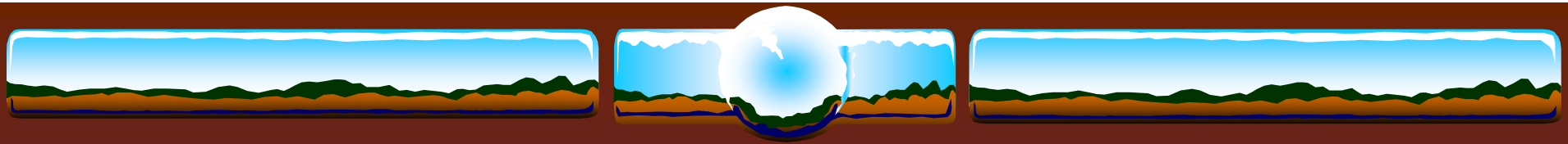


PEST/DISEASE	CONTROL	
	MANAGEMENT METHODS	CHEMICAL METHODS ACTIVE SUB./VMP
NOSEMOSIS	_____	FUMAGILLIN/—
VARROOSIS	✓	Pyrethroids, coumaphos, thymol, org. acids / ✓
CHALKBROOD	✓	
AFB	BURNING ✓	_____
EFB	✓	OTC /—
OTHERS (Acariosis, viruses)	✓	_____



GREECE **VARROOSIS** 7 Authorized VMP (4 p.a. substances)

VMP	p.a. substance	MRL in honey	Auth. Proc. /Year
AFIGUARD	Thymol	Not required	MR/2003
APILIFE VAR	Thymol	Not required	MR/2009
APISTAN	T-Fluvalinate	Not required	Nat./1991
BAYVAROL	Flumethrin	Not required	Nat./2000
CHECKMITE	Coumaphos	100 µg/kg	Nat./2006
PERIZIN	Coumaphos	100 µg/kg	Nat./1988
THYMOVAR	Thymol	Not required	MR/2008



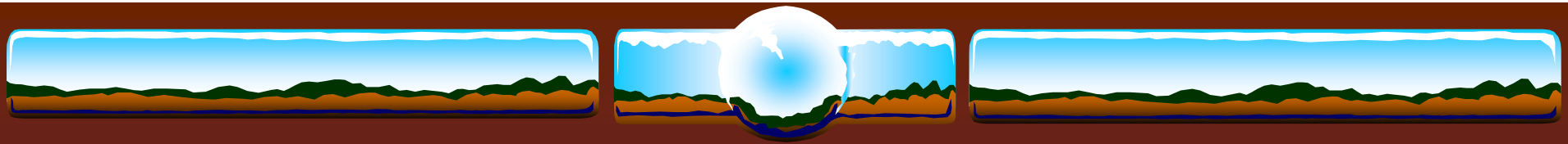
CMD(v)

Bee products: Situation in Europe (EMEA/497311/2009 rev. 1)


Member State: Greece

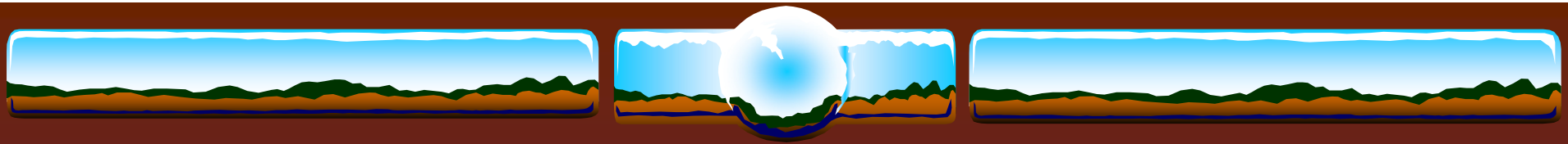
Product	Number	Authorisation Holder	Active Substance	Indication	VMP or Biocide
Perizin solution	24351/1988	Bayer Germany	coumafos	Treatment of varroa	VMP
Apistan hive strip	40520/2004	VITA EUROPE UK	fluvalinate	>>	>>
Bayvarol hive strip	38274/1999	Bayer Germany	flumethrin	Treatment of varroa jacobsoni	>>
Thymovar hive strip	61536/2008	Andermatt biocontrol AG Switzerland	thymol	Treatment of varroa destructor	>>
Apiguard gel	22971/2003	VITA EUROPE UK	thymol	Treatment of varroa destructor	>>
Check Mite hive strip	16941/2006	ALAPIS S.A	coumaphos	Treatment of varroa destructor	>>

