

Oat Breeding Efforts in Turkey

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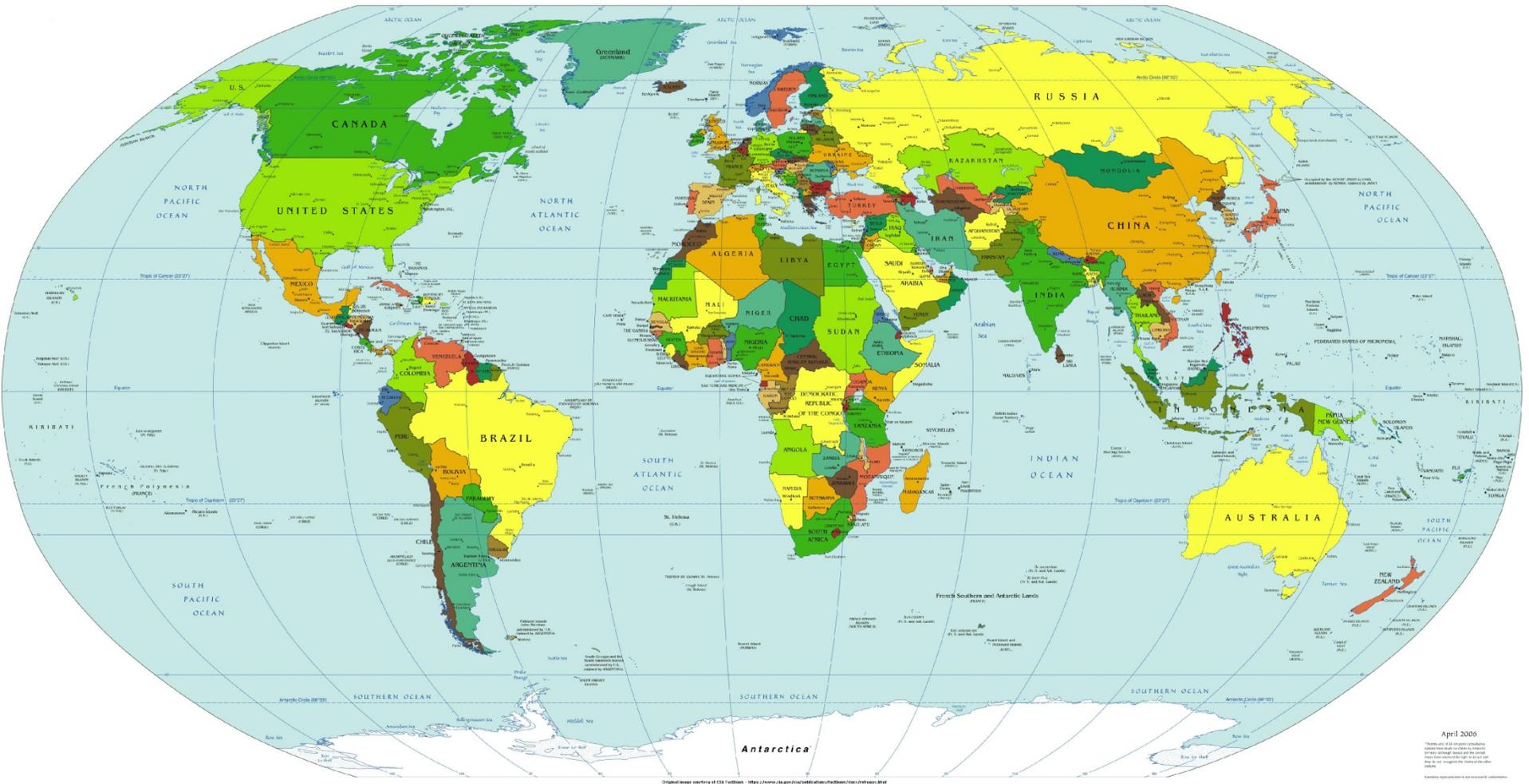
