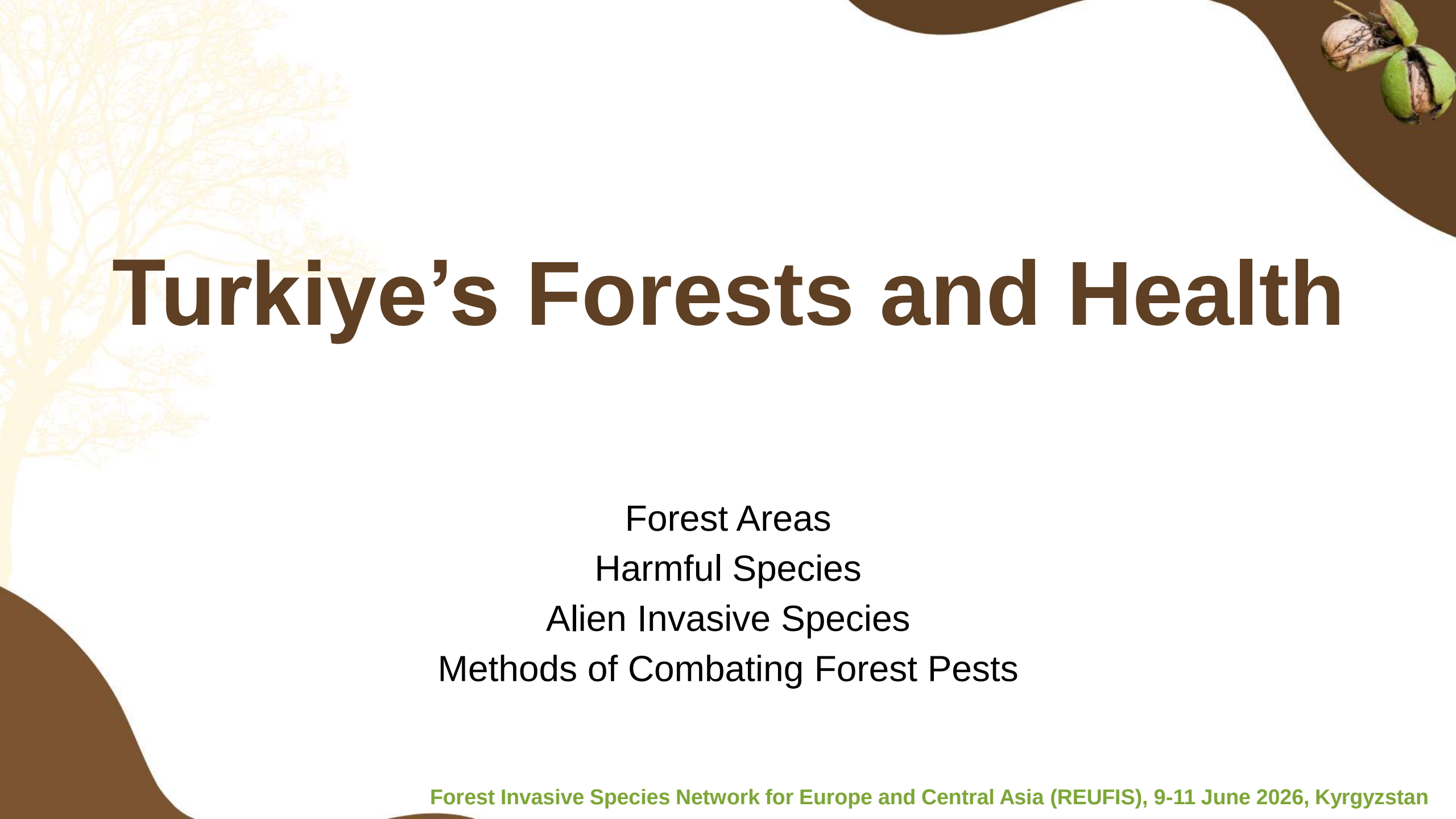




Turkiye's Forests and Health

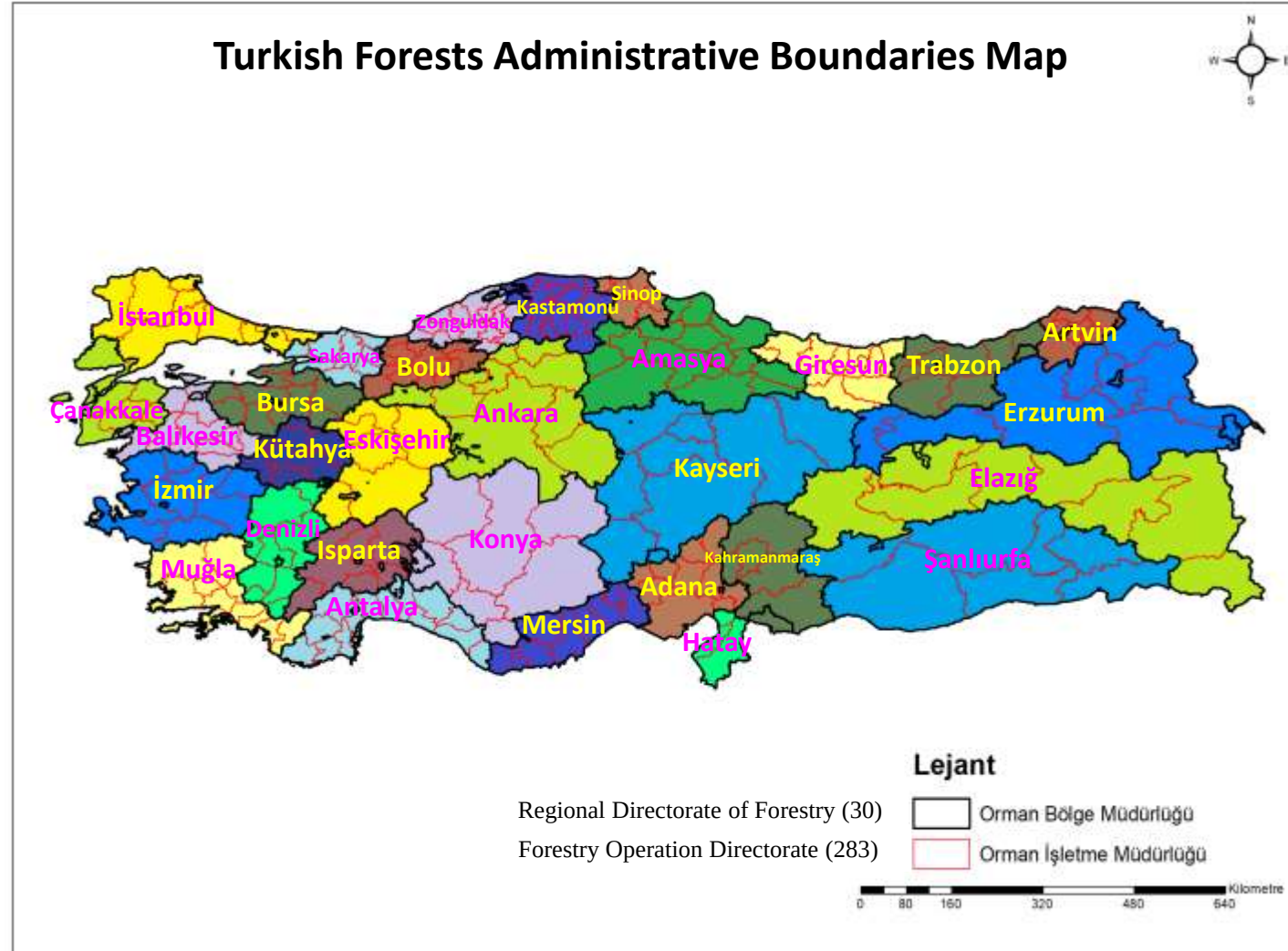
Forest Areas

Harmful Species

Alien Invasive Species

Methods of Combating Forest Pests

Organisational Chart of Regional Directorate of Forestry in Türkiye



1/3 Of Türkiye's Surface Area (783.562 km²) is Covered With Forests
Türkiye yüzölçümünün 1/3 ormanlarla kaplıdır.

Total Forest Area by Tree Species, 2024



(Hektar-Hectare)			Forest Form			
Tree Type Groups			Total	Productive	%	Degraded %
Meşe	- Oak	(<i>Quercus</i> sp)	6 924 886	2 856 051	41	4 068 835 59
Kızılçam	- Turkish pine	(<i>Pinus brutia</i>)	5 244 708	3 561 917	68	1 682 791 32
Karaçam	- Crimaen pine	(<i>Pinus nigra</i>)	4 119 105	2 810 286	68	1 308 819 32
Kayın	- Beech	(<i>Fagus orientalis</i>)	1 877 111	1 641 872	87	235 239 13
Ardıç	- Juniper	(<i>Juniperus</i> sp)	1 590 151	469 601	30	1 120 550 70
Sarıçam	- Scots pine	(<i>Pinus sylvestris</i>)	1 407 090	922 778	66	484 312 34
