

Field experiments and sampling seeds for quality analysis (WP3)

Progress Report

Partners:

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- P2 (Alf Ceplitis, SW, Sweden)
- P5 (Jean Koenig, INRA, France)
- P8 (Luigi Cattivelli, CRA-ISC, Italy)
- P9 (Danela Murariu, SVGB, Romania)
- P10 (Nadja Antonova, IPGR Bulgaria)
- P11 (Küllli Annamaa, Jogeva PBI, Estonia)



OBJECTIVES

Objective 1: Evaluate 312-330 accessions in the field according to a set of agreed descriptors

Field experiments for quality analysis have been accomplished by all partners. For field observations, obligatory and optional descriptors have been observed by all implied partners.

Objective 2: Seed sampling for quality analysis

De-hulled grain is in progress for quality analyses. De-hulling needs have been done with special equipment, which is available at P2 and P3. During January and February, all experimented accessions have been sent to P3 by Bulgarian, Estonian, Italian and Romanian partners

First evaluation year – field design and work protocol

Partner country	Sowing Data	Field design and work protocol	Name of accessions non emerged	Name of accessions were no heading
Bulgaria	03.31 -04.01 2008	Plot size = 2,5 m ² <ul style="list-style-type: none"> • row distance =16,6 cm • Number of rows = 9 • 400 seeds/m² 317 accessions + 11 standards x 5 replications = 372 samples	-	UNE DE MAI AINTREE CHALINE
Estonia	05.01– 05.02 2008	Plot size = 2,0 m ² <ul style="list-style-type: none"> • row distance =12,5 cm • Number of rows = 8 • 400 seeds/m² 328 accessions + 11 standards x 5 replications = 383 samples	-	-
France	04.07.2008 2008	Plot size = 3,0 m ² <ul style="list-style-type: none"> • row distance =15 cm • Number of rows = 8 • 400 seeds/m² 312 accessions + 11 standards x 5 replications = 367 samples	-	-
Italy	04.28.2008 2008	Plot size = 2,5m ² <ul style="list-style-type: none"> • row distance =12,5 cm • Number of rows = 8 • 400 seeds/m² 335 accessions + 11 standards x 5 replications = 390 samples	30039	UNE DE MAI, AVE 586, AVE 270, A7BM0005, CPVO20040482, AVE 446, 200113379, CPVO20050282, AINTREE, CPVO19981528, AVE 850, PL51588
Poland	04.07.2008 (20.05.2008)	Plot size = 2,5m ² <ul style="list-style-type: none"> • row distance =12,5 cm • Number of rows = 8 • 400 seeds/m² 329 accessions + 11 standards x 5 replications = 384 samples	-	NGB 8760
Romania	04.10 -04.14 2008	Plot size = 2,5m ² <ul style="list-style-type: none"> • row distance =12,5 cm • Number of rows = 9 • 400 seeds/m² 330 accessions + 11 standards x 5 replications = 385 samples	-	AINTREE PL51580

CULTIVATION MEASURES

- The soil was prepared with chemical fertilizers by all partner countries.
- All cultivars were sown with plot driller by French, Italian, Polish and Estonian partners. Romanian and Bulgarian partners sowed by hand. Wild accessions were sown by hand by all partners countries.
- The paths were grinded mechanically and evaluation plots, manually.
- During vegetation period, herbicides, foliar fertilizers, and pesticides treatment were used depending by location
- In Poland and Romania weather conditions in the second half of July were very bad, it was rainy and windy. Most of the accessions heavily lodged.

Descriptors evaluated

Obligatory

- Days to heading (Date of heading, days from sowing to 50% of panicles fully emerged),
- Days to maturity (Date of maturity, days from sowing to harvest ripeness),
- Height of plant (cm),
- Lodging at immature stage (Score 1-9)
- Lodging at mature stage (Score 1-9)
- Panicle shape, (1-unilateral, 2-subunilateral 3-equilateral)
- Occurrence of diseases (only if occur by natural infection)
- Color of lemma (1- white; 2-yellow; 3-grey; 4-red; 5-brown; 6-black)
- Yield (g/plot),
- Thousand kernel weight (100g -kernel samples in triplicate manually),
- Test weight (kg/hl)

