

## VARIETIES OF ALTERNATIVE CROPS AS A SOURCE OF BIOETHANOL



*Botanichnyi* variety



*Yevhenia* variety

### Areas of Application

Alternative crops are to be used in agricultural production, energy and food industry for producing bioethanol and solid biofuels, fertilizers, and well-balanced fodders (as by-products)

### Specification

Annual crops with a high content of carbohydrates (sweet sorghum, finger millet); the Botanichnyi, Enerhodar, Yevhenia, and Yaroslav-8 varieties bred at NBG have been recorded in the State Register of Plant Varieties of Ukraine.

Yield of raw material, t/ha	≤100
Bioethanol output, t/ha	3–7
Seeds yield, t/ha	4–8
Sugar content, %	>20
Energy production, Gcal/ha	80–110
Solid biofuel output from by-product material, t/ha	>10

### IPR Protection

IPR2, IPR3

### Advantages

As compared with conventional crops for bioethanol production, the new varieties require up to 1.5 times less acreage. The new varieties of alternative crops have a higher sugar content as compared with the feed crop varieties (by 12–13%); their seeds can be gathered separately and used as fodder. The production profitability reaches 80–120%

### Stage of Development. Suggestions for Commercialization

TRL3, TRL3  
The commercial use of varieties is governed by license agreements. Seeds and recommendations on plant cultivation and use are provided

### Contact Information

*Jamal B. Rakhmetov, M.M. Gryshko National Botanical Garden of the NAS of Ukraine;  
+38 044 285 01 20, e-mail: jamal\_r@bigmir.net*