Gök nar	- Fir	(<i>Abies</i> sp)	512 204	402 165	79	110 039 21
Sedir	- Cedar	(<i>Cedrus libanî</i>)	580 515	331 893	57	248 622 43
Ladin	- Spruce	(<i>Picea orientalis</i>)	350 474	277 094	79	73 380 21
Fistikçamı	- Stone pine	(<i>Pinus pinea</i>)	160 344	140 184	87	20 160 13
Kızılağaç	- Alder	(<i>Alnus</i> sp)	143 937	110 961	77	32 976 23
Kestane	- Chestnut	(<i>Castanea sativa</i>)	73 610	59 579	81	14 031 19
Gürgen	- Hornbeam	(<i>Carpinus betulus</i>)	54 611	44 814	82	9 797 18
Sahilçamı	- Maritime Pine	(<i>Pinus maritima</i>)	62 601	56 266	90	6 335 10
Kavak	- Poplar	(<i>Populus</i> sp)	51 871	27 375	53	24 496 47
Fındık	- Hazelnut	(<i>Corylus</i> sp)	11 613	10 913	94	700 6
Defne	- Daphne	(<i>Laurus nobilis</i>)	12 928	6 341	49	6 587 51
Dişbudak	- Ash tree	(<i>Fraxinus</i> sp)	11 793	9 804	83	1 989 17
Diğer türler	- Other species	(<i>Juglans</i> , <i>Prunus</i> etc.)	173 532	73 704	42	99 828 58
TOPLAM - Total			23 363 084	13 813 598	59	9 549 486 41



