THE POTATO GARDEN TRIALS WITH HUMATE-COATED UREA (HCU)

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Q? IS HUMATE- COATED UREA BETTER THAN UREA FOR GROWING POTATOES?

HCU- Humate Coated Urea

New formula of Dr. Humate contains raw Humate (New Mex humate), Urea, all essential micronutrients and, binding material.

April: Soil preparation for planting

Soil of the potato experimental plots

- **The Composted Sandy Loam:**

Sand: ~ 60- 65%;
Clay and minerals: 7-10%;
Organics: 27-30%
pH: 6.5- 7.00

The Soil test:

6 oz/100 sq.ft. of Potash has been added before planting to bring “K” to Medium level.

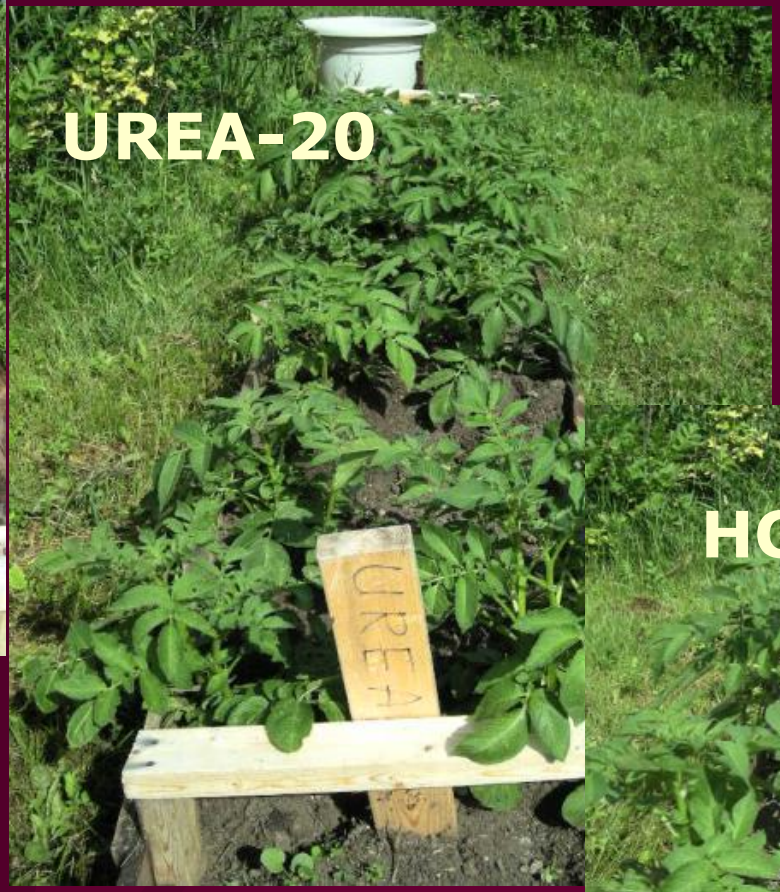
Protocol of the Trials

Varieties of Potato	Date of planting	Date of harvest	UREA (application doses- g/plant)	HCU-Humate Coated Urea (g/plant)
Yukon Gold	April 29th	August 12th	20	20, 40
Chieftain	May 26th	September 1st	20	10, 20
Russian Blue	June 3d	September 3d	20	20
Kennebec	June 8th	September 8th	20	20
	June 25th	September 15th	10	10

April 29: Potato tubers are just planted (the fertilizers- Urea or HCU are spread in a hollow around the tubers

Potatoes " *Yukon Gold*"

June 15



July: potatoes ” Yukon Gold”

- **The first flowers were found on “HCU-plants”**

“HCU”-plants started flowering stage earlier than “Urea”-plants

“UREA”-trials plot

“HCU”- trials plot

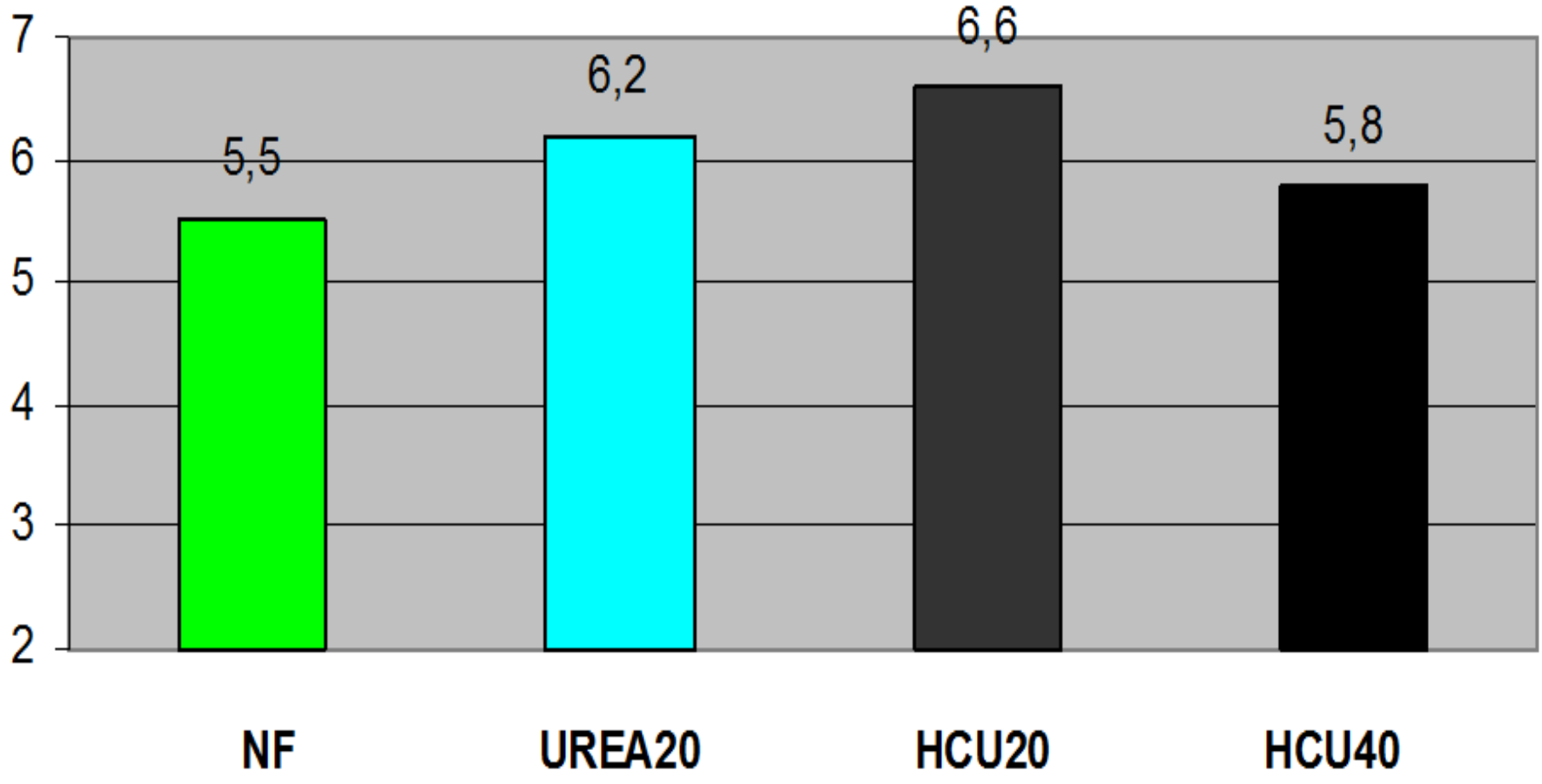
Percentage of plants with flowers in mid-Summer (July 17): Humate Coated Urea promoted flowering!