Descriptors evaluated

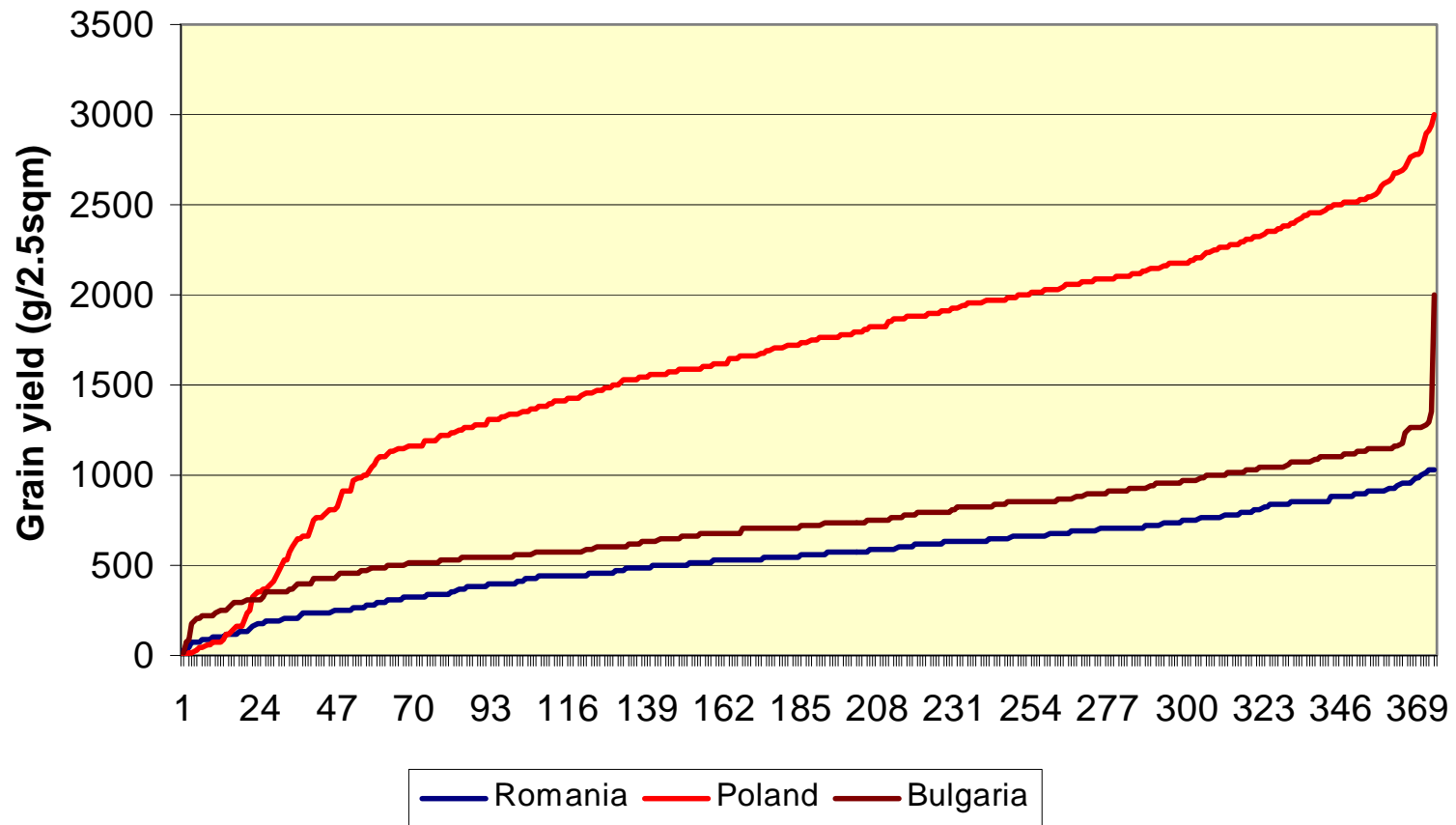
Facultative

- Emergence (number of emerged plants: one meter in two neighboring rows per plot).
- Growth habit (1-erect; 3- semi – erect; 5- medium; 7- semi – prostrate; 9- prostrate),- Bulgaria, Italy and Romania.
- Number of fertile tillers (one meter in two neighboring rows per plot) –except France.
- Length of panicles (cm) –Romania, Poland and Bulgaria.
- Number of seeds in panicle – Italy.