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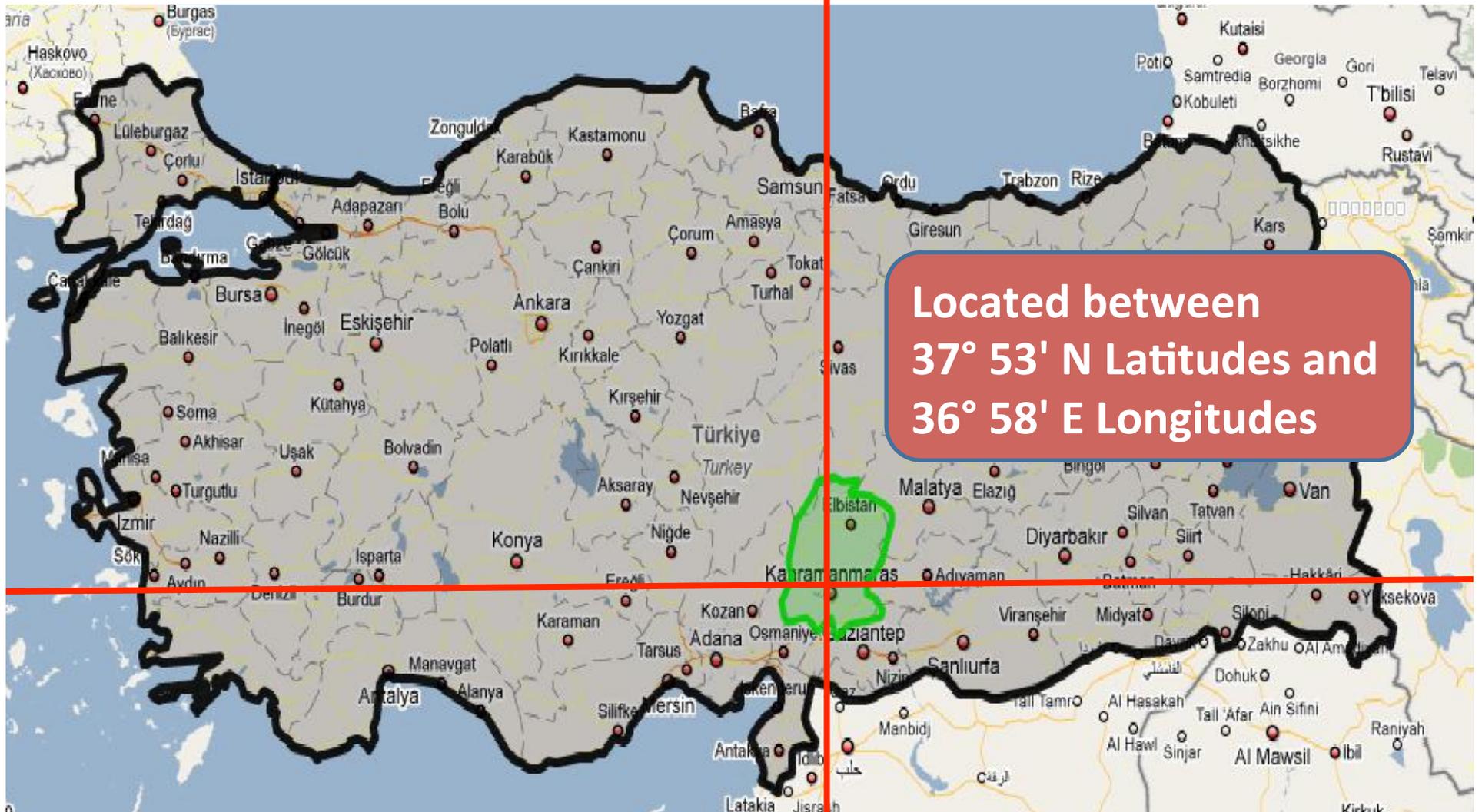
TÜRKİYE