Production of Non Wood Forest Products in Forested Areas

Product type	Ürün Türü	Unit Ölçü Birimi	Year 2024
Chestnut	Kestane	Tons	407
Carob	Keçiboynuzu	Tons	520
Thymus	Kekik	Tons	768
Laurus nobilis	Defne	Tons	37 327
Rosmarinus officinalis	Biberiye	Tons	278
Salvia	Adaçayı	Tons	51
Tilia	İhlamur	Tons	80
Cistus	Laden	Tons	66
Hypericum montana	Kantaron	Tons	0,5
Lavandula officinalis	Lavanta	Tons	24
Lavandula stoechas	Karabaş	Tons	5
Matricaria chamomilla	Papatya	Tons	0,5
Melissa officinalis	Oğul otu	Tons	0,2
Galanthus elwasii	Kardelen	Tons	25
Eranthis hyemalis	Sarı kar çiçeği	Tons	1
Leucojum aestivum	Göl soğanı	Tons	162
Cyclamen cilicium	Siklamen	Tons	18
Sweetgum oil	Sığla Yağı	Tons	2
Resin	Reçine	Tons	963
Natural mushroom	Doğal mantar	Tons	137
Underbrush	Çalılar	Tons	28 389
Folium myrti	Mersin yaprağı	Tons	553
Rhododendron	Orman gülü	Tons	17
Moss	Yosun	Tons	262
Lichen	Liken	Tons	18
Cone of semen pine	Fıstık çamı	Tons	1124

Organizational Chart of General Directorate of Forestry

Orman Genel Müdürlüğü **General Directorate of Forestry**

Orman Zararlılarıyla Mücadele Dairesi Başkanlığı

Department of Combating Forest Pests

Orman Bölge Müdürlüğü (30)

Regional Directorate of Forestry (30)

Orman İşletme Müdürlüğü (283)

Forestry Operation Directorate (283)

Orman İşletme Şefliği (2157)

Forest Sub-district Directorate (2157)

Protection Teams (2217)

Koruma Ekipleri (2217)

Collective Protection Teams
(2196)

Sensitive Area Protection Teams
(21)

The Most Common Pest Species in Türkiye



Leafhopper - Yaprak Zararlıları

Bud and Shoot Pests - Tomurcuk ve Sürgün Zararlıları

Pest Species	Host Species	Pest Species	Host Species
<i>Thaumetopoea pityocampa</i>	Pine, Cedar	<i>Rhyacionia buoliana</i>	Pine
<i>Lymantria dispar</i>	Oak	<i>Dryocosmus kuriphilus</i>	Chestnut
<i>Acleris undulana</i>	Cedar	<i>Pristiphora abietina</i>	Spruce
<i>Euproctis chrysorrhoea</i>	Oak	Cone And Seed Pests - Kozalak ve Tohum Zararlıları	
<i>Hyphantria cunea</i>	Ash, Hazelnut, Walnut, Beech, Maple	Pest Species	Host Species
<i>Cydalima perspectalis</i>	Boxwood	<i>Leptoglossus occidentalis</i>	Pine, Fir, Spruce, Cedar
<i>Diprion pini</i>	Pine	<i>Gravitarmata osmana</i>	Cedar
<i>Neodiprion sertifer</i>	Pine	<i>Dioryctria mendacella</i>	Pine
<i>Tortrix viridana</i>	Oak		
<i>Malacosoma neustria</i>	Oak, Hornbeam, Willow		

