CORN COB AS A RENEWABLE ENERGY SOURCE

Leading partner: ŽIPO Lenart d.o.o.
Other members of the partnership: KGZS Zavod Maribor, NLZOH, KIS, Interkorn d.o.o., ProFUTURUS d.o.o., BŠ Maribor, farmers: Anita Števanec, Boštjan Kraner, Matej Korošec, Franc Horvat

Project type: EIP
Theme of the project: Efficient use of energy and renewable energy sources (RES) in agricultural production and processing

Project duration: 14.12.2018-13.12.2021
Amount of appropriations: 249.878,64 €

Practical problem: Agricultural crop residues (corn cobs) are currently discarded in the field instead of being used as an energy source.

Purpose and objectives of the project

- Increasing efficient use of energy and RES in agriculture,
- Reducing the use of fossil fuels,
- Reducing dependence on imported energy sources.

Expected results

- Identified the most appropriate maize hybrid suitable for further harvesting and use of corn cobs,
- Developed a prototype for picking up corn cobs,
- Developed technology for processing corn cobs,
- Extended knowledge among farmers and the general public.

Maize hybrid	Grain yield at 14% moisture (kg/ha)	Corn cobs yield at 14% moisture (kg/ha)
P9241	15 456,7	2 379,0
ARNO	14 988,1	2 299,5
DKC 4351	16 019,1	2 587,8
P9363	15 090,6	2 529,0
ARNAUTO	15 822,0	2 443,5
AJOVAN	16 401,3	2 331,0
P9757	16 030,2	2 572,3
AURELIO	16 336,5	2 660,9
DKC 4717	16 382,8	2 406,2
P9911	14 407,1	2 886,1
ABSOLUT	13 320,3	2 500,6
DKC 5098	14 212,5	2 754,4
Average	15 403,2	2 552,6

Project results so far

Sown experiment on 5 farms, 12 different hybrids. Results:

Conclusion

It is followed by an analysis of the properties of the corn cobs, the harvest of the corn cobs with a prototype, the processing and burning of the corn cobs. The project will benefit farmers, consultants, researchers and the interested public.

We work with several farms
from the EU in the field of exchange of research and development experience.

The view of the farmer:
We approached to the project because we want to use RES, be independent of foreign sources and reduce the use of fossil fuels. The project will also result in better economic performance of the farm and greater energy independence.

The view of the consultant:
We want the additional energy from the cobs to be used on farms for the purposes of drying crops, drying fodder, space heating, and so on. The positive impact of the use of corn cobs is also the reduction of the population of various rodents in the fields.

The view of the researcher:
Being a part of the 'Knowledge Triangle' and tackling the concrete challenges facing agriculture in practice and thus actively contributing to ensuring the sustainable use of resources is a challenge and a responsibility for us.

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Project website: http://www.zipo.si/program-razvoja-podezelja/

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