Varieties of Potato	Date of planting	NF (No Fertilizer)	UREA 20	HCU- 10	HCU-20
Yukon Gold	April 29th	0	10%	30%	30%
Chieftain	May 26th	0	50%	70%	70%
Russian Blue	June 3d	---	65%	---	90%

August 10

- View of the potato plants at the end of growing season:

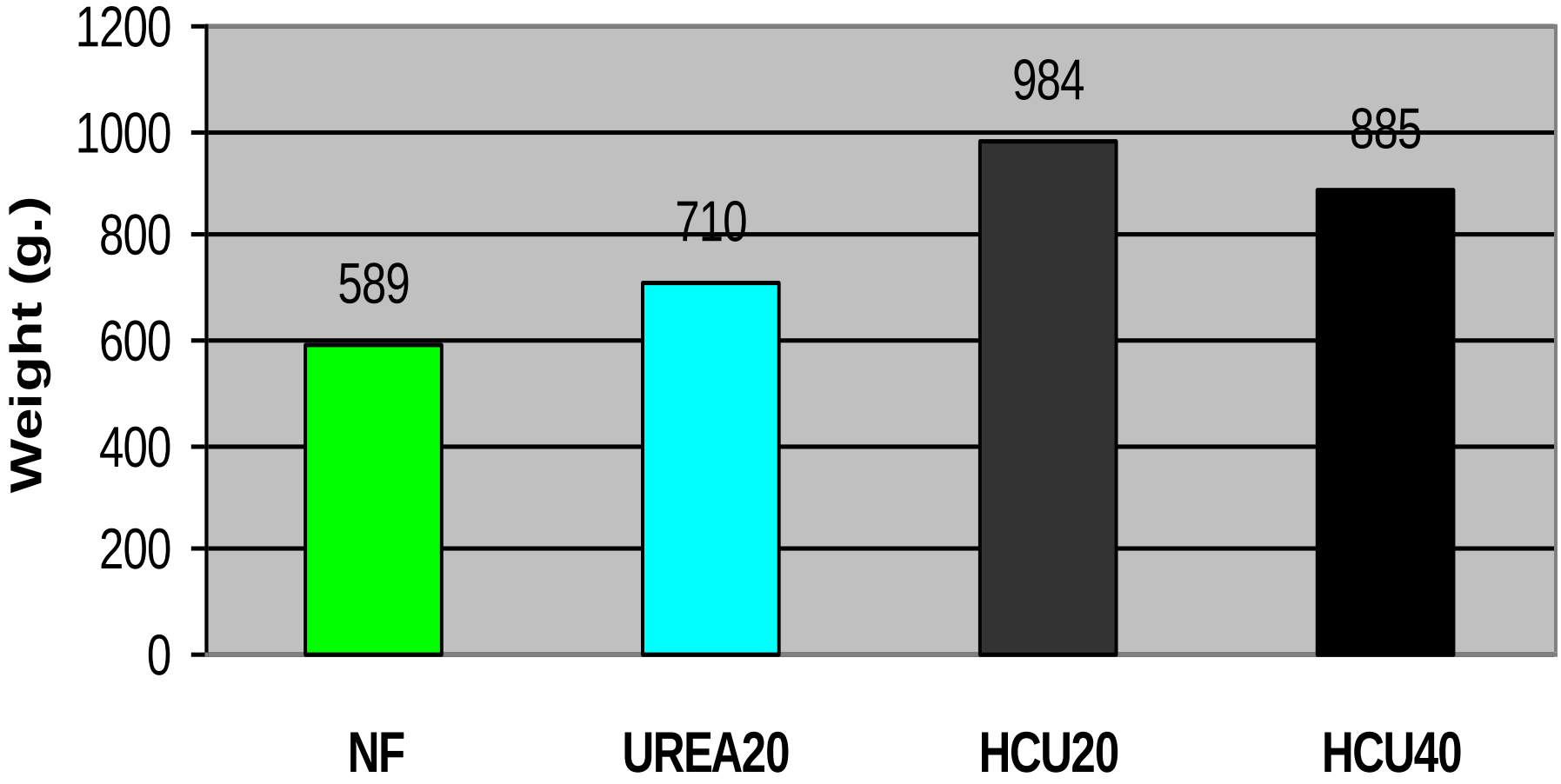
Potato 'Yukon Gold" (planted- April 29 and harvested- August 12): Number of tubers per a plant



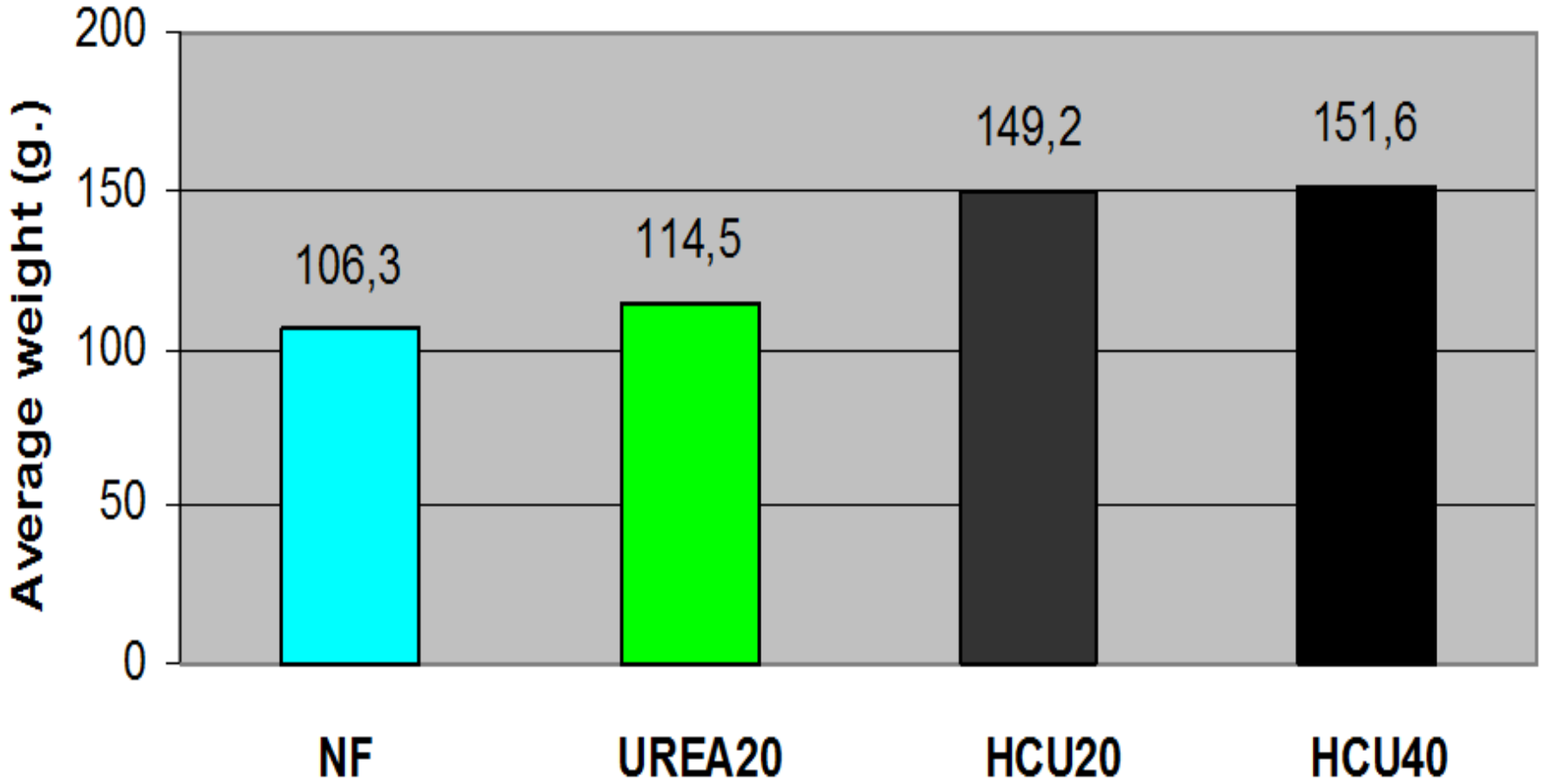
Potato “Yukon Gold”

- **Origin & Breeding:** bred from the cross (Norgleam x W5279-4) at the University of Guelph, Guelph, Ontario (Canada) in 1966.
- **Year registered in Canada:** 1980
- **Maturity:** mid-season
- **Tubers:** oval, slightly flattened; finely flaked yellowish white skin; shallow pink eyes; light yellow flesh.