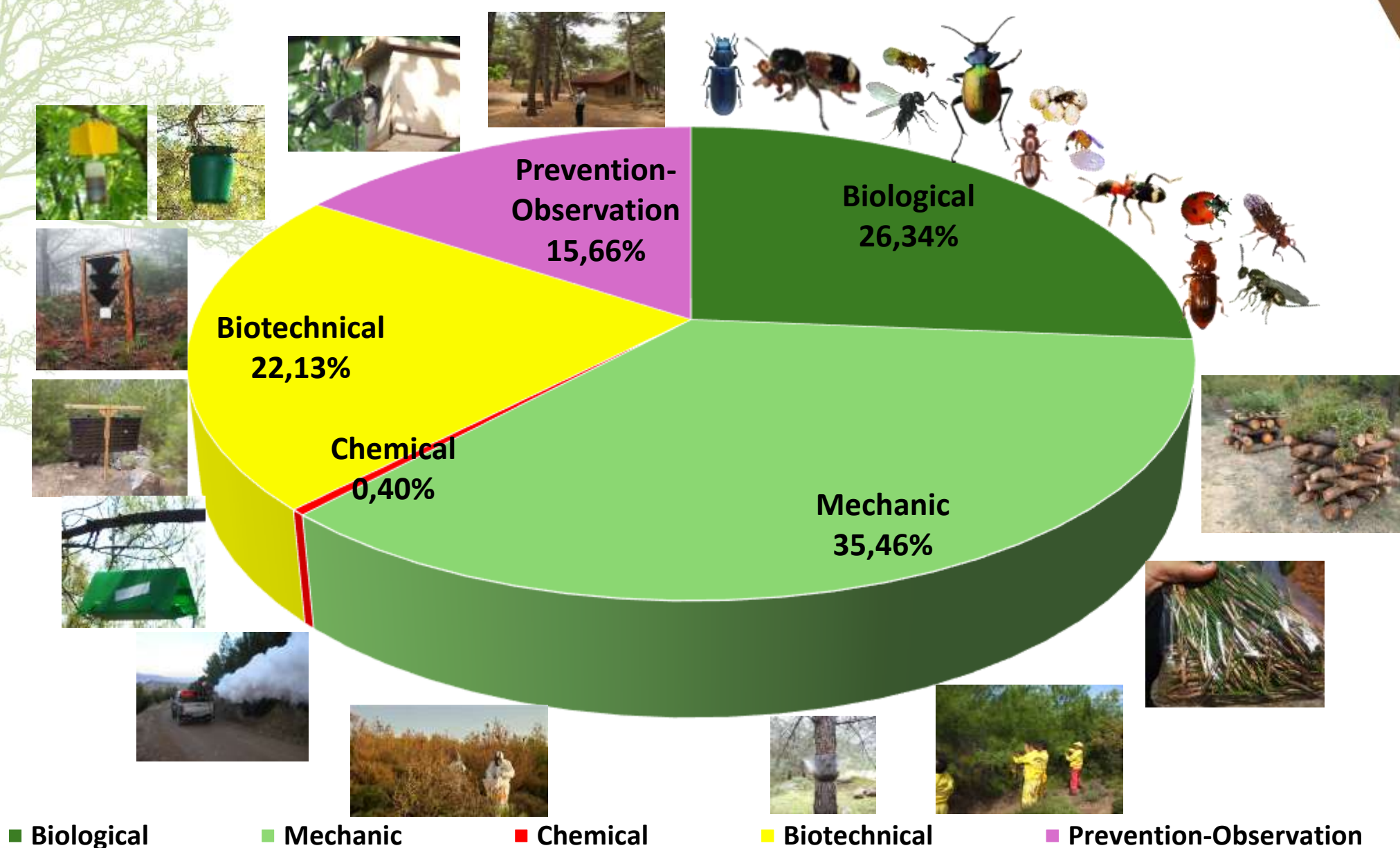
Pest Species	Host Species	Pest Species	Host Species
<i>Dendroctonus micans</i>	Spruce	<i>Gryllotalpa gryllotalpa</i>	Young Sapling, Ornamental Plant
<i>Ips acuminatus</i>	Pine, Fir, Spruce, Juniper	<i>Hylobius abietis</i>	Pine, Spruce, Fir
<i>Ips sexdentatus</i>	Pine, Fir, Spruce	<i>Melolontha melolontha</i>	Pine, Fir, Spruce, Cedar, Birch Beech, Hornbeam, Chestnut, Oak, Maple, Poplar
<i>Ips typographus</i>	Spruce	<i>Polyphylla fullo</i>	Pine, Poplar
<i>Orthotomicus erosus</i>	Pine	Sap-Sucking Pests – Öz Suyu Emen Zararlıları	
<i>Orthotomicus tridentatus</i>	Cedar	Pest Species	Host Species
<i>Pissodes notatus</i>	Pine, Fir, Spruce	<i>Cinara cedri</i>	Cedar
<i>Pityokteines curvidens</i>	Fir, Cedar, Pine	<i>Marchalina hellenica</i>	Pine, Cedar
<i>Tomicus destruens</i>	Pine	<i>Corythucha arcuata</i>	Oak
<i>Tomicus minor</i>	Pine, Cedar	<i>Leucaspis pusilla</i>	Pine, Cedar
<i>Dioryctria sylvestrella</i>	Pine	<i>Leucaspis pini</i>	Pine, Cedar
<i>Pityogenes bistridentatus</i>	Pine, Cedar, Spruce	Mistletoe – Ökse Otu	
<i>Anoplophora chinensis</i>	Pine, Poplar, Maple, Willow, Birch, Plane, Elm	<i>Viscum album</i>	Pine, Fir, Poplar, Willow

The Most Common Pest Species in Türkiye

Diseases - Hastalıklar

Pest Species	Host Species
<i>Phytophthora</i> spp.	Chestnut, Fir, Oak, Pine, Daphne
<i>Dothistroma septosporum</i>	Pine, Fir, Spruce
<i>Diplodia sapinea</i>	Pine, Cypress, Thuja
<i>Cryphonectria parasitica</i>	Chestnut, Oak
<i>Cylindrocladium buxicola</i>	Boxwood
<i>Armillaria</i> spp.	Pine
<i>Heterobasidion annosum</i>	Pine, Fir, Spruce
<i>Gymnosporangium fuscum</i>	Cypress, Juniper, Pear
<i>Ploioderma cedri</i>	Cedar
<i>Ophiostoma ulmi</i>	Elm
<i>Coleosporium</i> sp.	Pine
Mouse Damage - Fare Zararı	
<i>Dryomys nitedula</i>	Young Sapling

