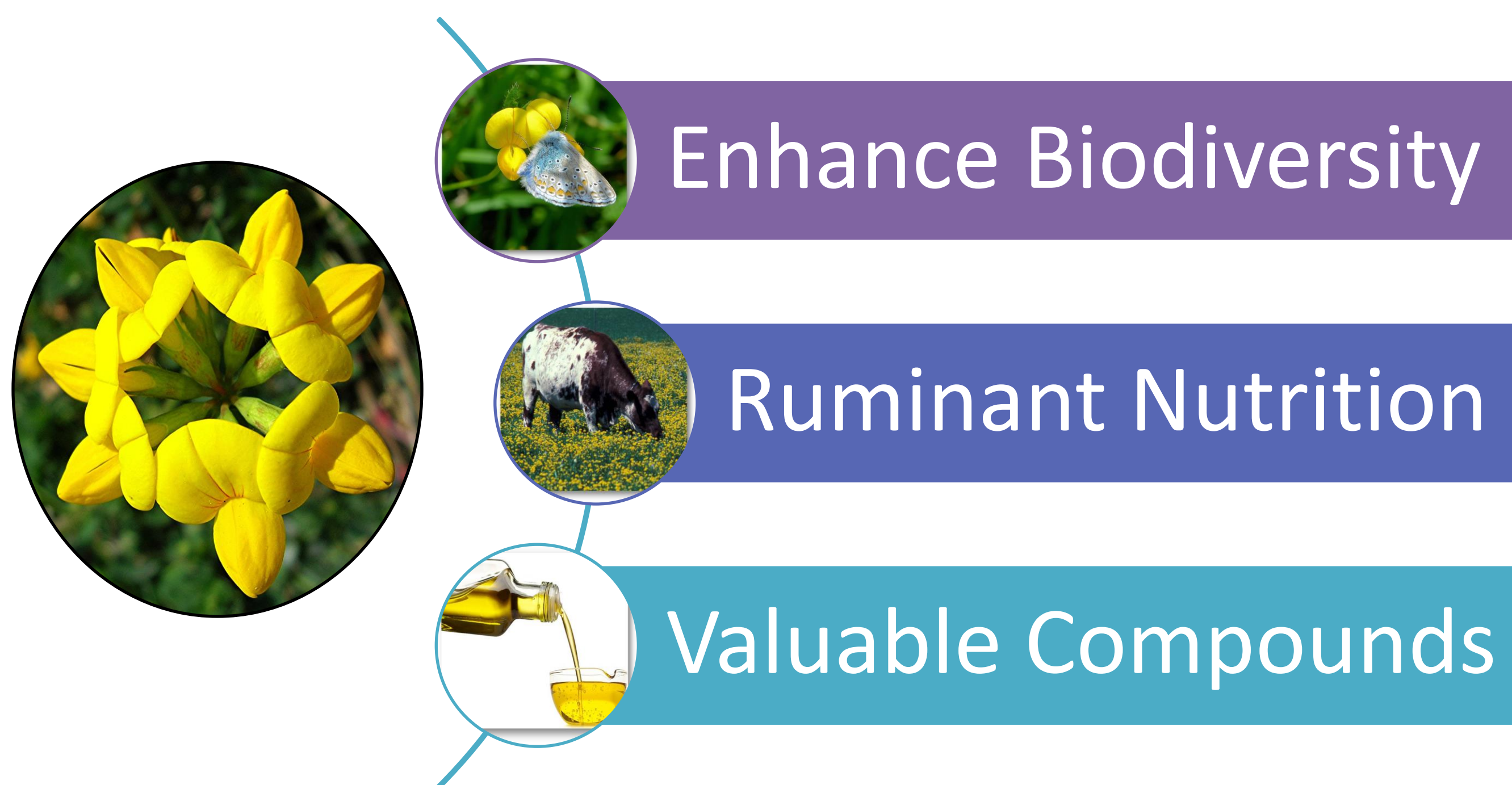




Field bordering flower strips not just only improves the biodiversity but also serves as a source of beneficial compounds. Some of the plants in these strips can be really interesting source of lipids, the oils extracted from their seeds can be important for food, pharmaceutical and cosmetics industries. Six species of plants from flowering strips in Belgium were investigated for their seed oil content. The oil from seeds was extracted by cold extraction technique using chloroform/methanol in 2:1 ratio as solvent. Oil extraction from seeds of Red Clover (*Trifolium pratense*), Rough Hawkbit (*Leontodon hispidus*), Cow Parsley (*Anthriscus sylvestris*), St John's Wort (*Hypericum perforatum*), Common Yarrow (*Achillea millefollium*) and Birdsfoot Trefoil (*Lotus corniculatus*) plant species was done on wet weight which came out to be 7.89±0.11%, 11.86±0.07%, 14.78±0.31%, 24.20±0.02%, 20.08±0.15% and 7.04±0.12% respectively. The physicochemical properties of the extracted oils were analyzed. Some of these oils can be of great commercial value.
Keywords: Flowering Strips, Oil, Physicochemical Properties.



