



**International Workshop
“Improve the contribution of
Poplars and Willows
in meeting sustainable
livelihoods and land-use
in selected
Mediterranean and
Central Asian countries”**

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**POPLAR AND FAST GROWING FOREST TREES RESEARCH INSTITUTE
IZMIT - KOCAELI, TÜRKİYE**



FIELD TRIP PROGRAMME FOR TENTATIVE AGENDA

29.07.2009

FIELD TRIP 1: AKYAZI DISTRICT

08.30: Departure

09.00 – 09.30

Stop 1: Agroforestry (Poplar + Maize + Hazel Nut)

Location: Yazili /Akyazi

09.45 – 10.15

Stop 2: Agroforestry (Poplar + Maize)

Location: Yazili / Akyazi

10.30 – 11.00

Stop 3: Poplar Nursery

Location: Cildirlar / Akyazi

11.15 – 11.30

Coffee Break

11.30 – 12.00

Stop 4: Poplar Plantation

Location: Kepekli / Akyazi

12.30 – 14.00

Lunch

Akyazi / Kuzuluk

14.30 – 15.00

Stop 5: Sawmill (Sahin Wood Industry Company) – Row plantation

Location: Bedilkazanci / Akyazi

15.15 – 15.45

Stop 6: Poplar Plantation

Location: Bedilkazanci / Akyazi

16.00 – 16.30

Stop 7: Poplar Plantation

Location: Bedilkazanci / Akyazi

16.30 – 17.00 Coffee break

17.15 – 18.00

Stop 8: BIZON Wood Industry Joint-Stock Company

Location: Gebesler / Adapazari

AKYAZI DISTRICT

Akyazı is a town of Sakarya Province located at the South East of province. Akyazı is surrounded by the mountains at South and by a productive plain at North. This productive plain lies along the South east of Sakarya plain. The Mudurnu river, which divides Akyazı district into two parts is the most important stream of the district.

Poplar plantations are the most widely established in Sakarya plain in Turkey. Sakarya plain has an area of 60130 ha of which nearly 6800 ha (11.4 %). The area is covered by poplar plantations. The most part of these plantations are established by the clone of SAMSUN (*Populus deltoides*).

Some geographic and climatic datas for Bedilkazancı that samples the district are given below:

Province, Town, Village :	: Sakarya, Akyazı, Bedilkazancı
Elevation	: 50 m
Longitude, Latitude	: 40° 59' 00", 30° 16' 20"
Mean Annual Temperature	: 14° C
Extreme Maximum Temperature	: 41.5° C
Extreme Minimum Temperature	: -14.5° C

Mean Annual Precipitation and Humidity: 887 mm, 72 %

East Marmara (includes Akyazi and Iznik districts) is one of the most important region for Poplar development activities in Turkey. The reasons are:

- Ecologic conditions (especially with high water table level) are very suitable for Poplar growing
- Farmers of this region have Poplar culture coming from ancient times.
- Poplar growers have an Institution (Poplar Research Institute) which supports them technically in the region
- The poplar market and wood industry are very near to the places where Poplar plantations are established.
- The income and reliability of poplar plantations are much higher than the agricultural crops
- Poplar growers can delay the harvesting of Poplar plantations when Poplar wood prices low level

AKYAZI – STOP 1: AGROFORESTRY IMPLEMENTATIONS



General Information on Plantation		Implemented treatments	
Owner	Fikri Erbay	Land Preparation	Ploughing (70 cm)+Disc-harrow and planting pit in 80-100 cm depth.
Location	Yazılı - Akyazı	Planting time	In November
Agricultural Crops Used	Maize and Hazel Nut	Ploughing	Ploughing+disc-harrow-Raking (April-May). Ploughing+Disc-harrow (October-November)
Establishment Date	November - 2006	Irrigation	No
Plantation Area	10 da	Chemical Control	Two times for first two years (Decis, Folimat)
Clone	Samsun (Populus deltoides)	Fertilizer	400-500 g urine (April), 400-500 g composed fertilizer (N, P, K) for each plant during winter.
Sapling Age	2+1 with root	Pruning	First pruning made in second year, second pruning will be made in 5th or 6th years.
Spacing	6 m X 5 m	Rotation period	8-12 years
End Use	Plywood, blockboard, particle board, pallet, batten		