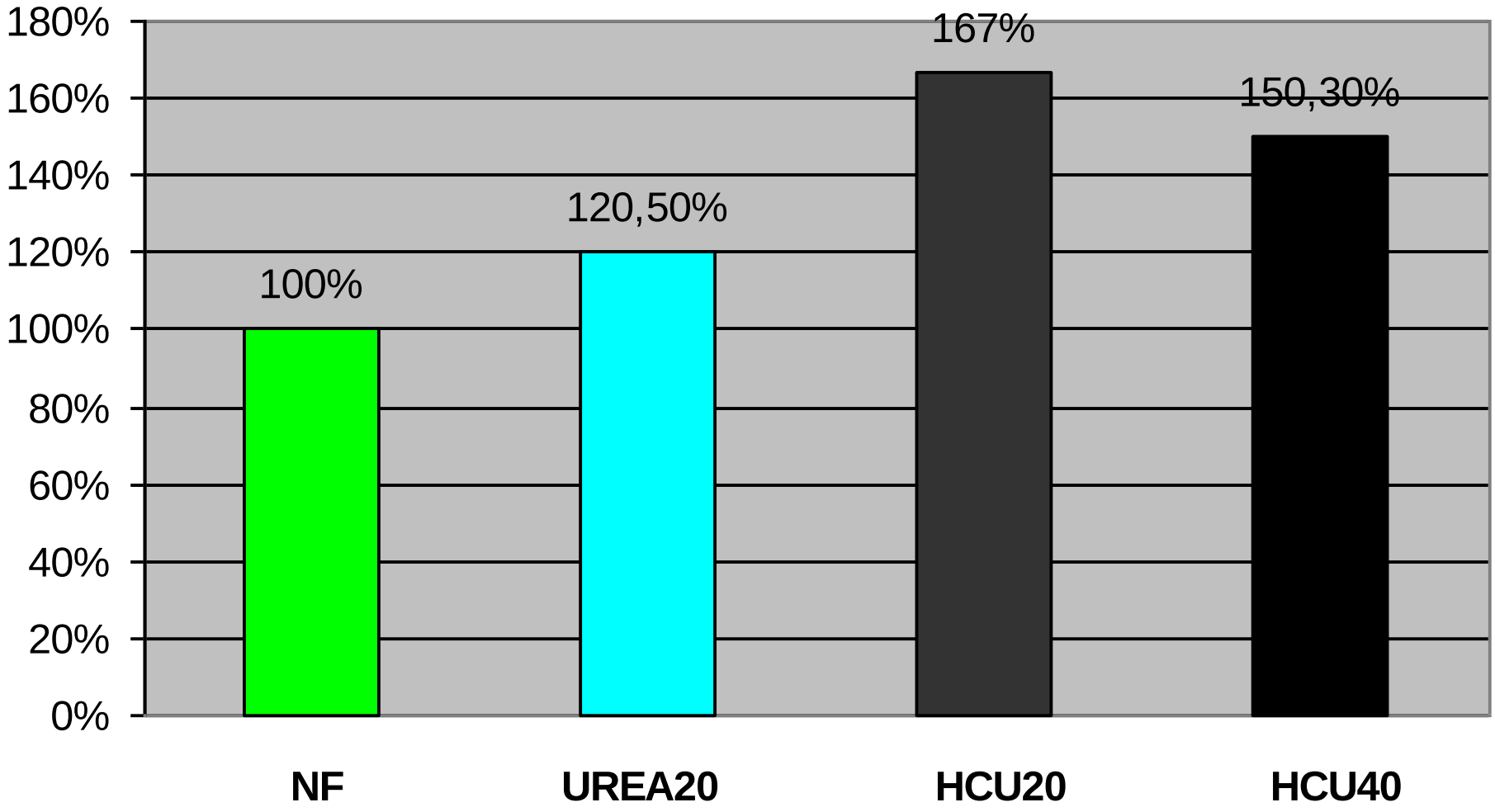
Potato "Yukon Gold" (planted April 29, harvested-August 12): Total weight of tubers per a plant



Potato "Yukon Gold" (planted -April 29): Average Biomass of a Tuber



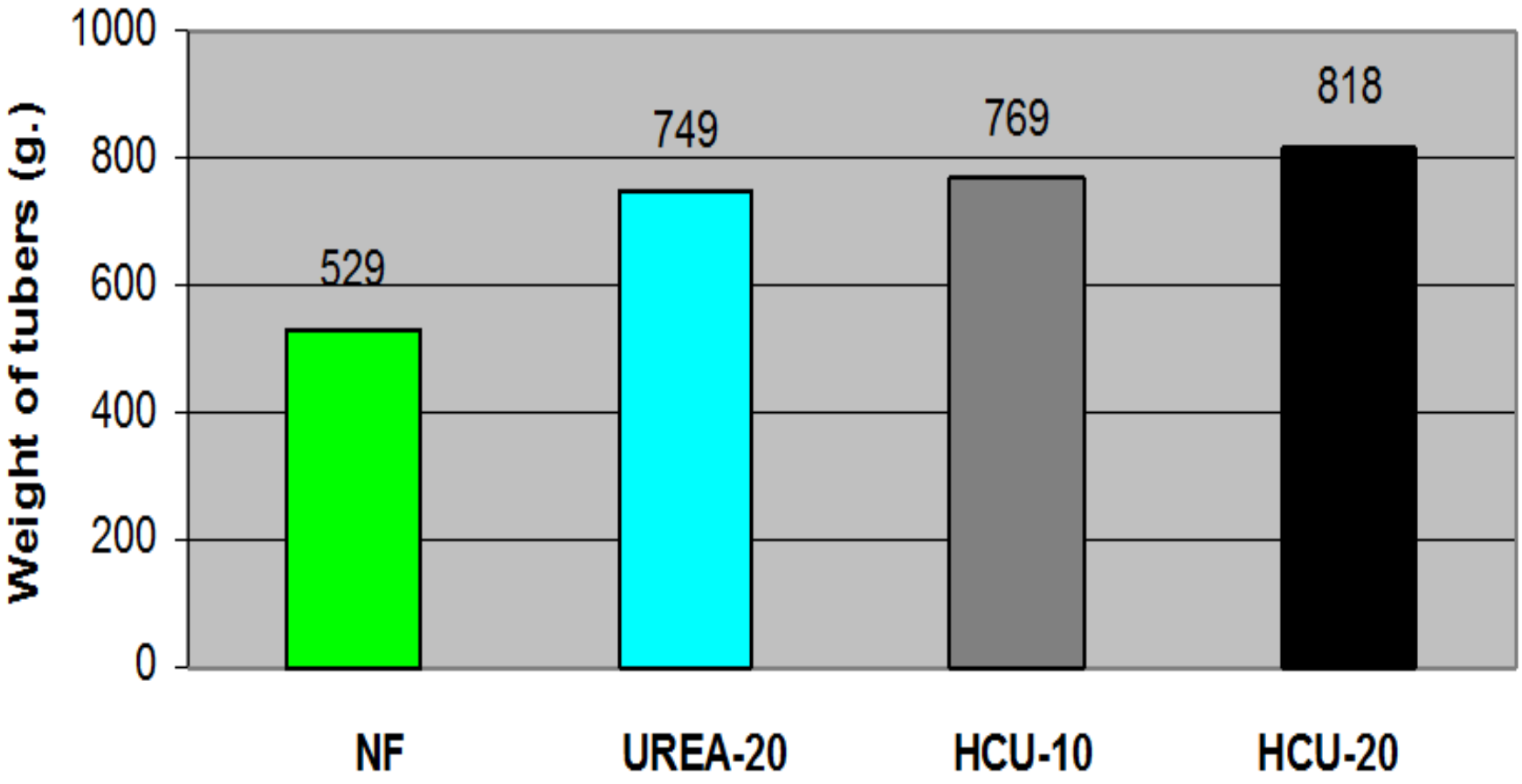
Potato "Yukon Gold" (planted- April 29): relative increase of the yield (weight of tubers) as result of application of Urea and Humate Coated Urea (HCU)