Material & Methods

Samples

The six species of seeds were purchased from a local supplier.

Methods

All samples were grinded in a Mill

Lipid extraction was done by a cold extraction technique using 2:1 ratio of chloroform/methanol as solvent

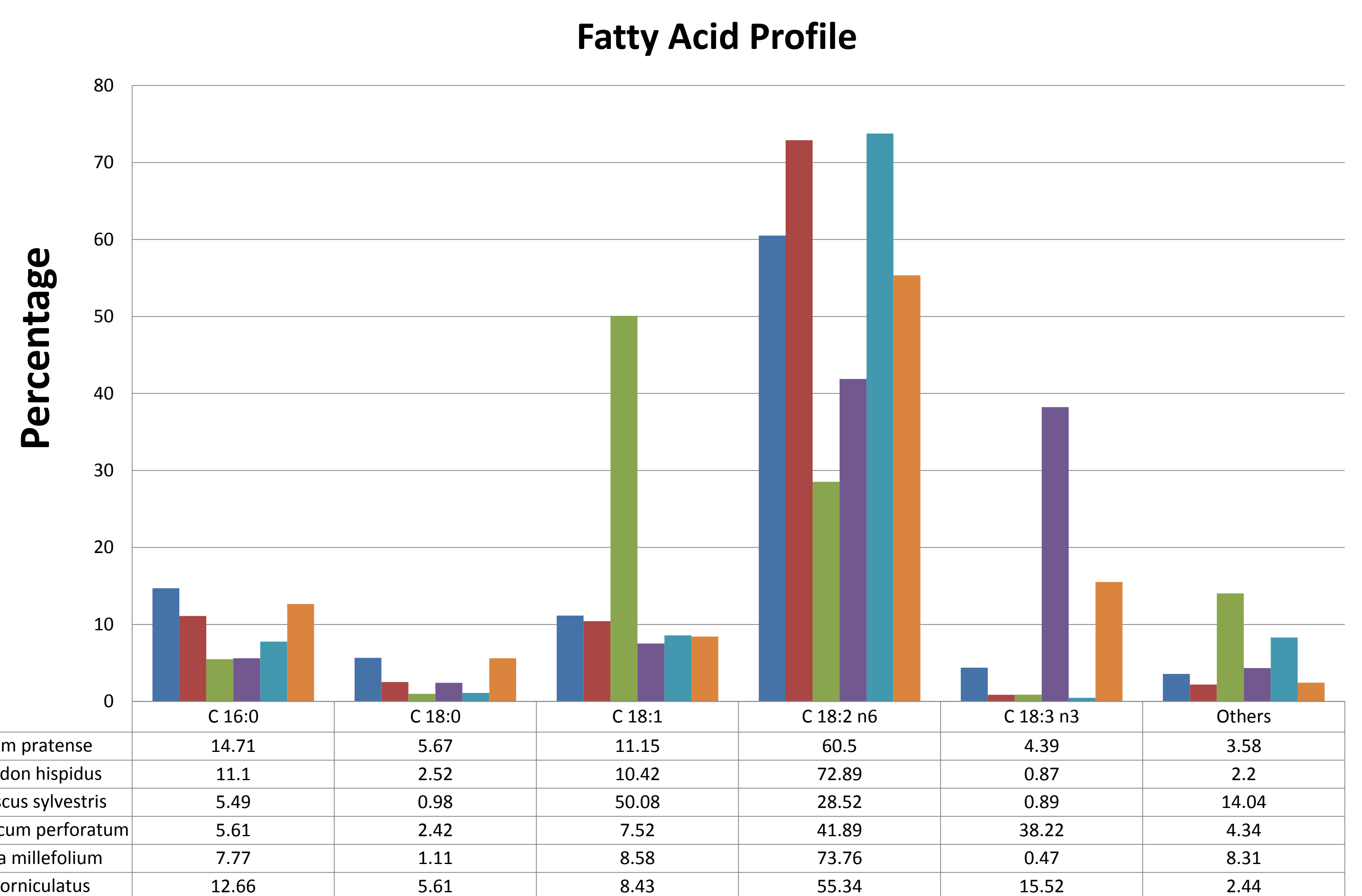
Fatty acid profile was determined by Gas Chromatography on a HP 6890 series GC system apparatus fitted with a HP 7683 series injector and Flame Ionization Detector