2025 FOREST PEST FIGHTING AND PREVENTION-OBSERVATION RATES



■ Biological ■ Mechanic ■ Chemical ■ Biotechnical ■ Prevention-Observation

Other Pest Controls We Do

We ensure the proliferation of *Exorista segregata* and *Phyrx caudata* parasites in the forest using islet and wire cage methods.



Adacık ve tel kafes metotları ile ormanda *Exorista segregata* ve *Phyrx caudata* parazitlerinin çoğalmasını sağlamaktayız.

We hang bird nests in the forests.



Ormanlara kuş yuvaları asmaktayız.



We are transporting ant nests.



Karınca yuva nakli yapmaktayız.



We make wintering traps where harmful insects are collected.



Böceklerin toplandığı kışlama tuzakları yapmaktayız.



USEFUL ORGANISMS PRODUCTION LABORATORIES



-  Laboratory
-  Station
-  Passive

An average of **650.000** beneficial organisms were produced and released in **55** laboratories and stations between 1985 and 2025.

55 adet laboratuvar ve istasyonda 1985-2024 yılları arasında ortalama **650.000** adet faydalı organizma üreterek salımlarını gerçekleştirilmiştir.

USEFUL ORGANISMS PRODUCTION LABORATORIES

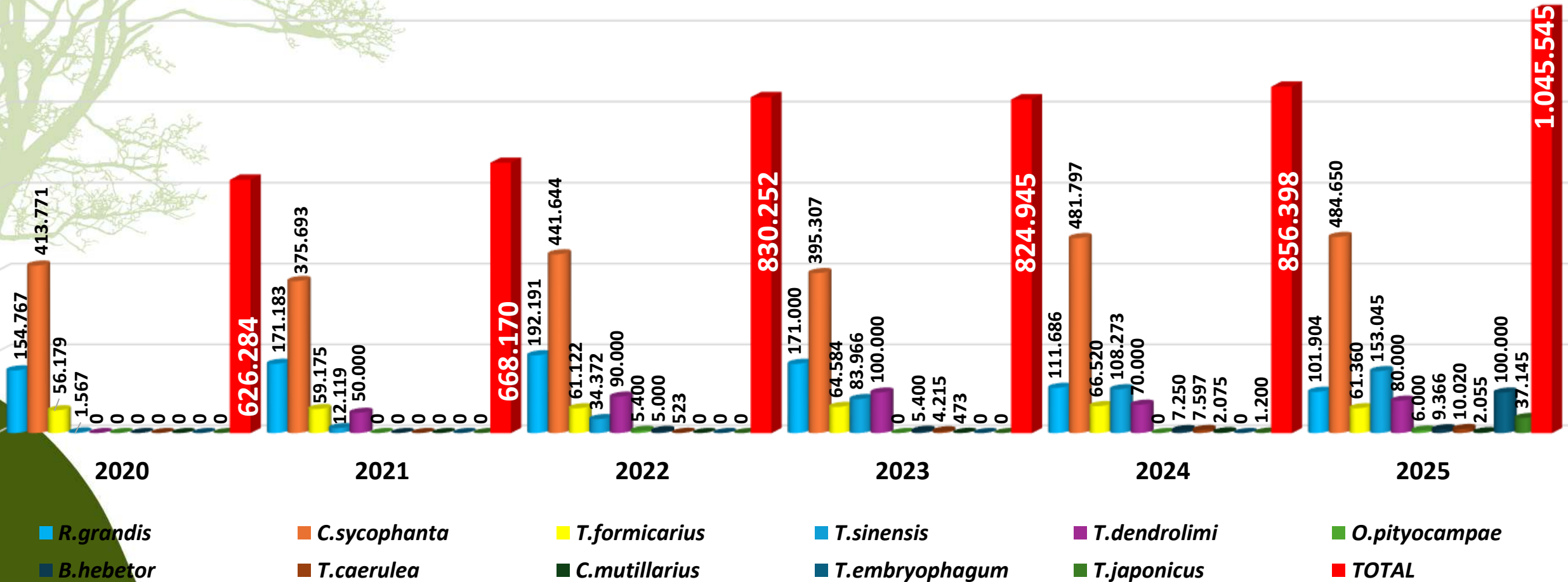


USEFUL ORGANISMS PRODUCTION LABORATORIES

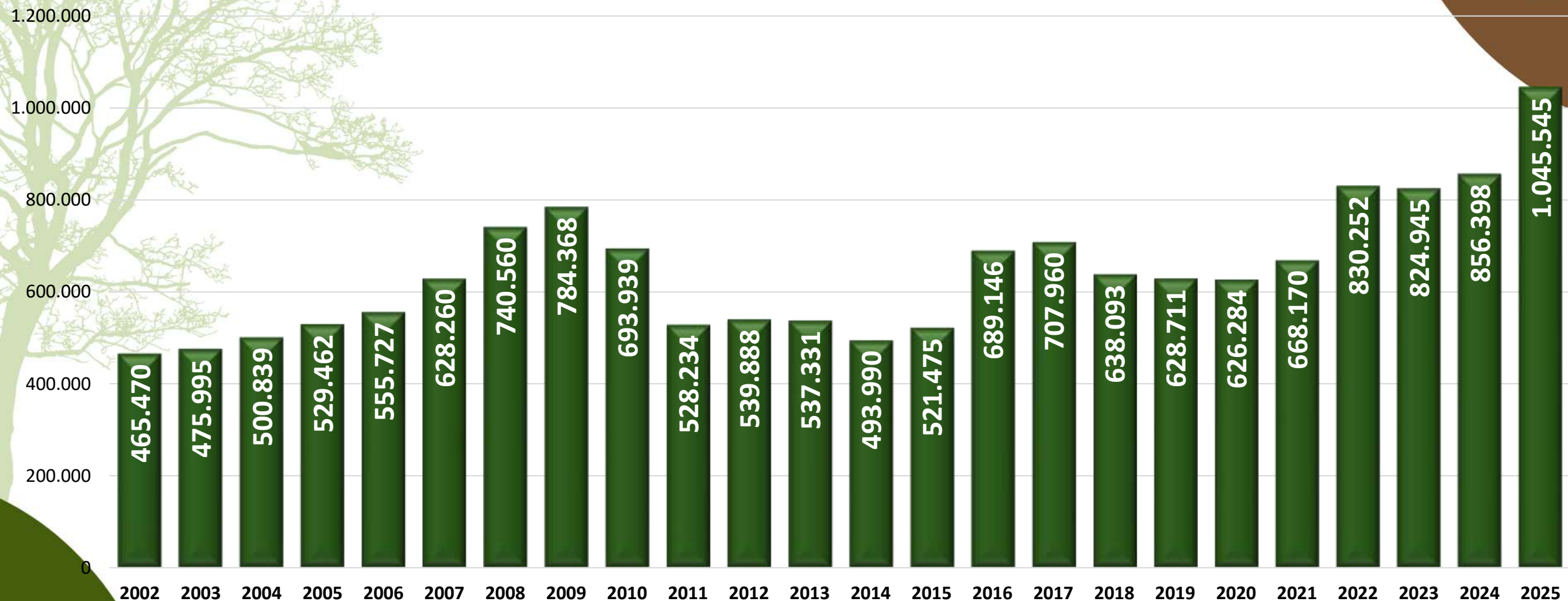


USEFUL ORGANISM PRODUCTION BY YEARS AND SPECIES

Average of the Last 5 Years 808.509



USEFUL ORGANISM PRODUCTION BY YEARS



The total number of useful organisms produced between 1985 and 2025 is 19.967.393.

USEFUL ORGANISMS THAT CAN BE PRODUCED

Useful Organism	Type	Pests Used	F. Production	Explanation
<i>Rhizophagus grandis</i>	Predator	Great Spruce Bark Beetle (<i>Dendroctonus micans</i>)	1986	It is the first useful species that was produced.
<i>Calosoma sycophanta</i>	Predator	Pine Processionary Moth, Gypsy Moth (<i>Thaumetopoea pityocampae</i> - <i>T. wilkinsoni</i> , <i>Lymantria dispar</i>)	2004	Production continues.
<i>Thanasimus formicarius</i>	Predator	Bark Beetles	2006	Production continues.