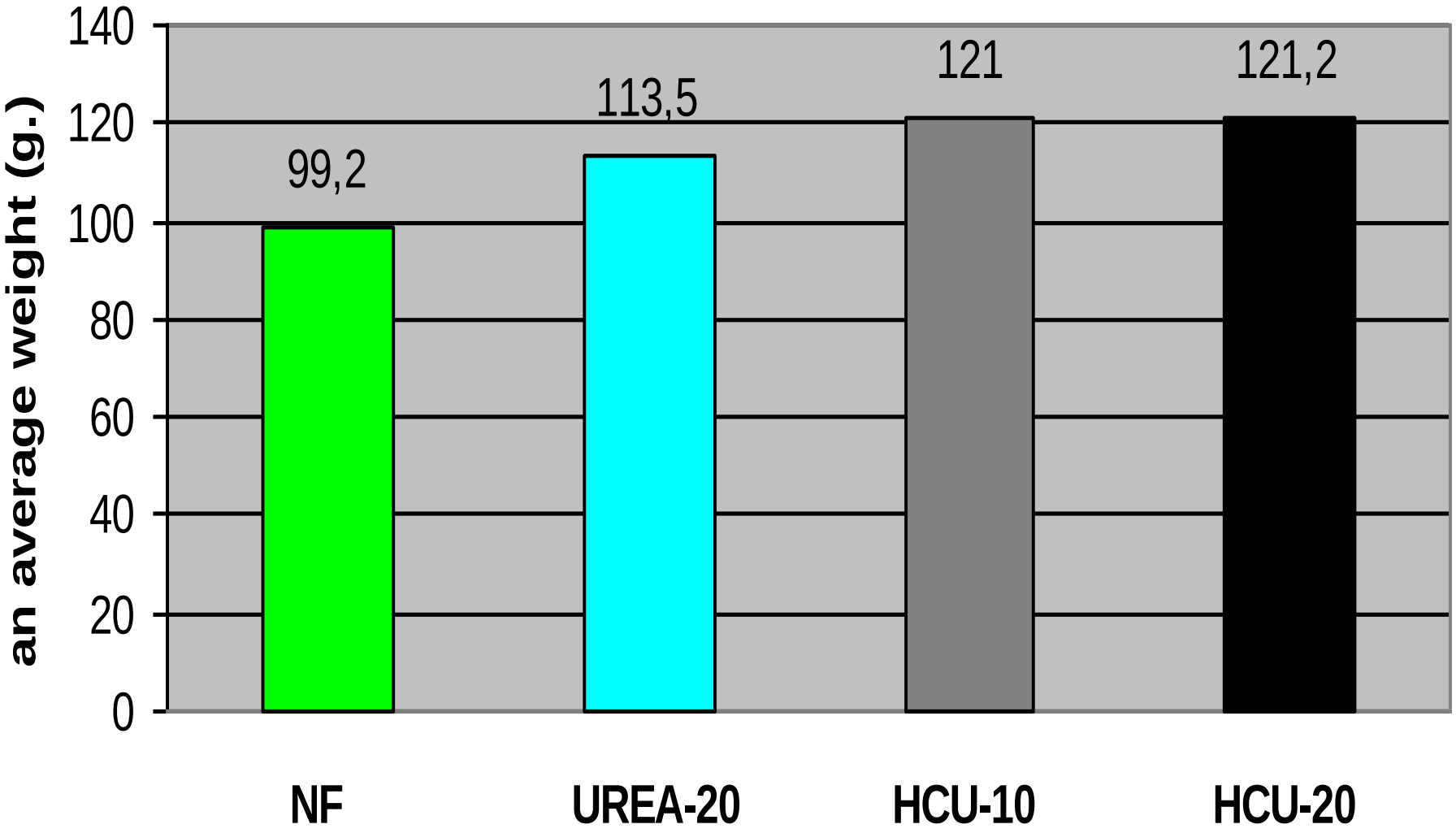
Potato "Chieftain"

- **GENERAL:**
- **Origin & Breeding: bred by A.E. Kehr from (la1027-18 x La1354) and selected by the Department of Horticulture, Iowa State University, Ames, Iowa, in 1957.**
- **Maturity: mid-season**
- **Tubers: oval to oblong, smooth bright red skin; shallow to medium-deep eyes, darker than the skin; white flesh.**

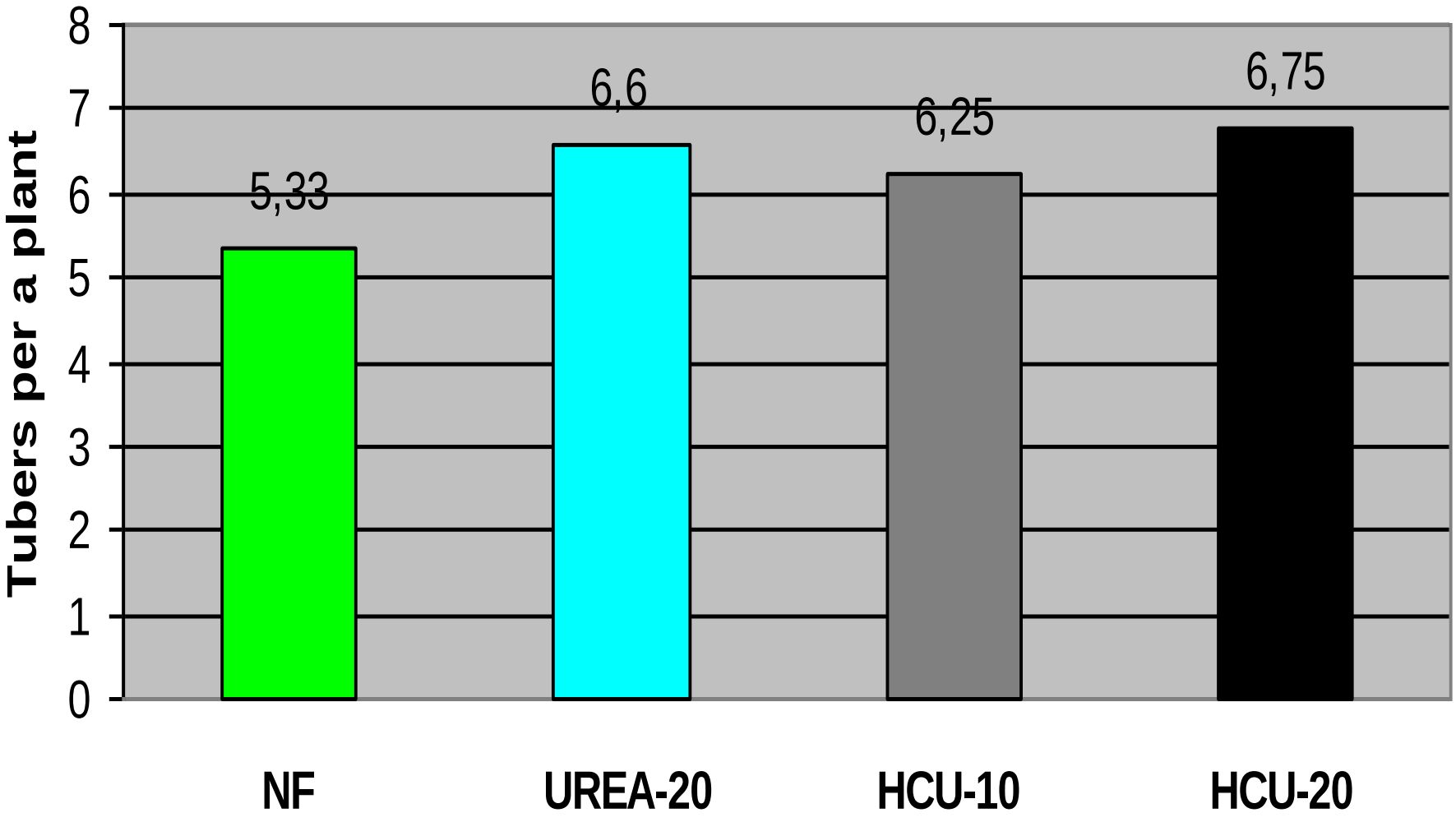
POTATO "Chieftain": Yield of tubers per a plant (planted- May 26, harvested- September 1)