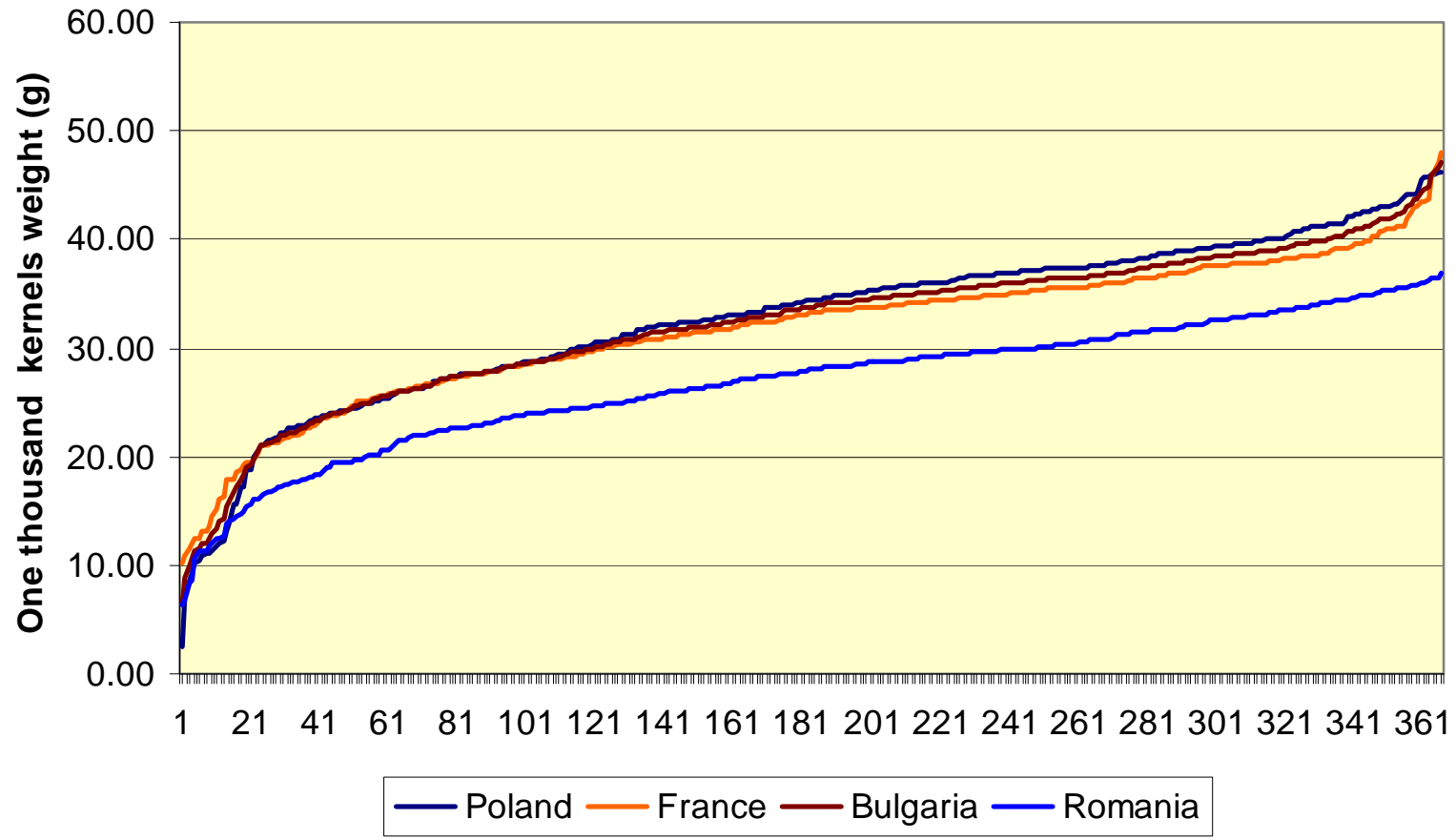
HARVEST RESULTS

- All partner countries harvested almost of the *Avena* accessions during July –September months 2008.
- In Poland, Estonia, Italy and France all plots were harvested with harvest combines, except Bulgaria and Romania which harvested manually.
- Harvested seeds were threshed and then winnowed.