<i>Torymus sinensis</i>	Larval Parasitoid	Chest Gall Wasp (<i>Dryocosmus kuriphilus</i>)	2015	The useful galls were brought from Italy in 2014.
<i>Trichogramma dendrolimi</i>	Egg Parasitoid	American White Moth (<i>Hyphantria cunea</i>)	2021	Production continues.
<i>Ooencyrtus pityocampae</i>	Egg Parasitoid	Pine Processionary Moth, Western Conifer Seed Bug, Brown Marmorated Stink Bug (<i>Thaumetopoea pityocampae</i> - <i>T. wilkinsoni</i> , <i>Leptoglossus occidentalis</i> , <i>Halyomorpha halys</i>)	2022	Since the intermediate host, <i>Philosomia ricini</i> , is not available in our country, production continued with <i>Halyomorpha halys</i> instead. Pine Processionary Moth's egg batches will be used in 2026.
<i>Bracon hebetor</i>	Larval Parasitoid	Box Tree Moth, Cedar Leaf Moth (<i>Cydalima perspectalis</i> , <i>Acleris undulana</i>)	2022	Production continues.
<i>Temnochila caurela</i>	Predator	Bark Beetles	2022	Production continues.
<i>Clerus mutillarius</i>	Predator	Bark Beetles	2023	Production continues.
Hypovirulent	Virulent	Chestnut Branch Cancer	2014	The implementation will continue with the identification of new compliance groups.
<i>Trissolcus japonicus</i>	Egg Parasitoid	Brown Marmorated Stink Bug (<i>Halyomorpha halys</i>)	2024	Trial production was started in Artvin and Trabzon, and mass production was started.
<i>Trichogramma embryophagum</i>	Egg Parasitoid	Pine Processionary Moth (<i>Thaumetopoea pityocampae</i> - <i>T. wilkinsonii</i>)	2024	Following DNA identification, trial production was completed in 2024. Mass production began in 2025.
<i>Rhizophagus depressus</i>	Predator	Great Spruce Bark Beetle (<i>Dendroctonus micans</i>)	2007-2013	Since the harmful species was suppressed, the production of this species was stopped.
<i>Rhizophagus dispar</i>	Predator	Bark Beetles	2008-2009	Since the harmful species was suppressed, the production of this species was stopped.
<i>Coccinella septempunctata</i>	Predator	Aphids	2025	Trial production was carried out in Artvin. It will also be carried out in Adana, Ankara, and Mersin.