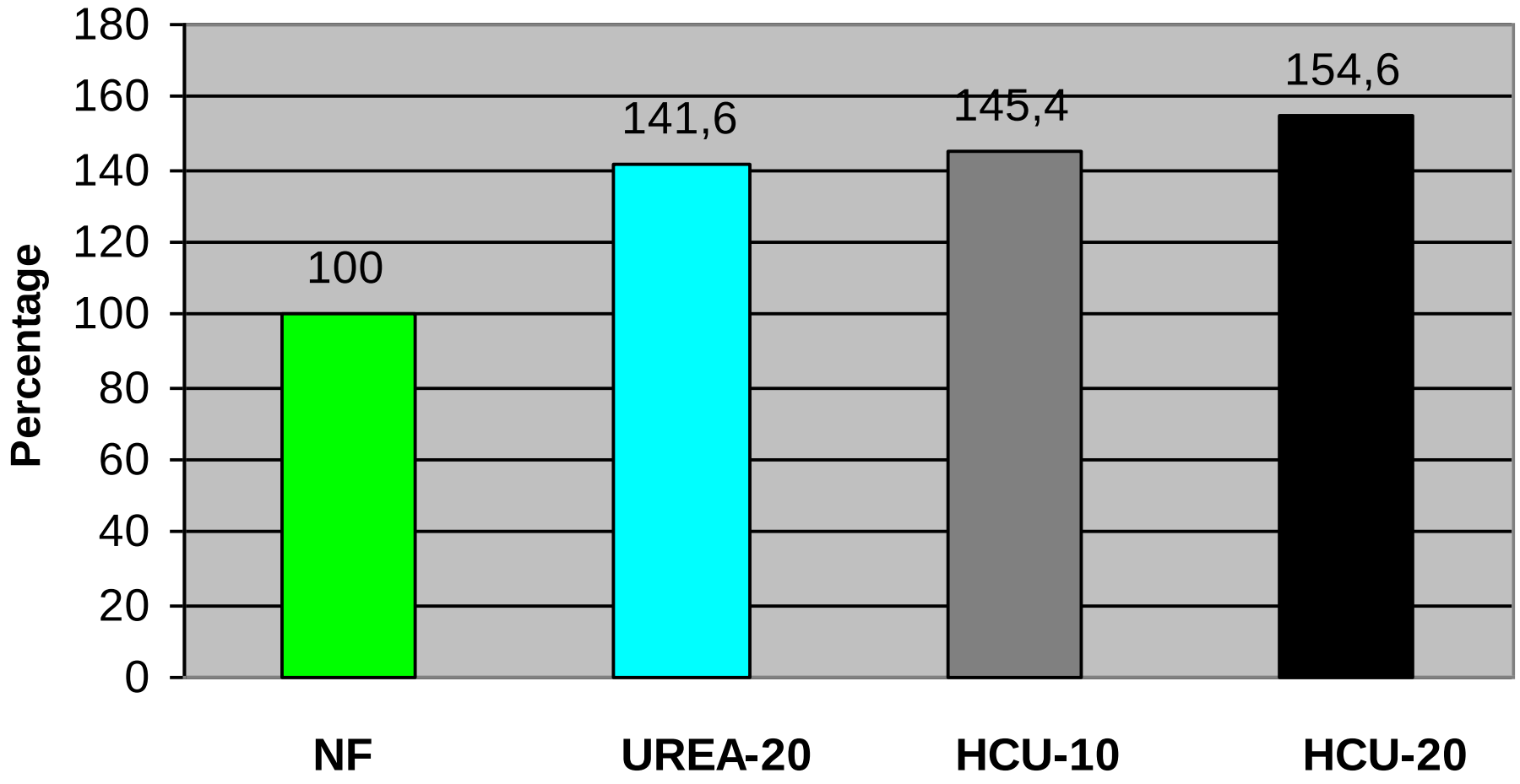
Potato "Chieftain": Average biomass of tubers



Potato "Chieftain": Number of tubers per a plant



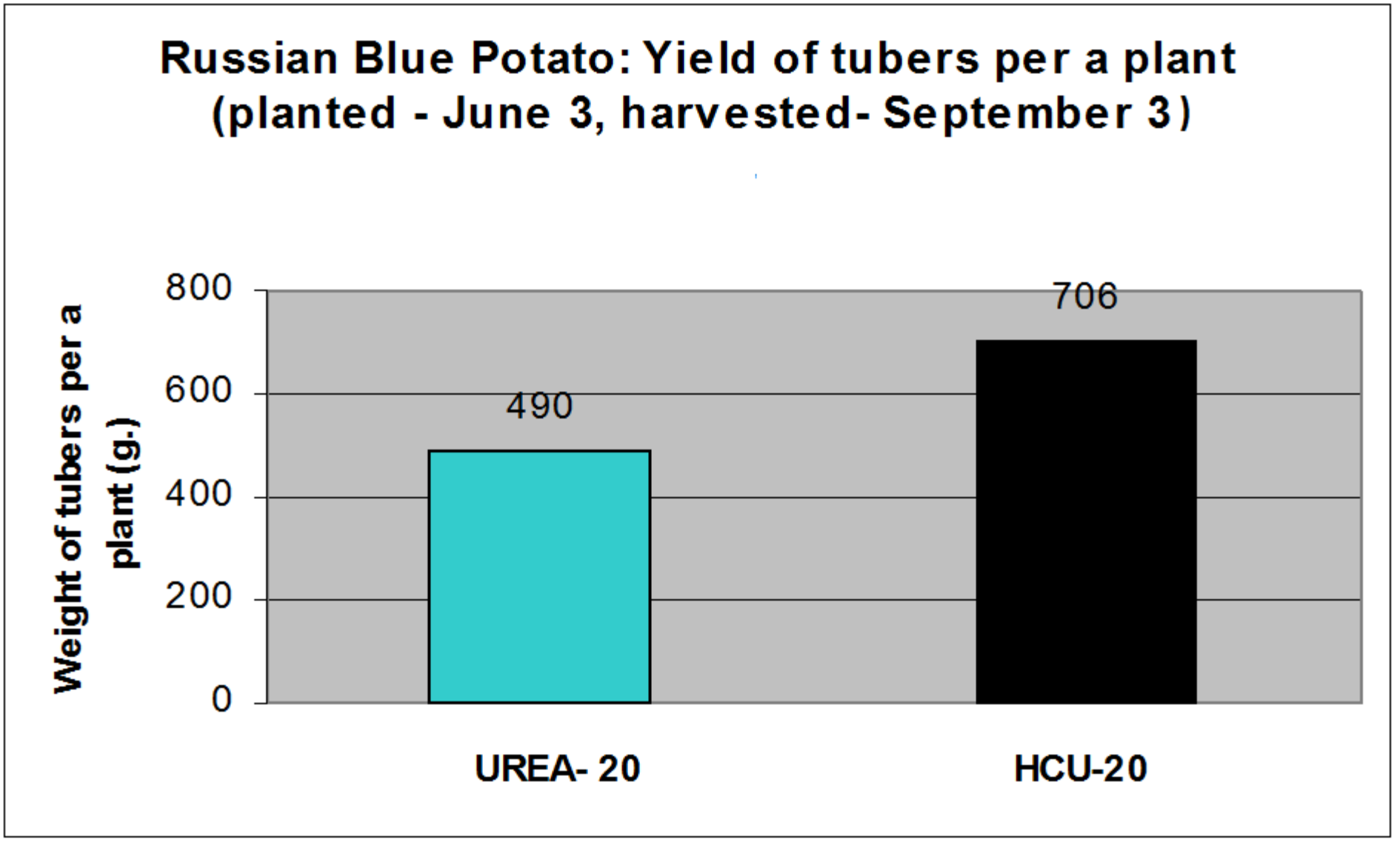
Potato "Chieftain": the relative increase of the yield (weight of tubers) as result of application of Urea and Humate coated urea (HCU)