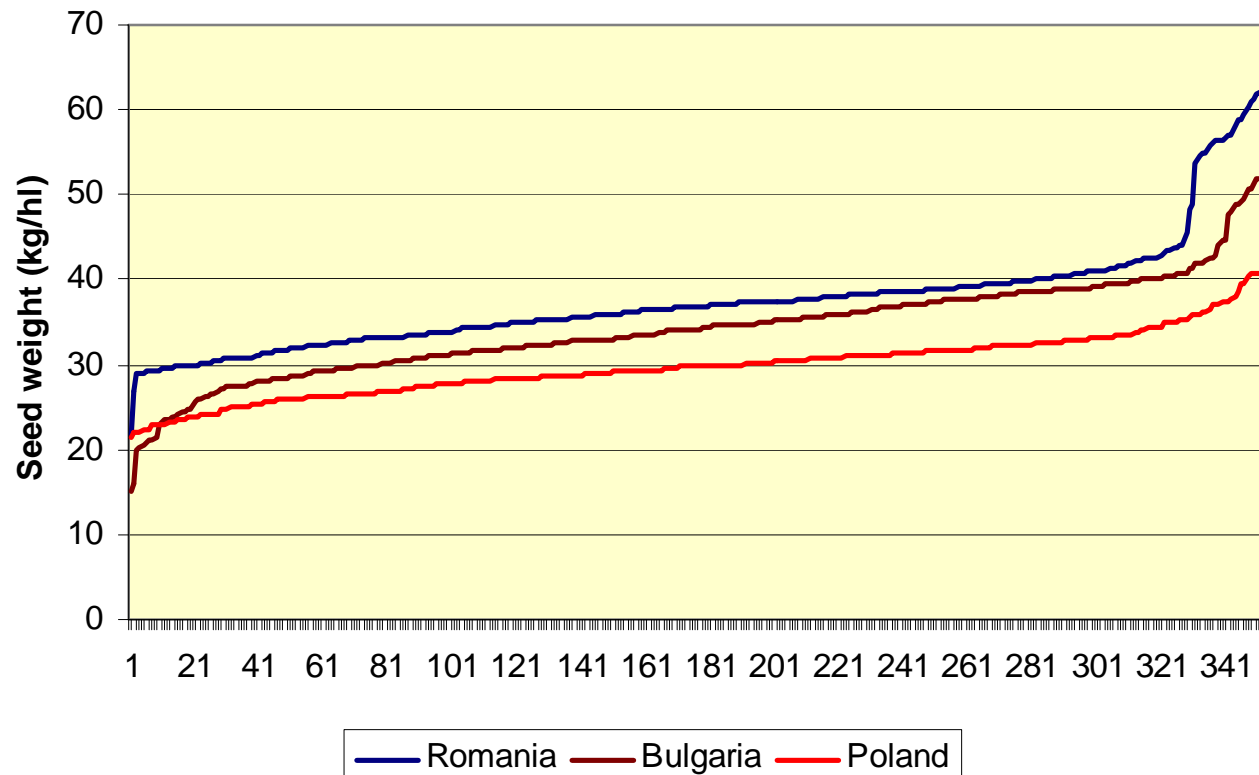
Grain yield/plot of the *Avena* accessions in different European countries



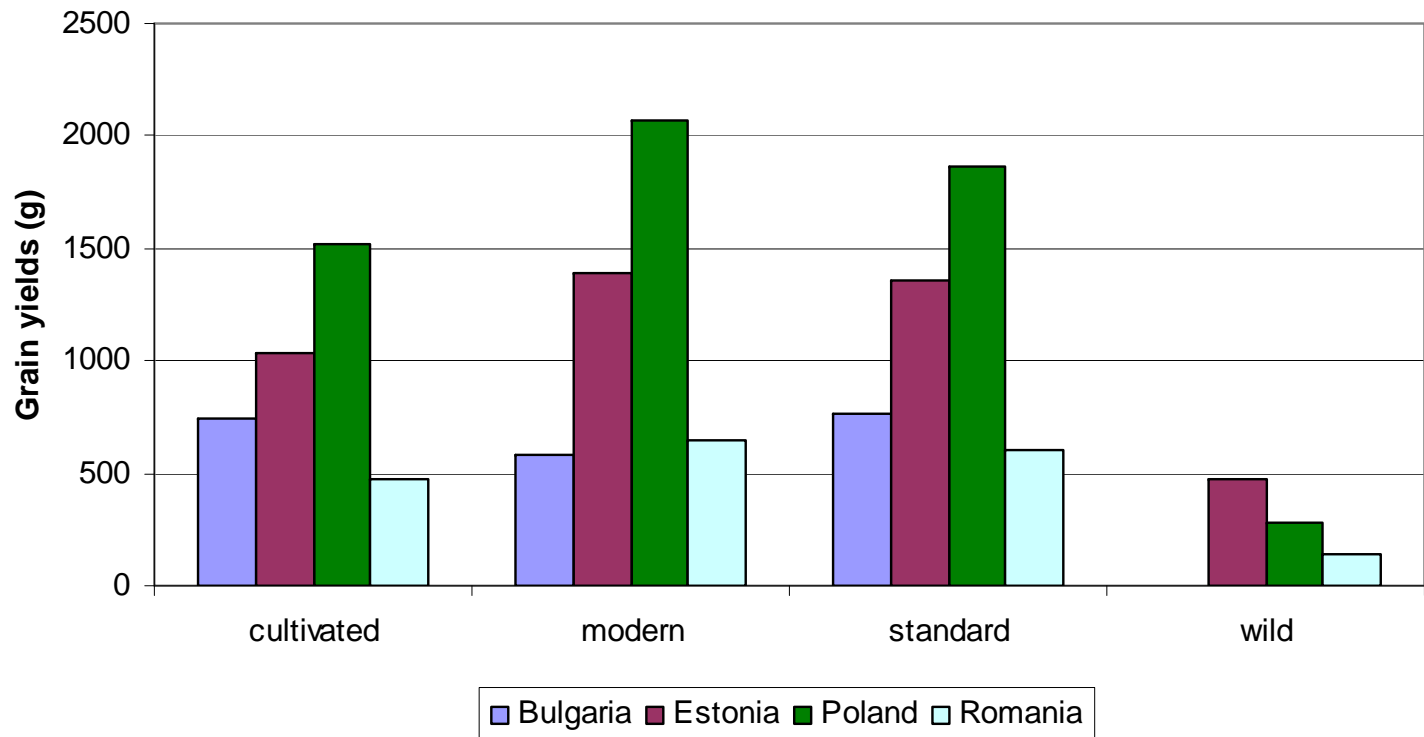
Test weight of the *Avena* accessions in the different European countries