WE PROVIDED TRAINING TO OUR KYRGYZ FRIENDS IN 2008



FOREIGN INVASIVE SPECIES ARRIVING IN OUR FORESTS

<i>Leptoglossus occidentalis</i> (Western Conifer Seed Bug)		It was identified in Edirne in 2009. It is a cone pest. It is harmful to all conifers, especially stone pines.
<i>Phytophthora spp.</i> (Root and Crown Rot)		It was introduced to our country in 1951. It is a disease that causes root rot.
<i>Pristiphora abientina</i> (Gregarious Spruce Sawfly)		It was detected in Artvin-Şavşat Ardanuç in 2014. It leads to an increase in bark beetles in spruce forests.
<i>Ips typographus</i> (European Spruce Bark Beetle)		The plant was introduced in 1984. Over 10 years, it caused approximately 1 million m³ of spruce trees to dry out. Natural balance has been restored through biological control measures.

FOREIGN INVASIVE SPECIES ARRIVING IN OUR FORESTS

Cydalima perspectalis
(Box Tree Moth)



It entered our country in 2011 and threatens all boxwood areas and nurseries in the Black Sea Region.

Cylindrocladium buxicola
(Boxwood Blight)



It entered from Georgia in 2011 and threatens the boxwood areas of the Black Sea Region.

Corythucha arcuata
(Oak Lace Bug)



It was first identified in Bolu in 2003. It peaked in 2010 and 2011, causing damage to maple-leaved rowan trees, particularly *Quercus petraea*.

Clostera anastomosis
(Black-back Prominent)



It was first identified in Akyazı, Sakarya in 2015. It has caused damage to poplar plantations.

FOREIGN INVASIVE SPECIES ARRIVING IN OUR FORESTS



<i>Anoplophora chinensis</i> (Forster, 1771) (Coleoptera: Cerambycidae) (Citrus Long-horned Beetle)		It was first identified in Istanbul, Turkey in 2014, and in Trabzon in 2016, on <i>Acer palmatum</i> Thunb., <i>Acer negundo</i> L., <i>Carpinus betulus</i> L., and <i>Melia azedarach</i> L.
<i>Ips amitinus</i> (Small Spruce Bark Beetle)		It was first identified in the spruce forests of the Şavşat Forestry Directorate in 2011.
<i>Ips cembrae</i> (Large Larch Bark Beetle)		
<i>Ips duplicatus</i> (Northern Bark Beetle)		

FOREIGN INVASIVE SPECIES ARRIVING IN OUR FORESTS

Ricania simulans
(Vampire Bug)



The spread of this harmful insect, which entered from Georgia, was detected in Artvin in 2006, Rize in 2007, Trabzon in 2013, and Akçakoca in 2017.

***Dryocosmus kuriphilus* Yasumatsu**
(Chest Gall Wasp)



It was first detected in chestnut trees in Yalova in 2014. Its native habitat is China.

Halyomorpha halys
(Brown Marmorated Stink Bug)



It was introduced from Georgia in 2017. It is a species that feeds on more than 300 plants.

Rhynchophorus ferrugineus
(Red Palm Weevil)



In 2005, it spread to Türkiye with date and palm trees imported from Egypt. It has been found in the provinces of Antalya, Mersin, Adana, Muğla, Aydın, İzmir, and Istanbul. It has at least three generations per year.

Trade (Produce) of nut products



PRODUCTION OF ALMOND		PRODUCTION OF WALNUT		PRODUCTION OF HAZELNUT	
COUNTRIES	TONS (2022 YEAR)	COUNTRIES	TONS (2023 YEAR)	COUNTRIES	TONS (2023 YEAR)
USA	1.858.010	CHINA	1.400.000	TÜRKİYE	650.000
AUSTRALIA	360.328	USA	757.520	ITALIA	102.700
SPAIN	245.990	IRAN	380.999	USA	85.500
TÜRKİYE	190.000	TÜRKİYE	360.000	AZERBAIJAN	75.400
MOROCCO	175.763	CHILE	192.000	CHILE	65.600
CHINA	104.000	MEXICO	167.777	GEORGIA	36.900
OTHERS	942.327	OTHERS	730.348	OTHERS	83.900
WORLD	3.630.428	WORLD	3.988.644	WORLD	1.100.000