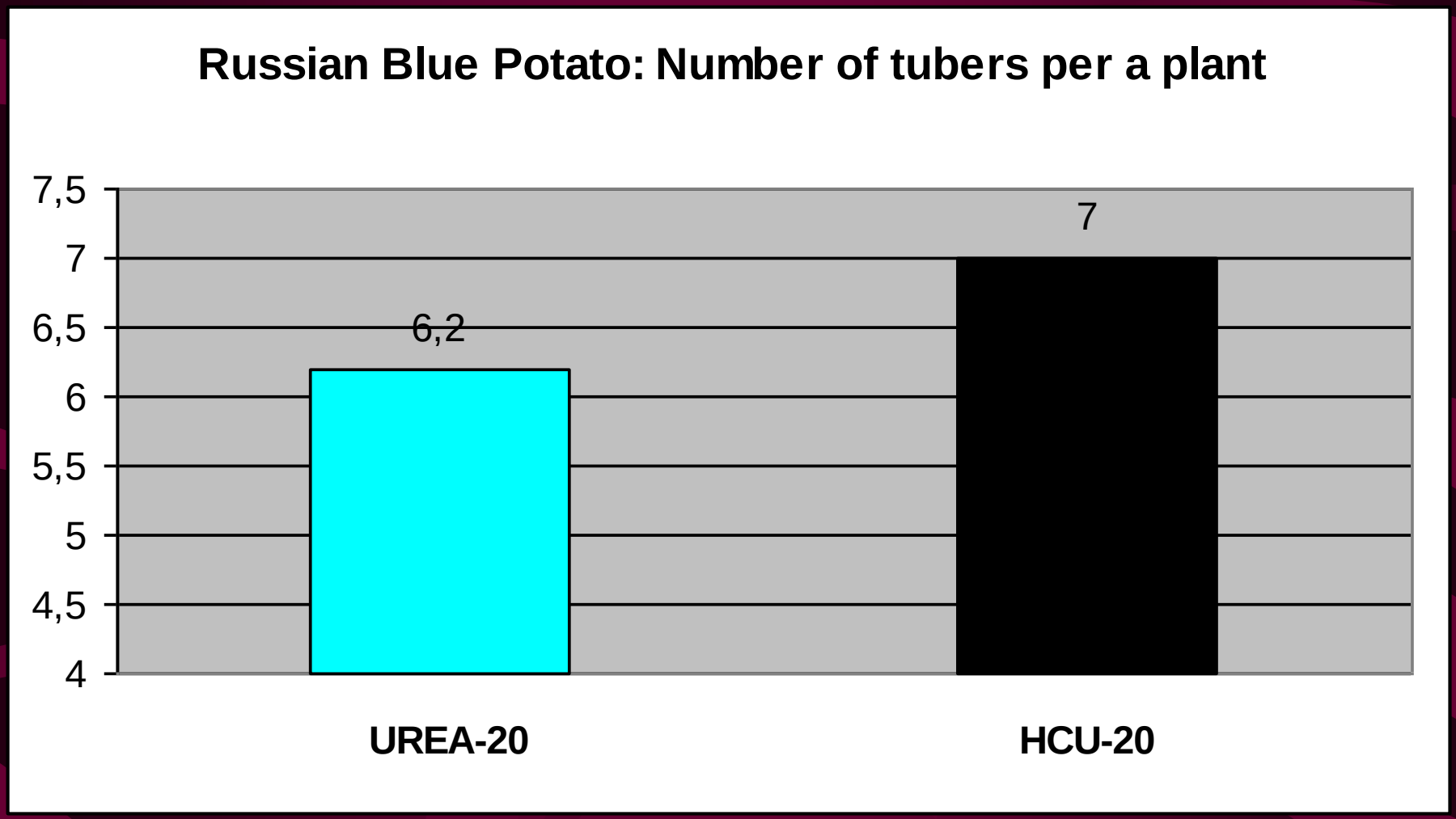


"Russian Blue" Potato

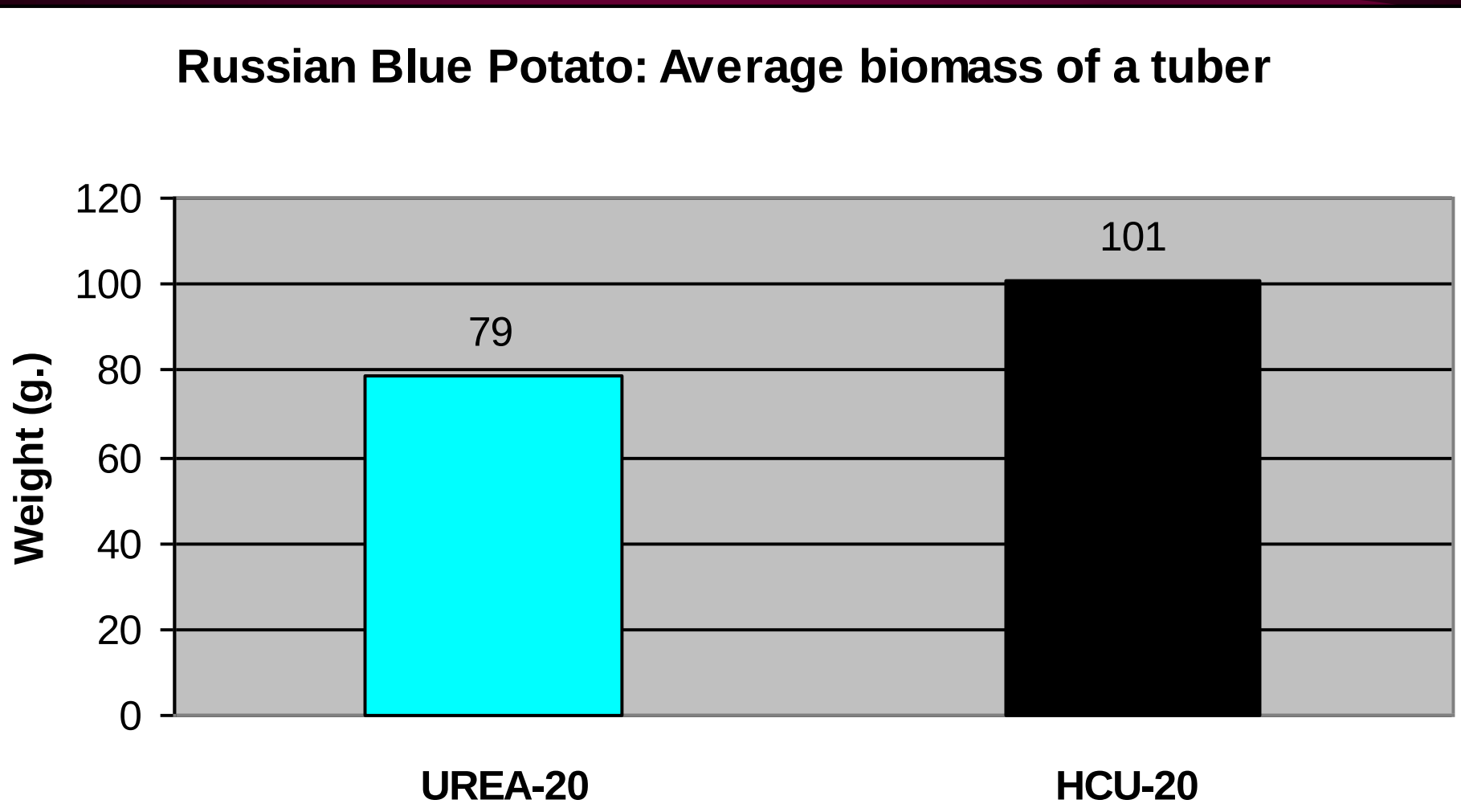
Russian Blue potatoes- late maturing, dark blue skin and flesh variety. They are uniform, oblong to oval shape with deep purple skin and netted texture. Flesh is purple streaked with white and its defining characteristic, a white ring beneath the skin. Has a vigorous growth habit.