Cross Roads of Civilizations





The City Kahramanmaraş



Oats in Turkey

Trade and Production

Import

7,476 tons (mostly dehulled)

Export

25 tons

Production

210,000 tons

Area Harvested

89,327ha

Yield

235 kg/da

-FAO 2011-12



Oats in Turkey

Current Cultivar Status

<u>Cultivar from crosses</u>	3 (crossed in different countries)
<u>Cultivars from selection</u>	5
<u>Cultivar from introduction</u>	1
<u>Landraces</u>	842 (in our program)

Oat Studying Institutes

Universities

- Kahramanmaraş
- Samsun
- Uludağ

Agricultural Research Services

- Tekirdağ
- Konya
- Izmir
- Eskisehir



Oat Breeding Program

Landraces

USDA-NSGC

512

PGRC

113

AARI

60

IPK

81

Konya

55

Pre Existing

20



**A Total number of
842 landraces**



Oat Breeding Program

Oat Crosses



Oat Breeding Program

Oat Crosses

Landraces

K1

E44

A45

A52

were crossed in 2012

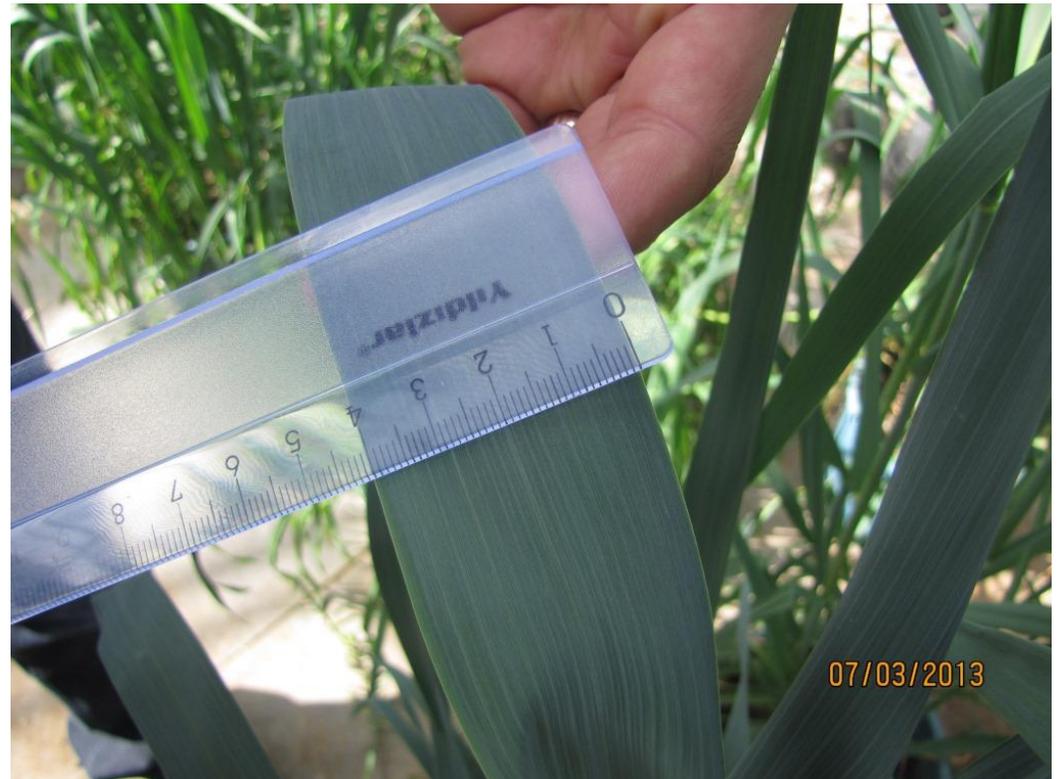


Oat Breeding Program

Oat Crosses

Populations F2 → F3

- K1 x E44 Short height and thick stem and high 1000-GW and Grain Yield
- K1 x A45 Short height and thick stem and high protein ratio
- K1 x A52 Short height and thick stem and high groat percentage