AKYAZI – STOP 2: AGROFORESTRY IMPLEMENTATIONS



General Information on Plantation		Implemented treatments	
Owner	Tarik Oztekin	Land Preparation	Ploughing (70 cm)+Disc-harrow and planting pit in 80-100 cm depth.
Location	Yazılı - Akyazı	Planting time	In March 2007
Agricultural Crop Used	Maize	Ploughing	Ploughing+disc-harrow-raking (April-May). Ploughing+Disc-harrow (October-November)
Establishment Date	March - 2007	Irrigation	No
Plantation Area	15 da	Chemical Control	In first three years Decis and Folimat were used
Clone	Samsun (Populus deltoides)	Fertilizer	400-500 g Urea for each plant every year.
Sapling Age	2+1 with root	Pruning	No
Spacing	6 m X 5 m	Rotation period	8-12 years
End Use	Plywood, blockboard, particle board, pallet, batten		

AKYAZI – STOP 3: POPLAR NURSERY



General Information on Plantation		Implemented treatments	
Owner	Hikmet DEMIR	Land Preparation	Disc-harrow + Ploughing (25 cm)+Disc-harrow +Raking
Location	Cildirlar - Akyazı	Planting time	In spring (March)
Establishment Date	Spring – 2008-2009		3-4 weeks after establishment
Nursery Area	10 da	Weeding and Hoeing	3-4 times in a growing season in the between of rows
Clones	Samsun (Populus deltoides) I-214 (P.x euramericana)	Irrigation	5-6 times in a growing season
Cutting length	25 – 27 cm	Chemical Control	Five times in a growing season (Decis, Folimat, Karate, Folidol) (400 liters water + 1 liters chemical)
Spacing	70 cm X 60 cm for Samsun 70 cm X 50 cm for I-214	Fertilizer	30 Kg/da NPK (before establishment) End of april 20 Kg/da 26 % nitrat. End of May 20 Kg/da 44 % Urea. End of June: 20 Kg/da Urea. For second year same application
Sapling Price	One year old sapling with the diameter 2-5-3 cm : 0.7 USD	Other	Generally saplings are sold when their root and stem are two and one year old respectively. But vigorous saplings can be sold their root and stem are one year old.

AKYAZI – STOP 4: POPLAR PLANTATION



General Information on Plantation		Implemented treatments	
Owner	Ihsan AKSOY	Land Preparation	Ploughing (30 cm)+planting pit (1.5 m) + Planting + Disc-harrow.
Location	Cildirlar-Akyazi	Planting time	In March
		Ploughing	One ploughing in every year in November and two times disc-harrow in every year.
Establishment Date	March - 2002	Irrigation	First two years two times in a growing season
Plantation Area	25 da	Chemical Control	Two times for first two years.(Decis, Folimat)
Clone	Samsun (Populus deltoides)	Fertilizer	First year 200 g, second and third years 500 g inorganic fertilizer
Sapling Age	2+1 with root	Pruning	Second year leader shoot correction, fourth and sixth year pruning
Spacing	6 m X 6 m	Rotation period	8-12 years
Volume	261.123 m ³ /ha	End Use	Plywood, blockboard, particle board, pallet, batten

AKYAZI – STOP 5: POPLAR PLANTATION



General Information on Plantation		Implemented treatments	
Owner	Tayfun ŞAHİN	Land Preparation	Ploughing (30 cm)+planting pit (1.5 m) + Planting + Disc-harrow.
Location	Cildirlar-Akyazi	Planting time	In March
		Ploughing	One ploughing in every year in November and two times disc-harrow in every year.
Establishment Date	March - 2002	Irrigation	No
Plantation Area	25 da	Chemical Control	First three years
Clone	Samsun (Populus deltoides)	Fertilizer	First eight year
Sapling Age	2+1 with root	Pruning	Second year leader shoot correction, Fourth and sixth year pruning
Spacing	6 m X 6 m	Rotation period	8-12 years
Volume	290.948 m3/ha	End Use	Plywood, blockboard, particle board, pallet, batten

AKYAZI – STOP 6: POPLAR PLANTATION



General Information on Plantation		Implemented treatments	
Owner	Tayfun ŞAHİN	Land Preparation	Ploughing (30 cm)+Digging hole (1.5 m) + Planting + Disc-harrow.
Location	Cildirlar-Akyazi	Planting time	In March
		Ploughing	One ploughing in every year in November and two times disc-harrow in every year.
Establishment Date	March - 2002	Irrigation	No
Plantation Area	25 da	Chemical Control	First three years
Clone	Samsun (Populus deltoides)	Fertilizer	First eight year
Sapling Age	2+1 with root	Pruning	Second year leader shoot correction, Fourth and sixth year pruning
Spacing	6 m X 6 m	Rotation period	8-12 years
Volume	459.942 m3/ha	End Use	Plywood, blockboard, particle board, pallet, batten

