Effects of minor components on the final product and in the processing of alternative protein sources.

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Background

Feedstuffs and food sources contain so-called minor components which can play a major role in the final functionality, sensory properties and safety of the protein fractions in these sources. The use of new, alternative sources for animal derived protein has led to a new (potential) portfolio of protein isolates of which the presence of minor components is unknown.

Objective

- Investigating the presence of minor components in alternative protein sources that could lead to negative effects, i.e., reduced protein digestibility, undesired coloring or off-flavor or beneficial effects on human and animal health.
- Coming to processing routes to reduce negative effects and enhance positive effects of these minor components in current and future protein products.

Results

Alternative protein sources

Many plants, fungi and seaweed and algae may be used as alternative protein source to meat and dairy.

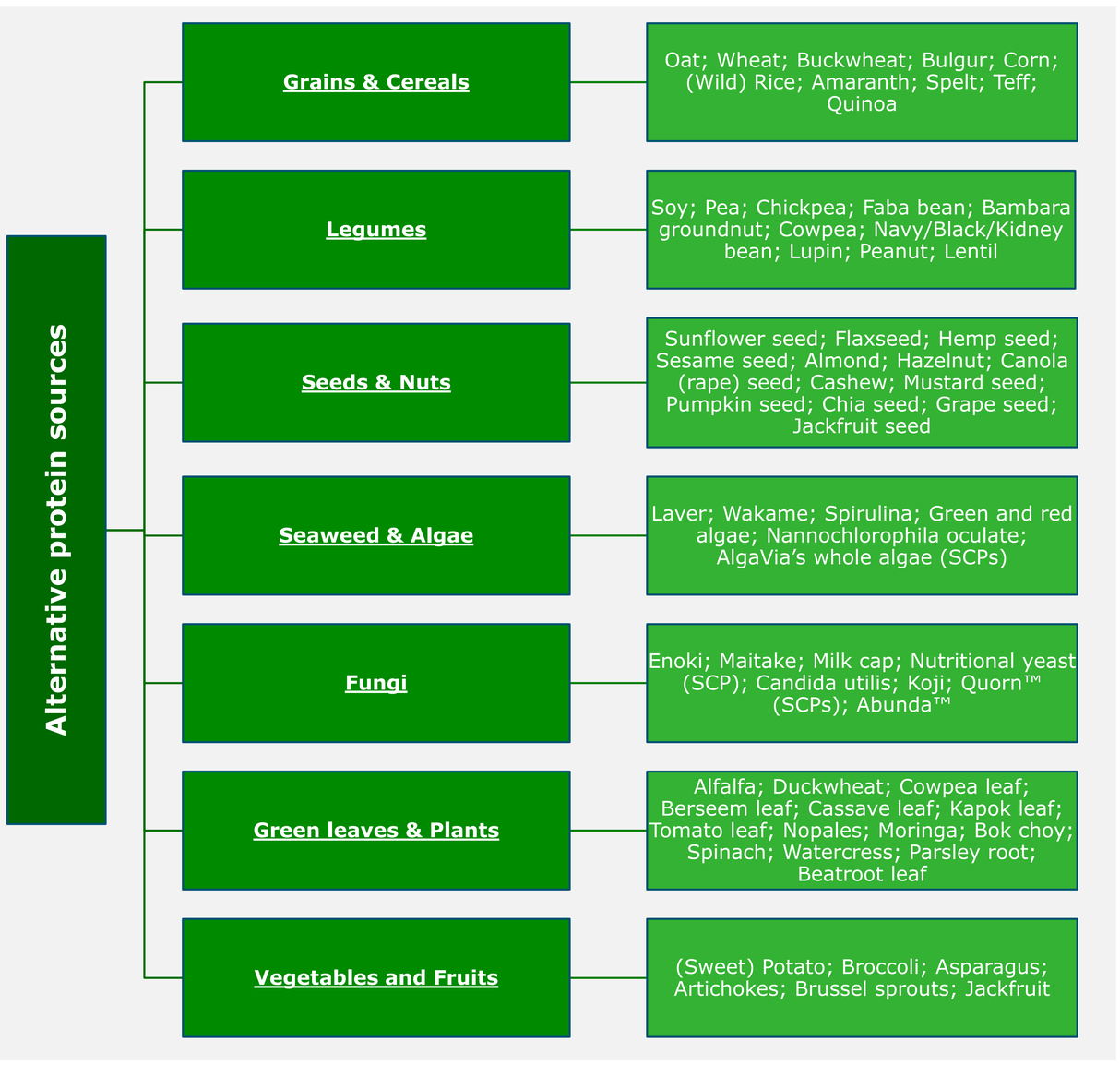

Figure 1. Alternative protein sources to animal derived protein.

Figure 2. Minor component occurrence in unprocessed alternative protein sources. It is to be investigated how processing affects the presence of minor components.

Expert consultation

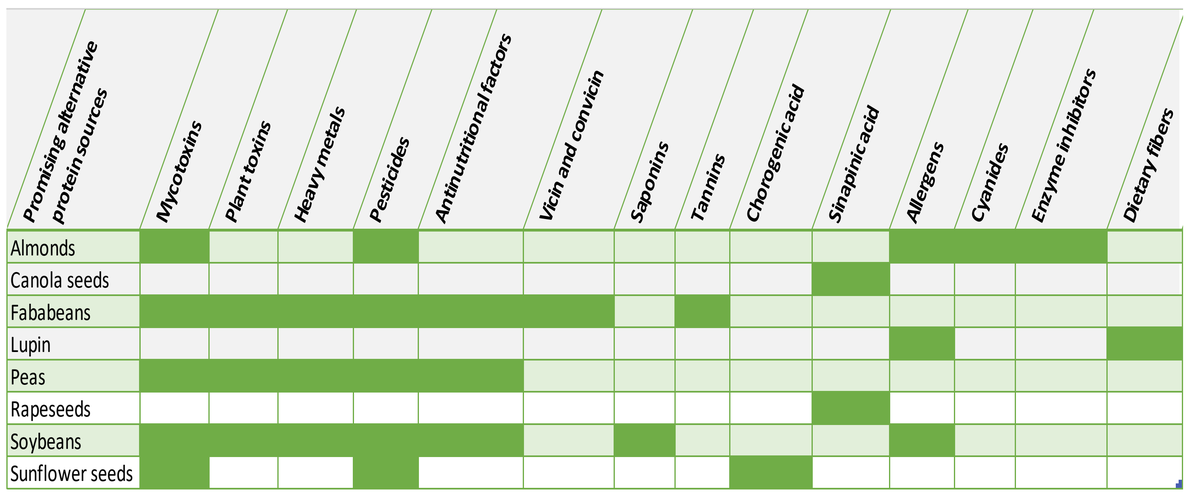

Figure 3. Short list of promising alternative protein sources and minor components according to experts.

Processing effects

- Gelling properties
- Flavour and appearance
- Antinutritional effects
- Toxicity
- (Gut) health stimulation

Conclusions

Minor components can positively and negatively affect the implementation of alternative protein sources in the regular diet. More research is needed on the effects of minor components present in alternative proteins.

Acknowledgements

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