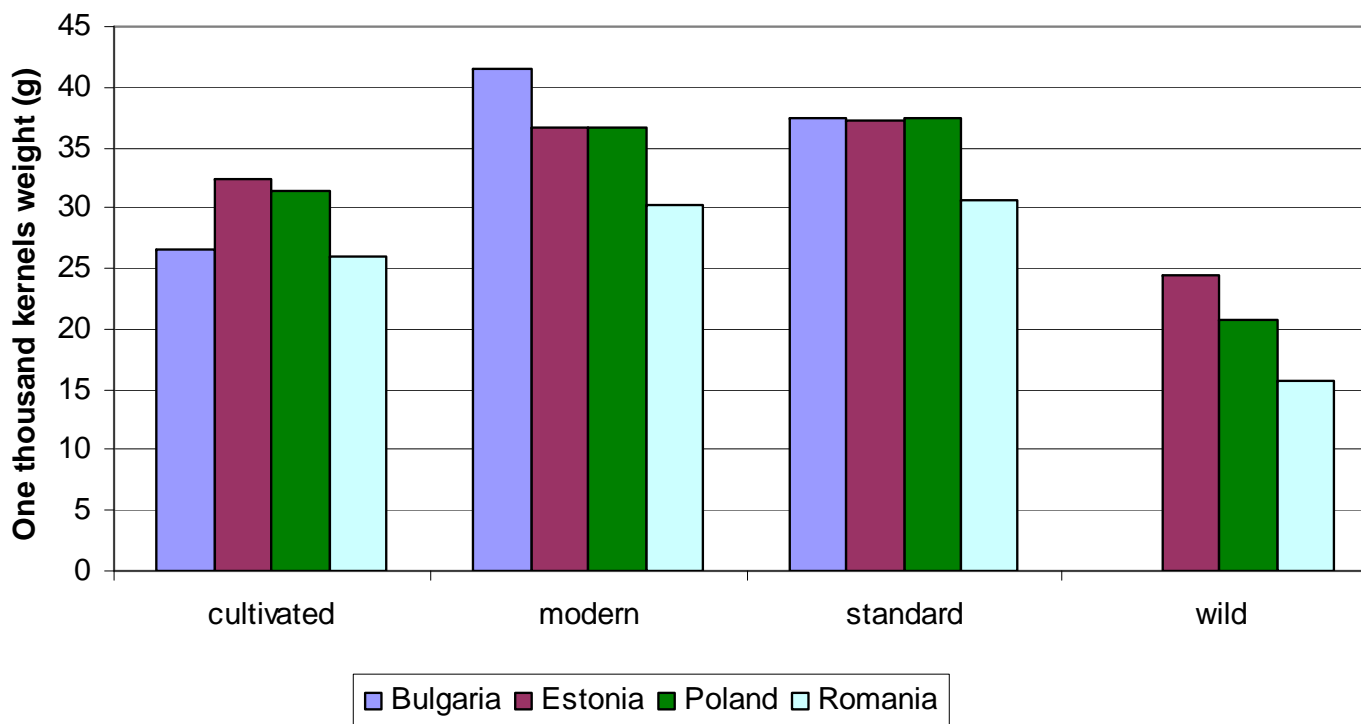
Seed weight of the *Avena* accessions in the different European countries