AKYAZI – STOP 7a: SAHIN SAWMILL COMPANY



Owner	Tayfun ŞAHİN
Location	Kazancıbedil / Akyazi
Establishment date of Sawmill	2003
Area	17da
The number of worker	40
Used Tree Species	80% Poplar, 10% Pine, 10% Broadleaved tree species (Platanus, Fraxinus, Quercus)
Manufactured products	80 % Batten, 20 % Pallet
Purchase price of Poplar wood	100-130 USD (delivering in field)
Sale prices of products	Batten : 160-200 USD / m3 Pallet : 4-13 USD each

AKYAZI – STOP 7b: ROW PLANTATION (WINDBREAK)



Owner	Rifat OZKAN	Agricultural Crop	Maize
Establishment Date	2006	Chemical Control	First three years
Area	10 da	Fertilizer	Urea (for maize)
Spacing	2-2.5 m	Aim	To get more income
Clone	SAMSUN (<i>P.deltoides</i>)	End use	Plywood,blockboard,pallet, chipwood,batten.

AKYAZI - STOP 8 - BIZON WOOD INDUSTRY



With an experience over 30 years in Turkish forestry wood sector, Bizon company operates 3 separate production plants located in Sakarya. Manufacturing plywood, blockboard, film faced concrete form plywood, door frame panels, door posts, timber, edge glued panel and high heat treated wood (cleanwood), company aims to provide contribution to national economy, ensure lasting customer satisfaction and trust; and to enhance its current position in the sector to the further levels.

Established in 1970, one of the first plywood plants of Turkey BİZON A.Ş. Plywood Plant, has been acquired in 1996, it is brought in the national economy with enhanced and renewed production capacity, technology and machinery park. Settled on 70,000 m² area having 14,000 m² indoor area, the enterprise manufactures plywood, blockboard, door frame panel, edge glued panel, finger-joint door post and high heat treated wood (cleanwood). The number of workers is 85.

Besides the raw materials which are supplied domestically such as pine, fir, beech, poplar; we also use exotic trees such as okoume, ozigo, terte, eyong etc. in manufacture. Poplar wood precise is 80 and 120 USD delivering in field and plant respectively. Capacity is 800 m³/month plywood and 100 m³/month blockboard.

Plywood, blockboard, door frame panels, door posts, edge glued panel and high heat treated wood (cleanwood) were manufactured In this plant located at Sakarya Akyazı Gebeş Locality.

30.07.2009

FIELD TRIP 2: IZMIT AND IZNIK DISTRICT

Stop 1: Izmit Poplar Nursery and Poplar Experiments

Location: Izmit

11.30 – 12.15

Stop 2: Akbas Packing Company

Location: Iznik / Bursa

12.30 – 13.30

Lunch (At the coast of Iznik Lake)

13.30 – 15.00

Visit of Iznik Museum and Historical places

15.30 – 16.00

Stop 3: Poplar Nursery

Location: Yenisehir / Bursa

16.30 – 17.00

Stop 4: Poplar Plantation (Two years old-Agroforestry)

Location: Alibeykoy / Inegol

17.15 – 17.45

Stop 5: Poplar Plantation

Location: Alibeykoy / Inegol

18.15 – 18.45

Stop 6: Poplar Plantation

Location: Golbasi / Bursa

IZNIK DISTRICT

Iznik is a small town in northwestern Turkey, on the eastern shore of Lake Iznik. It is the modern successor of the important Byzantine city of Nicea (or Nicaea), where the famous Council of Nicea was held in 325 AD.

Population: 44.690

Area: 753 km²

Elevation: 85 m

40°26' N, 29°43' E

IZMIT – STOP 1a: POPLAR CLONE TRIAL



Kind of Trial	Poplar Comparison Clone Trial
Establishment Place and Date	Izmit - 1988
The Number of Clone	8
The Number of Replication	3
Spacing	5 m X 5 m
Other	According to the results, SAMSUN was the best clone of trial. This clone was registered as a commercial clone for using in the Poplar plantations

IZMIT – STOP 1b: POPLAR NURSERY

General Information on Plantation		Implemented treatments	
Owner	Forest Nursery Directorate - Izmit	Land Preparation	Ploughing (40 cm) + Disc-harrow
Location	Izmit	Planting time	(February-March)
Establishment Date	1957	To single	3-4 weeks after establishment
Nursery Area	78 ha	Weeding and Hoeing	Three times (may-July-August)
Clones	Samsun (<i>Populus deltoides</i>) I-214 (<i>P.x euramericana</i>)	Irrigation	5 times (may-September)
Cutting length	20-22 cm	Chemical Control	If any damage occurs
Spacing	180 X 50 cm	Fertilizer	Composed fertilizer (NP)
Sapling Price	2 USD (First class)	Other	Generally saplings are sold when their root and stem are two and one year old respectively.