Source: <https://worldpopulationreview.com/>

Forest Invasive Species Network for Europe and Central Asia (REUFIS), 9-11 June 2026, Kyrgyzstan

Trade (Produce) of chestnut products

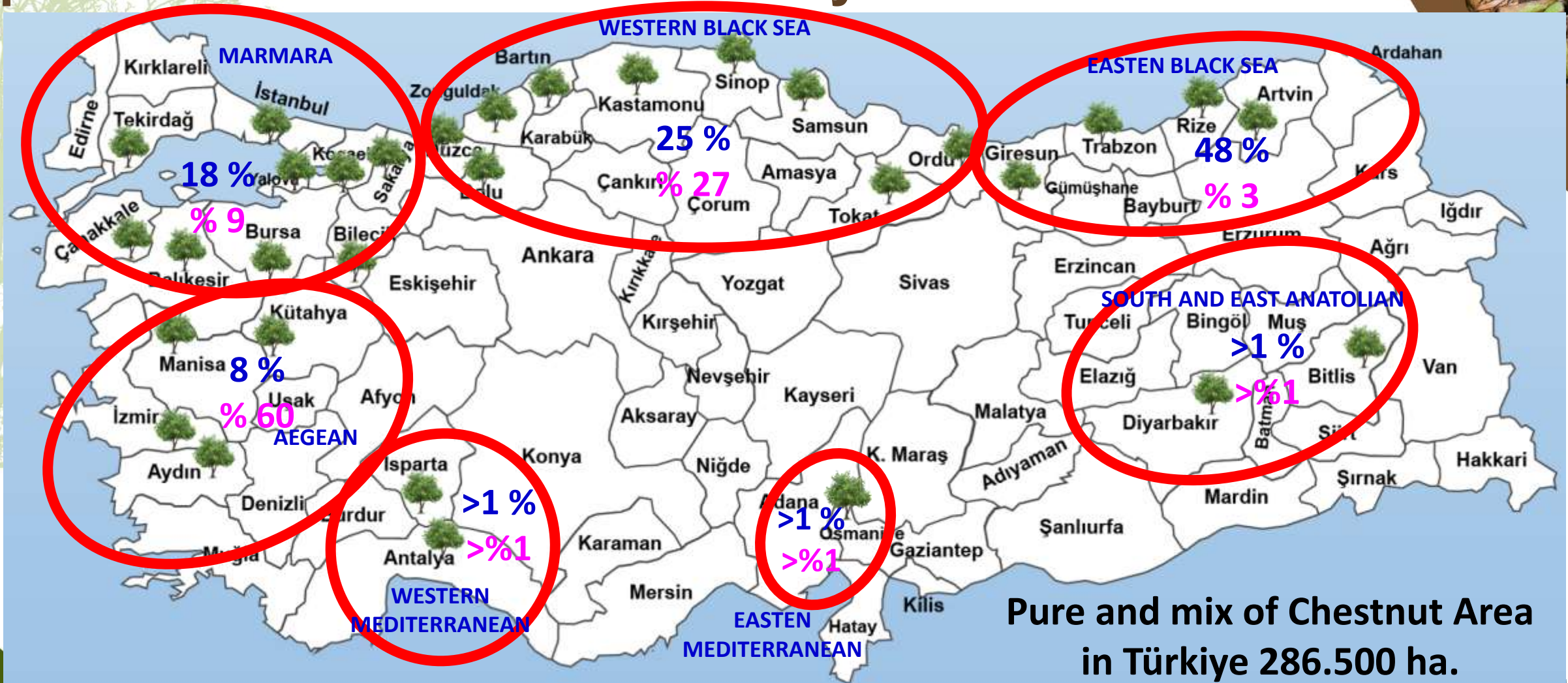
COUNTRIES	TONS (2010 YEAR)	COUNTRIES	TONS (2020 YEAR)	COUNTRIES	TONS (2024 YEAR)
CHINA	1.620.000	CHINA	1.578.879	CHINA	1.528.549
SOUTH KOREA	82.200	SPAIN	188.690	SPAIN	181.810
TÜRKİYE	59.171	BOLIVIA	82.839	BOLIVIA	84.090
BOLIVIA	53.577	TÜRKİYE	76.045	TÜRKİYE	74.300
ITALIA	42.700	SOUTH KOREA	53.405	ITALIA	64.330
JAPAN	23.500	ITALIA	49.750	SOUTH KOREA	52.241
PORTUGAL	22.400	PORTUGAL	42.180	GREECE	33.140
WORLD	1.958.547	WORLD	2.158.715	WORLD	2.098.055



FAO STATS

<https://www.fao.org/faostat/en/#data/QCL>

Spread of chestnut trees in Türkiye



- Chestnut trees are most abundant in the Eastern Black Sea Region.
- Chestnut fruit production is highest in the Aegean Region.



Main uses of chestnut fruit



Main uses of chestnut trees





Thank you for your attention!



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