"*Russuan Blue*" potato: Yield (Weight of tubers per a plant: Urea- 100%, HCU- 144%





“Urea”- 100% “HCU”- 113%

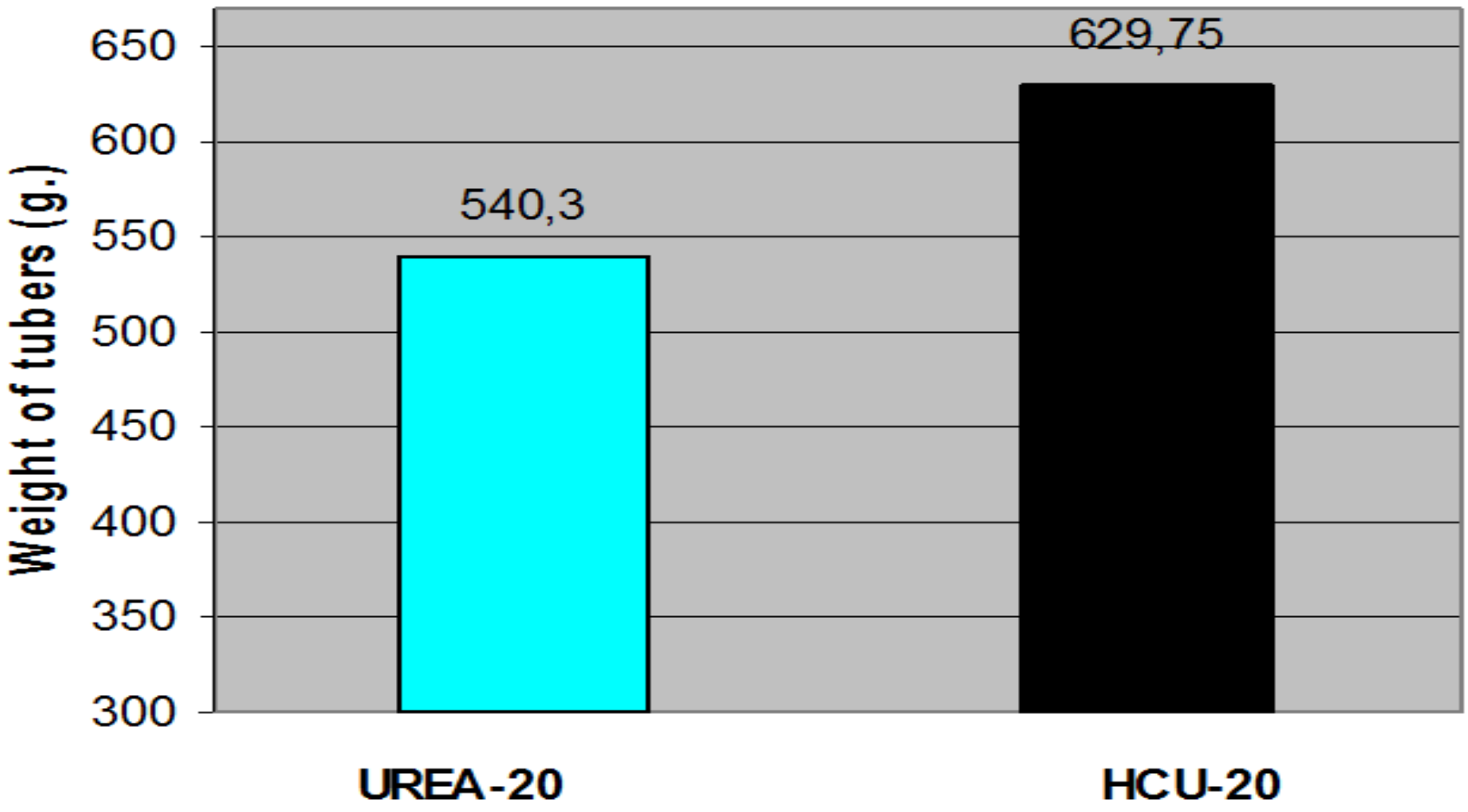


"Urea"- 100% "HCU"- 128%

Potato “Kennebec”:

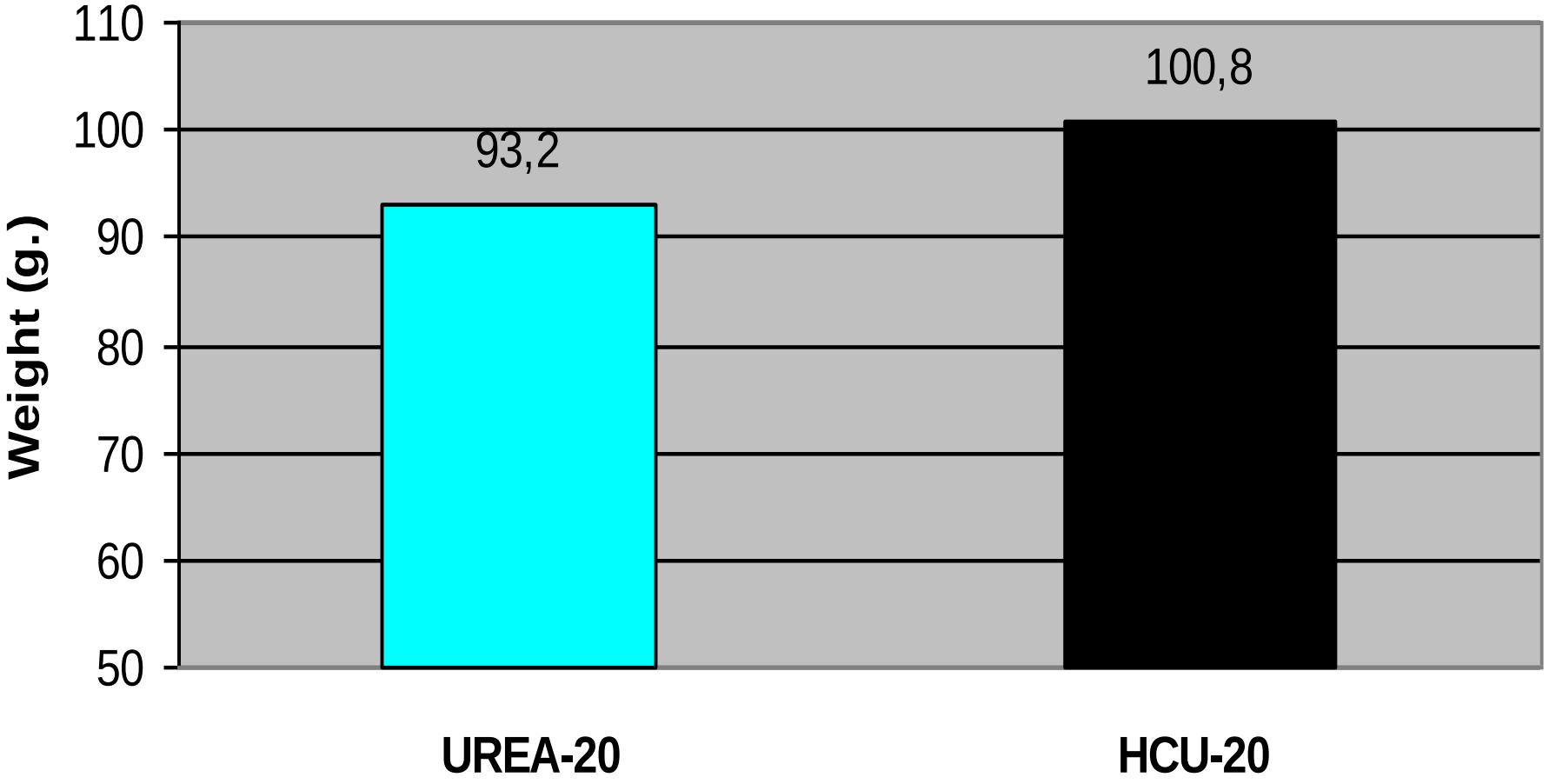
- **Origin & Breeding:** bred by *USDA* from (Chippewa x Katahdin) x (3895-13 x Earlaine)) and selected by Presque Isle Station, Maine, in 1941.
- **Maturity:** mid-season to late.