IZMIT – STOP 1c: COLLECTION POPULETUM

Owner	Poplar Research Institute
Establishment date and Place	1959 – 1968, Izmit
The Number of Clones	More than 250

IZNIK STOP 2: AKBAS PACKING



Owner	Recep AKBAS
Location	Iznik
Establishment date of Sawmill	1981
Area	750 m2
The number of worker	5
Used Tree Species in workshop	Only Poplar
The price of used Poplar wood	160 USD (delivering in workshop)
Produced product	Packing boxes
Production Capacity	100 tons/month 30 000 boxes / month (150 000 boxes in full capacity)
The price of one box	0.6 Cent

IZNIK-STOP 3: YENISEHIR POPLAR NURSERY



General Information on Plantation		Applied treatments	
Owner	The ministry of Environment and Forest	Land Preparation	Ploughing (25 cm)+Disc-harrow
Location	Yenisehir - Bursa	Planting time	In Spring (March)
Establishment Date	Spring – 2008	To single	3-4 weeks after establishment
Nursery Area	4 da	Weeding and Hoeing	3-4 times in a growing season in the between of rows..Disc-harrowing among the rows
Clones	I-214 (P.x euramericana)	Irrigation	Drop Irrigation
Cutting length	25 cm	Chemical Control	Supracide (2-3 times in a growing season)
Spacing	160 cm X 40 cm	Fertilizer	Before planting: NPK Composed fertilizer) (25 Kg / da). After planting: Ammonium sulphate (25 Kg / da)
Sapling Price	First class. 2.1 USD Second class: 1.8 USD	Other	Generally saplings are sold when their root and stem are two and one year old respectively.

IZNIK – STOP 4: (Alibeykoy / INEGOL) POPLAR PLANTATION



General Information on Plantation		Applied treatments	
Owner	Ibrahim Ok	Land Preparation	Ploughing (70 cm)+Disc-harrow and digging holes in 80-100 cm depth.
Location	Alibeykoy / Inegol -	Planting time	In March 2007
Agricultural Crop Used	First year: ploughing+disc-harrow (bean+pepper) Second year: ploughing+disc-harrow (bean and pepper)	Ploughing	3th-8th years: two times ploughing + raking in a growing season
Establishment Date	March - 2001	Irrigation	3-4 times in a growing season
Plantation Area	5 da	Chemical Control	No
Clone	I-214 (<i>P.x euramericana</i>)	Fertilizer	No
Sapling Age	2+1 with root	Pruning	No
Spacing	3 m X 6 m	Rotation period	8-12 years
Volume	268.051 m3/ha	End Use	Plywood, blockboard, particle board, pallet, batten

IZNIK – STOP 5: (Alibeykoy / INEGOL) AGROFORESTRY



General Information on Plantation		Applied treatments	
Owner	Necip OLUC	Land Preparation	Ploughing (70 cm) + planting pit in 100 cm depth.
Location	Alibeykoy / Inegol -	Planting time	In March 2008
Agricultural Crops Used	Green bean + kidney bean +Pepper	Ploughing	?
Establishment Date	March - 2008	Irrigation	2 times in a month
Plantation Area	7.5 da	Chemical Control	?
Clone	I-214 (<i>P.x euramericana</i>)	Fertilizer	No
Sapling Age	1 (with root)	Pruning	?
Spacing	7 m X 3.5 m	Rotation period	8-12 years
End Use	Plywood, blockboard, particle board, pallet, batten		

IZNIK - STOP – 6: POPLAR PLANTATION

General Information on Plantation		Implemented treatments	
Owner	State Hydraulic Works	Land Preparation	?
Location	Golbasi / Bursa	Planting time	In March
Establishment Date	March - 2001	Ploughing	Agroforestry used in first three years (Aubergin+Lettuce+Parsley+Green Bean) By taking into consideration the needs of agricultural crops weeding and hoeing applicated in first three years
Plantation Area	16 da	Irrigation	No
Clone	I-214 (<i>P. x euramericana</i>)	Chemical Control	No
Sapling Age	?	Fertilizer	No
Spacing	6 m X 6 m	Pruning	No
Volume	107.235		