Oat Breeding Program

Molecular Characterization

SSR Markers

More than 120 robust markers

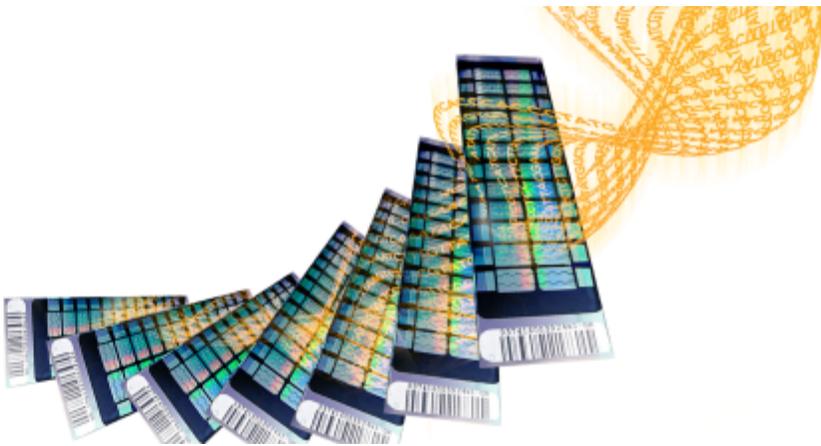
SNP Markers

6k SNP Genotyping

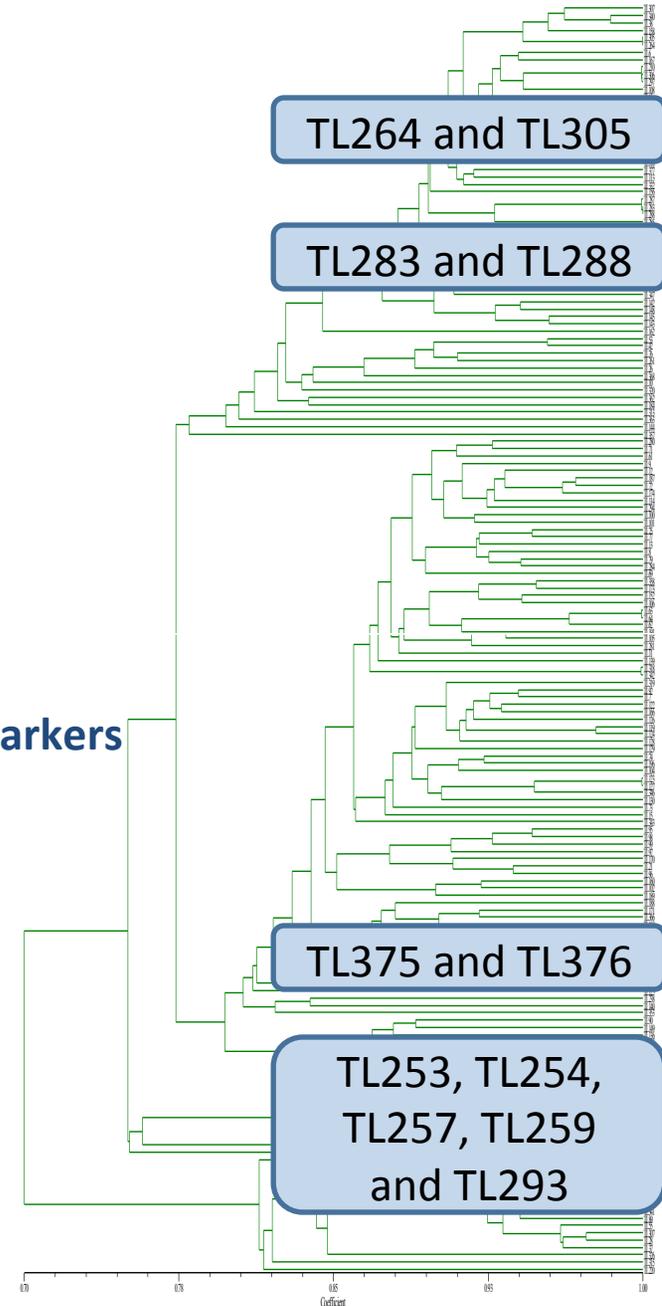
Up to date

772 of those landraces genotyped by SSR markers

174 of those genotyped by 6k SNP



Illimuna Genotyping Solutions

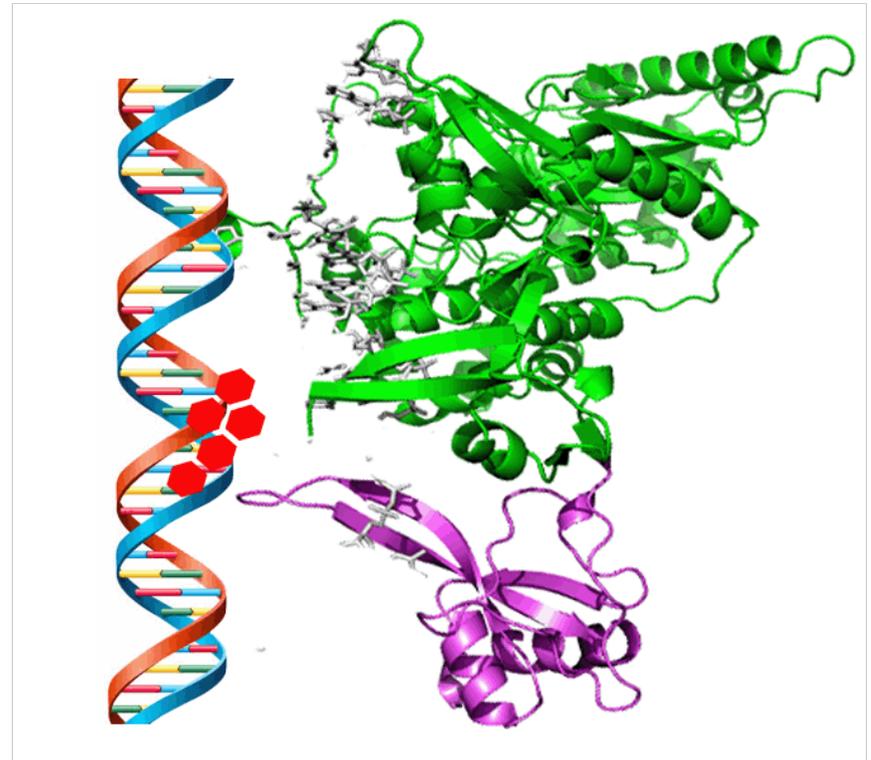


Oat Breeding Program

Mutation Breeding

☐ Chemicals

- NaN₃
- EMS



Oat Breeding Program

Yield Trials

Currently

- ❖ Kahramanmaraş
- ❖ Adana
- ❖ Narlı

Next year

- ❖ Eskişehir



Candidate Cultivar

Future Studies

- ✓ **More marker coverage on studied mapping populations**
- ✓ **QTL and Association Studies**
- ✓ **Crossing most diverse genotypes according to the genotypic data**
- ✓ **Targeted mutations for some traits**
- ✓ **Yield Trials**
- ✓ **More Collaborations**

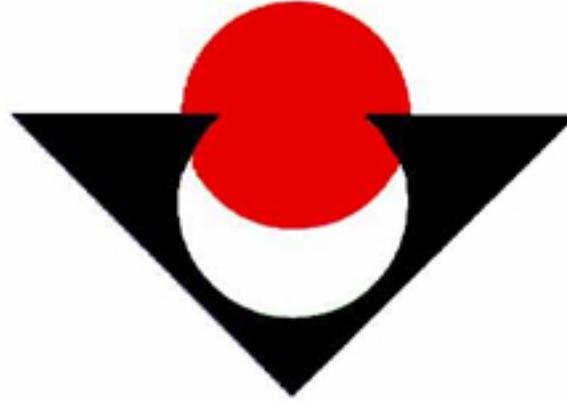


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