Thermal profile was analyzed by Differential Scanning Calorimetry Q1000 DSC

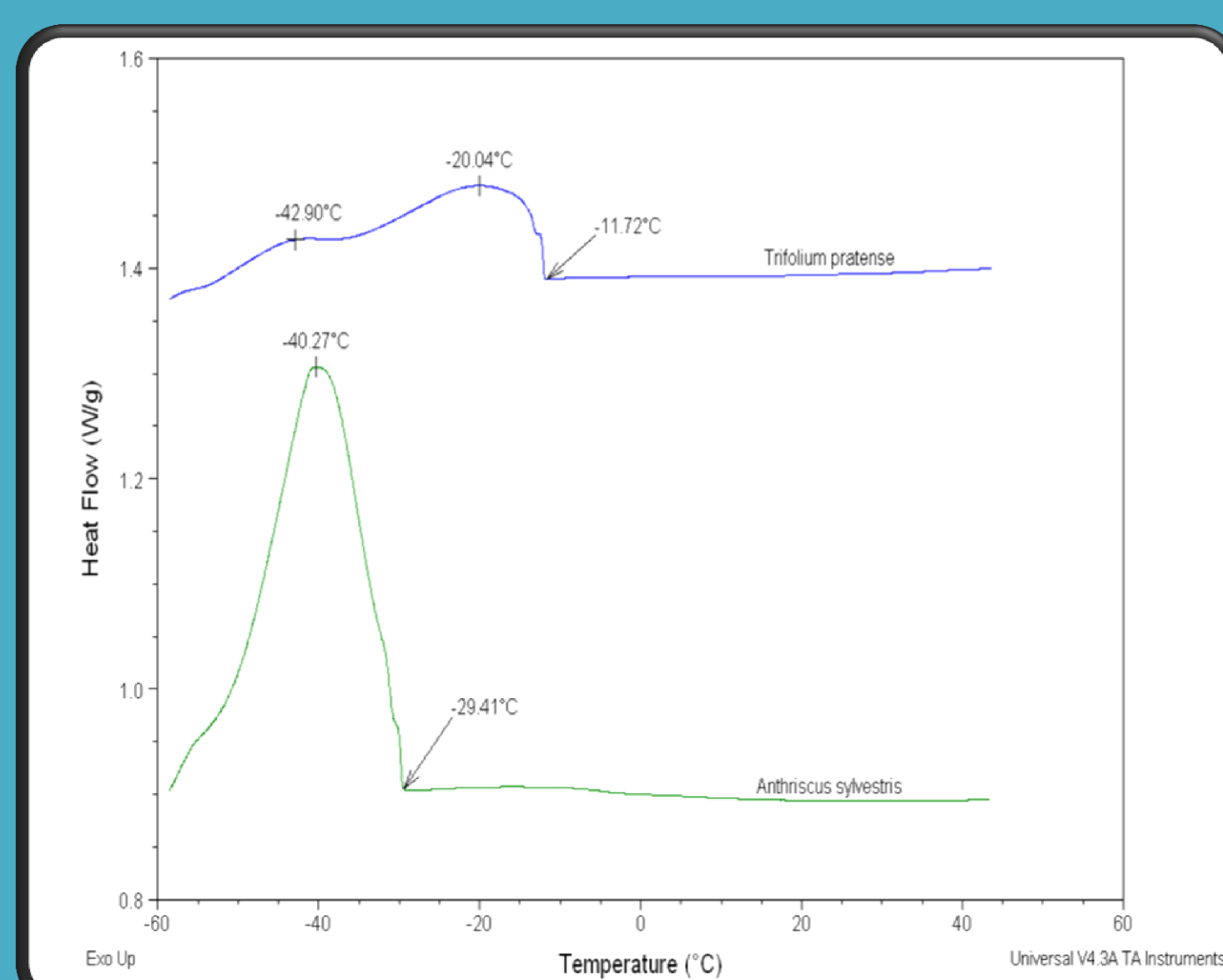
Results & Discussion

Lipid Content of Seeds

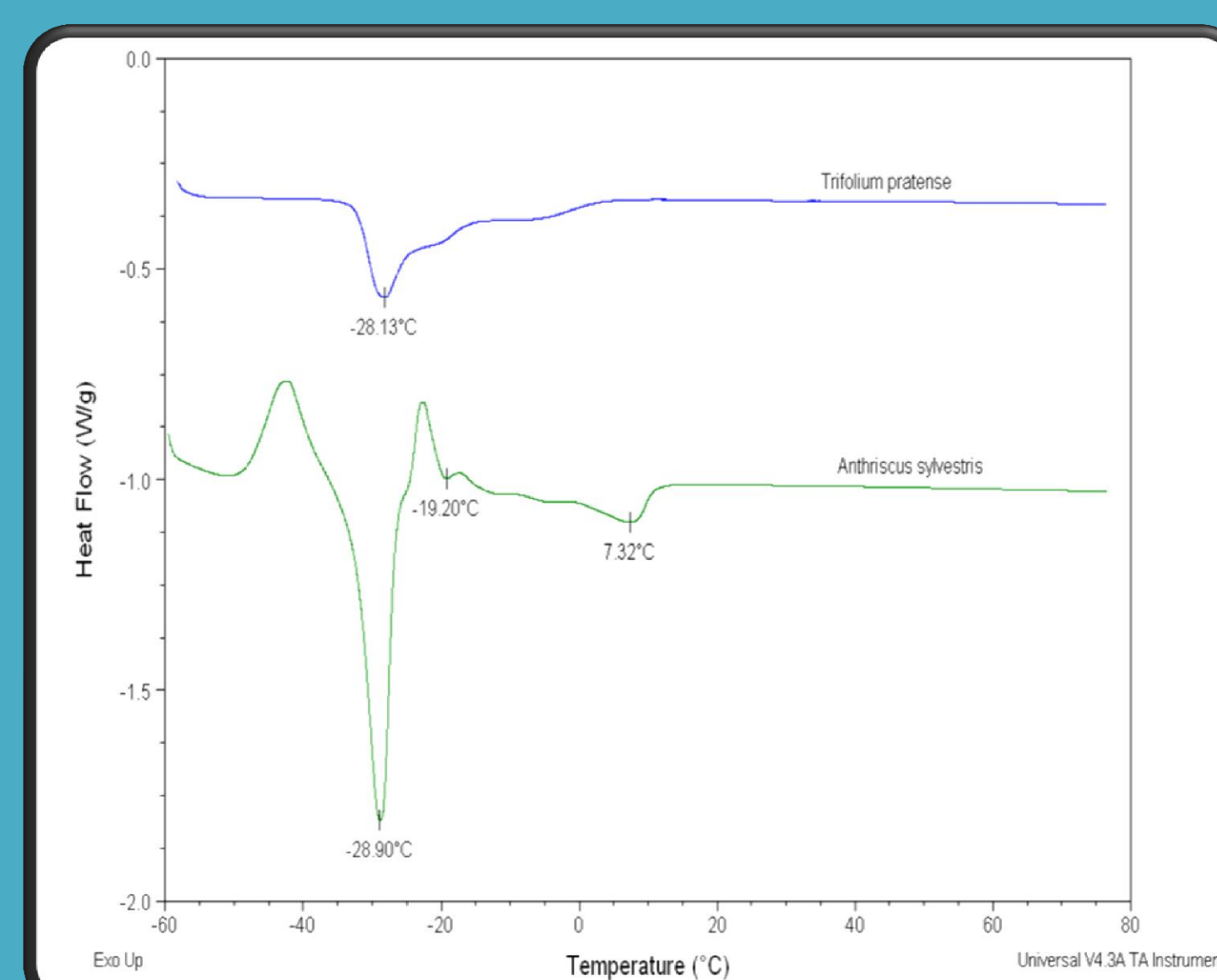
S.NO.	Species	%
1	<i>Trifolium pratense</i>	7.89±0.11%
2	<i>Leontodon hispidus</i>	11.86±0.07%
3	<i>Anthriscus sylvestris</i>	14.78±0.31%
4	<i>Hypericum perforatum</i>	24.20±0.02%
5	<i>Achillea millefollium</i>	20.08±0.15%
6	<i>Lotus corniculatus</i>	7.04±0.12%



Thermal Profile (DSC)



Crystallization Profile



Melting Profile

Conclusion

1. Oil extraction from seeds of *Trifolium pratense*, *Leontodon hispidus*, *Anthriscus sylvestris*, *Hypericum perforatum*, *Achillea millefollium* and *Lotus corniculatus* plant species was done on wet weight which came out to be 7.89±0.11%, 11.86±0.07%, 14.78±0.31%, 24.20±0.02%, 20.08±0.15% and 7.04±0.12% respectively.
2. *Anthriscus sylvestris* is good a source of the monounsaturated fatty acid (MUFA) C 18:1 (oleic acid), all the six species are good source of polyunsaturated fatty acid (PUFA) C 18:2 n6 (linoleic acid) and *Hypericum perforatum* & *Lotus corniculatus* are good source of PUFA C 18:3 n3 (alpha linolenic acid).
3. With this amount of lipids, fatty acid profiles and thermal behaviour some of the seed oils can be important source of commercial lipids.