Apilife Var | **CHEMICALS LAIF SRL**



Member State: Czech Republic

Product	Number	Authorisation Holder	Active Substance	Indication	VMP or Biocide
Varidol		Bee Research Institute, Ltd. Máslovice – Dol 94252 66 Libcice n. Vlt.	amitraz	Varroosis - Varroa destructor	VMP
Gabon PF 90		Bee Research Institute, Ltd. Máslovice – Dol 94252 66 Libcice n. Vlt.	tau-fluvalinate	Varroosis - Varroa destructor	VMP
Formidol		Bee Research Institute, Ltd. Máslovice – Dol 94252 66 Libcice n. Vlt.	Formic acide	Varroosis - Varroa destructor	VMP
Gabon PA 92		Bee Research Institute, Ltd. Máslovice – Dol 94252 66 Libcice n. Vlt.	acrinathrine 	Clinical studies – Varroa destructor	VMP
XY		Bee Research Institute, Ltd. Máslovice – Dol 94252 66 Libcice n. Vlt.	thymol	Clinical studies – Varroa destructor	VMP



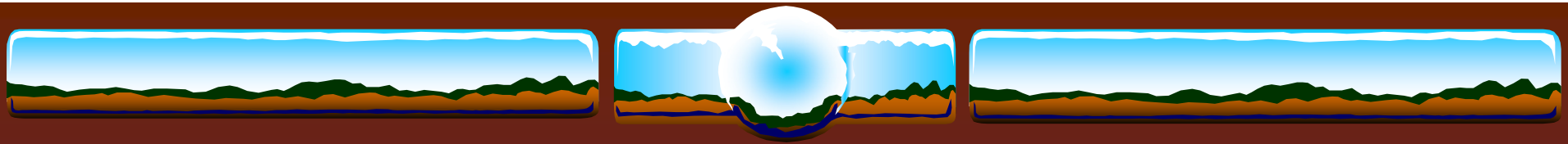
EMA/497311/2009 rev. 1



Member State: Lithuania

Product	Number	Authorisation Holder	Active Substance	Indication	VMP or Biocide
BAYVAROL, avilio juostelės	LT/2/93/0050/001	Bayer Animal Health GmbH (Germany)	Flumethrin	Diagnosis and treatment of varroosis	VMP
APIGUARD 50 g, gelis	LT/2/04/1641/001	Vita (Europe) Ltd. (United Kingdom)	Thymol	Treatment of varroosis (<i>Varroa destructor</i>).	VMP
APISTAN, avilio juostelės	LT/2/98/0691/001	Vita (Europe) Ltd. (United Kingdom)	Tau-fluvalinate	Destruction of <i>Varroa destructor</i> mites	VMP
Gabon PA 92. avilio juostelės	RVB 2005/0024/2	Bee Research Institute Ltd., Máslovice – dol 94, 252 66 Libčice nad Vltavou, Czech Republic	Acrinathrin	Control of varroosis (<i>Varroa destructor</i>).	Biocide, type 18





EMA/497311/2009 rev. 1

Member State: **Slovakia**

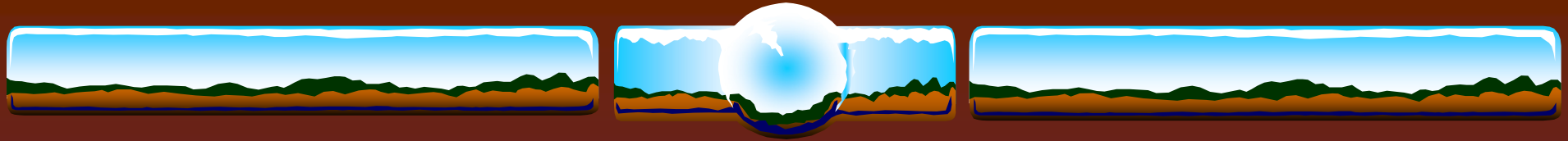
Mehpatika solution	022/R/05-S	Biopharm-Martínek, mieroVA 2, 984 01 Lučenec, Slovak Republic	3-p-cimenol (Thymol)	Prevention of the chalk brood disease at Honey bees (<i>Apis mellifera</i>), the treatment of the already installed disease, the diminishing of the infection of the external parasite <i>Varroa destructor</i>	VMP
Nonosz solution	021/R/05	Biopharm-Martínek, mieroVA 2, 984 01 Lučenec, Slovak Republic	Ortho-hydroxy-benzoic acid sodium salt 10 g/100 ml	Preventing the Nosemosis (<i>Nosema apis</i>) at honey bees (<i>Apis mellifera</i>) and curing the already developed illness	VMP
Oxypharm plv.sol.	96/0593/96-S	Pharmagal s.r.o., Murgašova 5, 94901 Nitra, Slovak Republic	Oxytetracyclini hydrochloridum	European Foulbrood of Honeybee Larvae (treatment-protection application to the winter feed for bees) (not only for bees)	VMP