Potato "Kennebec"(planted- June 8, harvested- September 8): Yield of tubers per a plant



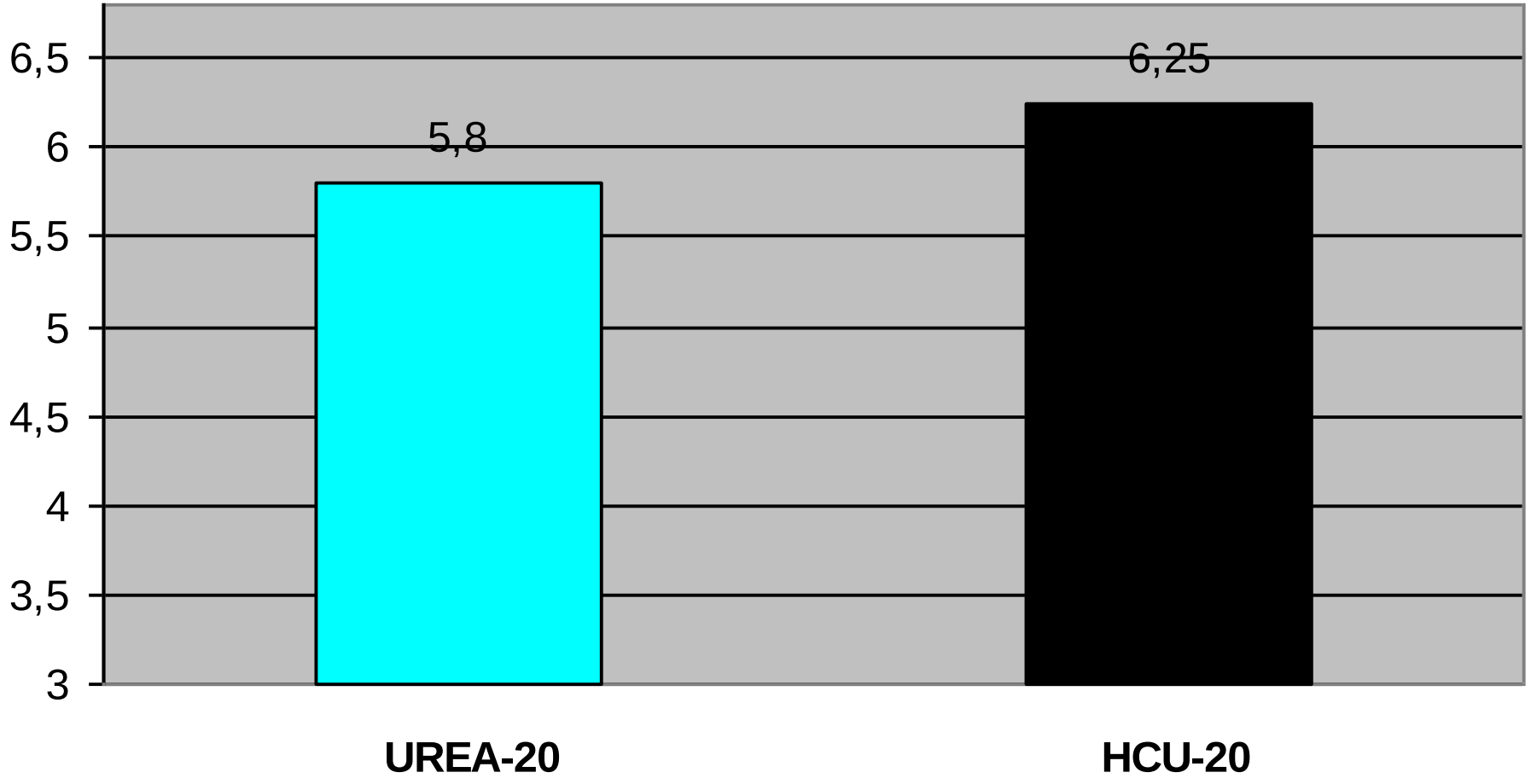
"Urea"- 100% "HCU"- 116.6%

Potato "Kennebec": an average weight of tuber



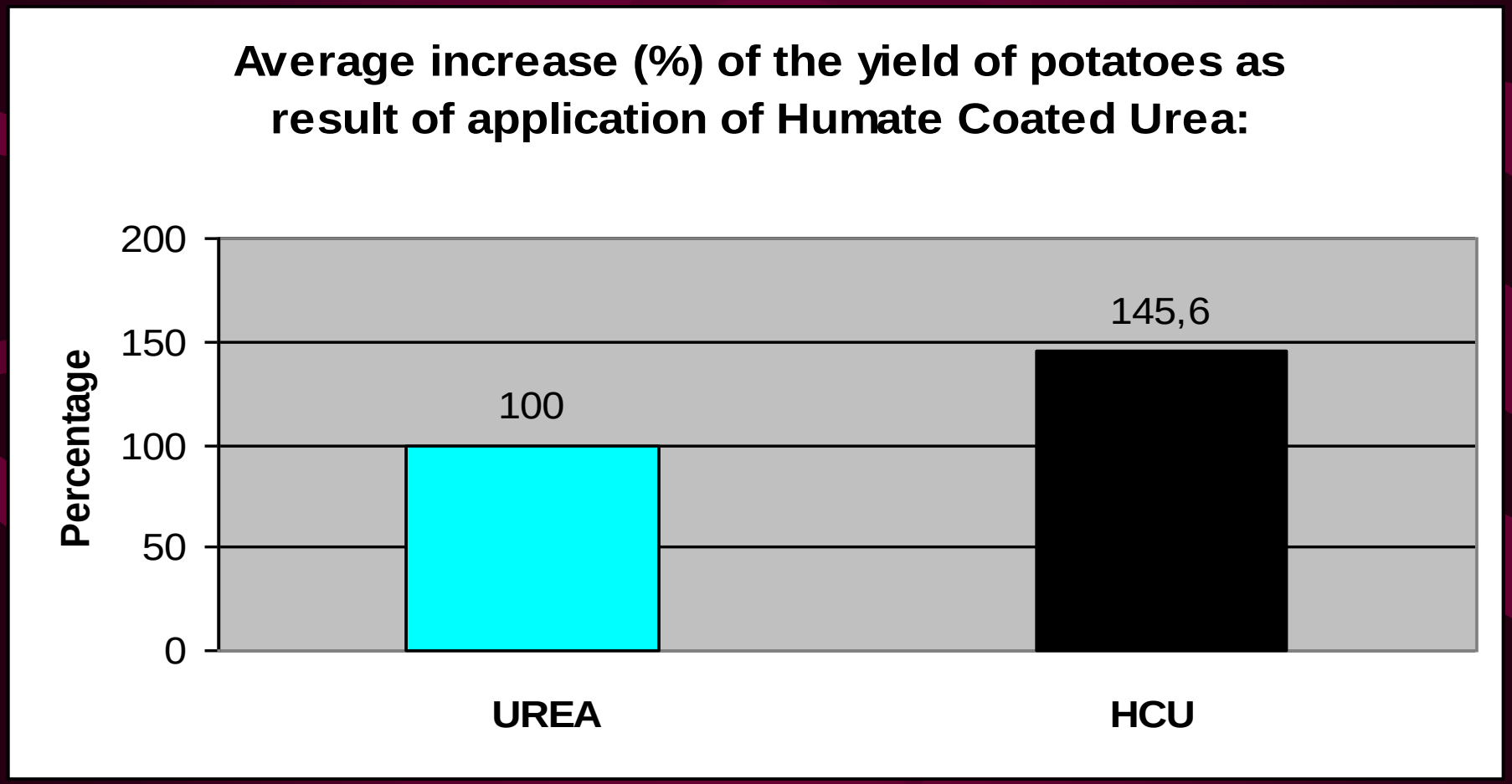
"Urea"- 100% **"HCU"- 108.2%**

Potato "Kennebec": Number of tubers per a plant

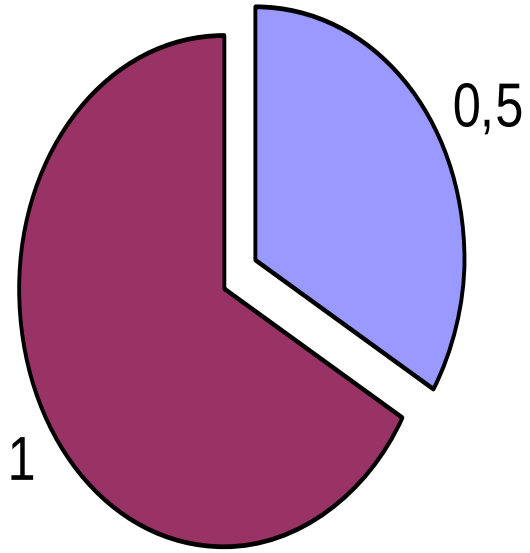


“Urea”- 100% “HCU”- 107.8%

"HCU" substantially outperformed UREA" in the trials with an average 46% increased of the yield of potatoes!



Humates may reduce the amount (and cost) of Urea because humates make Urea more efficient in application for growing potatoes- an estimated cost of fertilizers in production of potatoes with Humates (Blue) and without Humates (Purple):



Conclusions:

1. HCU with Humate outperformed Urea in the trials(an average 46% increased of the yield of potatoes);

2. Iit is required from 30 to 50% less Urea in a form of HCU to obtain the same or better results (as the yield or biomass of tubers) for growing potato plants

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