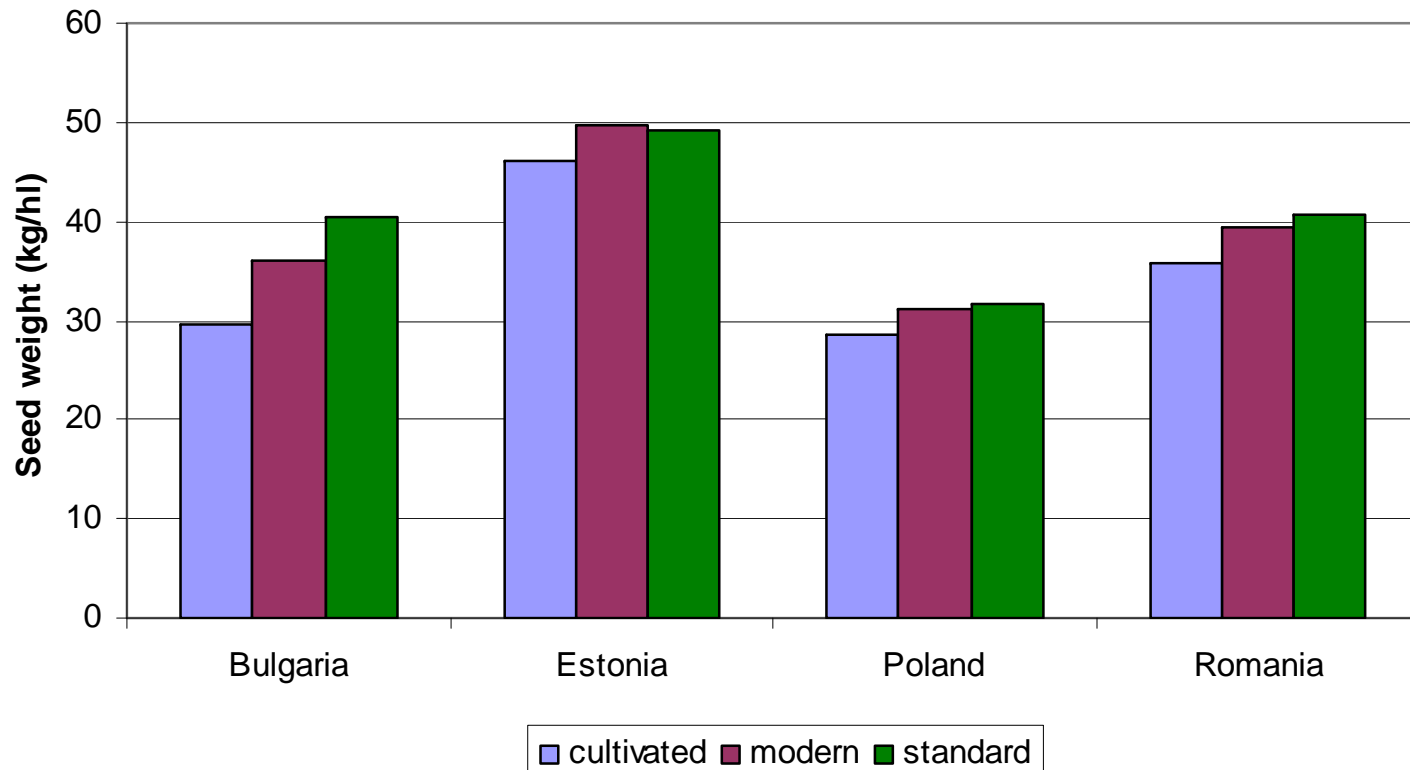
**Yield grains of *Avena* accessions in four European countries
function by biological status**



**Test weight of *Avena* accessions in four European countries
function by biological status**



Seed weight of *Avena* accessions in four European countries function by biological status





BULGARIA





Estonia



FRANCE



ITALY



POLAND



ROMANIA