TO CONCLUDE:

- HIGH NUMBER OF POSITIVE SAMPLES FOR **NOSEMOSIS** THROUGHOUT THE 10-YEAR PERIOD
 - ~ ~ **No VMP available**
- MODERATE INFESTATION OF **AFB & EFB**
 - ~ ~ **No VMP available**
- NEW POSSIBLE THREATS – ISOLATION OF NEW SPECIES OF NOSEMA (***N. CERANAE***) – UNKNOWN IMPACT
- NEED FOR ANNUAL SURVEILLANCE PROGRAMMES & BETTER DATA



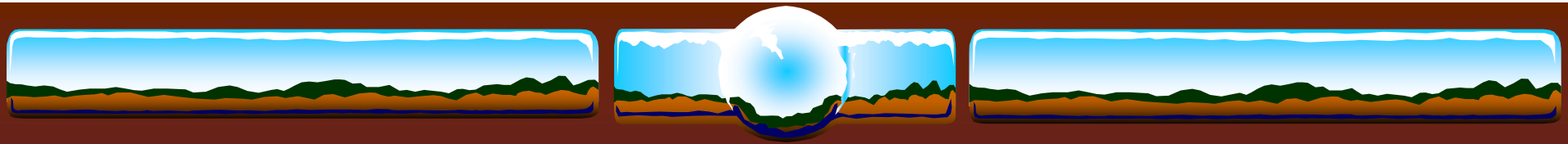
NOSEMOSIS

2002-2005 use of FUMIDIL (fumagillin)
under the direct supervision of the State Veterinary Services.

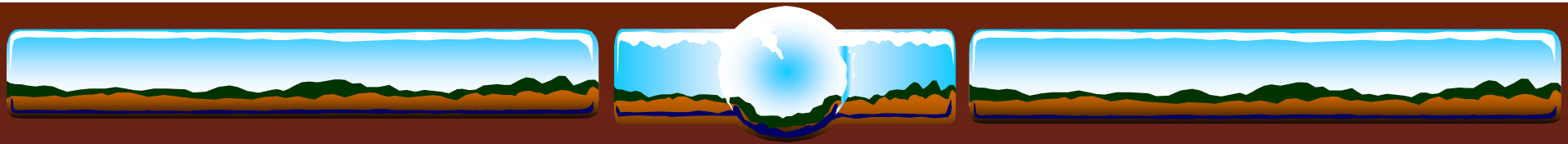
PROCEDURE

1. REQUEST FOR EXAMINATION BY THE BEEKEEPER
2. SAMPLE EXAMINED AT A VETERINARY LAB
3. VETERINARY PRESCRIPTION FOR THE VMP IN QUANTITY NECESSARY FOR ONE TREATMENT ONLY
4. PRESCRIPTION POSSIBLE ONLY DURING A LIMITED TIME PERIOD OF THE YEAR, FAR FROM THE PERIOD OF HONEY COLLECTION





5. BEEKEEPER'S REQUEST AT THE NATIONAL ORGAN. FOR MEDICINES FOR IMPORT OF A SPECIFIC QUANTITY OF THE VMP
6. THE NAT. ORG. FOR MEDICINES INFORMS THE COMPANY IMPORTING FOR THE TOTAL QUANTITY NEEDED
7. MEDICINAL PRODUCT DISPATCHED TO THE BEEKEEPER BY THE IMPORTING COMPANY
8. BEEKEEPER INFORMS THE STATE VETS ON START AND END OF TREATMENT
9. IMPORTING COMPANY UNDER THE SUPERVISION OF THE NATIONAL ORGANISATION FOR MEDICINES



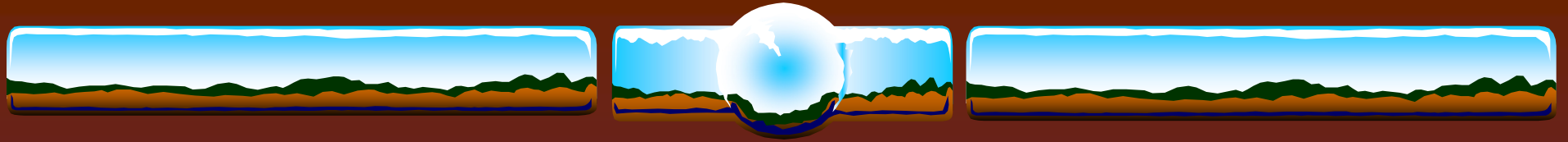
FVO (DG SANCO) Inspection programme, April 2005



Recommendation regarding Fumagillin - to stop imports
(as the a.s. is not listed in Annex I – III of Reg. No 2377/90)

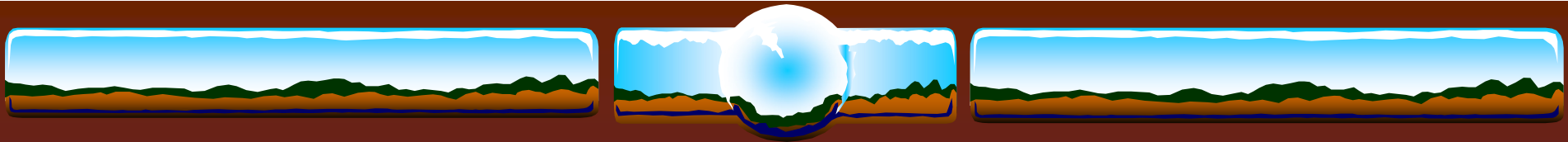


Termination of procedure
by the Ministry of Rural Development & Food



CURRENTLY:

- BEEKEEPERS' COMPLAINTS REGARDING USE & TRADE OF FUMIDIL IN OTHER M.S.
- INFORMATION ABOUT ILLEGAL IMPORTS OF FUMIDIL IN GREECE



EFB

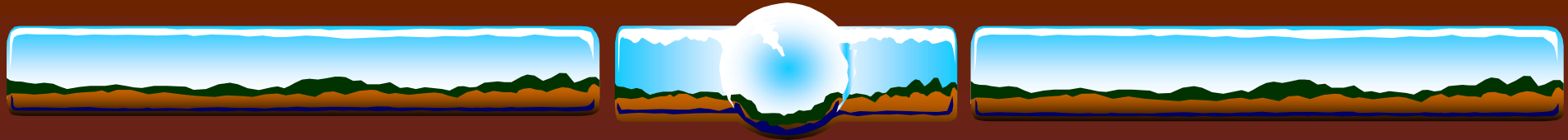
- Until end of 2000: Use of TERRAMYCIN (OTC)
- After 2000: No VMP available
- The “CASCADE” procedure is not helpful
 - since there is ‘zero tolerance’ for antibiotics in

honey =

HOWEVER,

Reg. (EC) No 470/2009, Article 27 §2: for a substance that an MRL has been established under Regulation (EEC) No 2377/90, the Commission or a Member State may also submit to the EMEA a request for an opinion on extrapolation to other species or tissues

Hope for future treatment under cascade



ADDITIONALLY

✓ REG. No 2092/91 on organic production of agricultural products ...

BEEKEEPING:

The use of veterinary medicinal products in beekeeping which complies with this Regulation shall respect the following principles:

(e) without prejudice to the principle in (a) above **formic acid, lactic acid, acetic acid and oxalic acid** and the following substances: **menthol, thymol, eucalyptol or camphor** can be used in cases of infestation with *Varroa jacobsoni*.

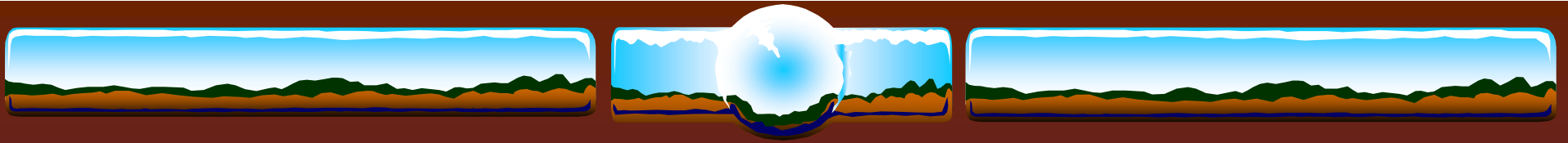
(a) they can be used in so far as the corresponding use is authorised in the Member State in accordance with the relevant Community provisions or national provisions in conformity with Community law;

✓ DIRECTIVE 2001/82/EC on the Community code relating to VMP

Article 5: No veterinary medicinal product may be placed on the market of a Member State **unless a MA has been granted** by the competent authorities of that Member State in accordance with this Directive or a MA has been granted in accordance with Regulation (EC) No 726/2004.

For the above substances to be legally used as VMPs, 'products' should be granted MA.

No MA so far.



***Thank you
for your attention***

