Ahead of the EU food initiatives such as the Sustainable food system law, Agroecology Europe proposes to adopt a food system approach on transition and to give more visibility to systemic solutions to transform our agriculture and food and make them more sustainable, healthy and fair. Among these solutions, increasing the share of legumes in crop rotations and on our plates is a cornerstone of the agroecological transition and should represent a collective strategic effort initiated by ambitious public policies.

Let's discover in this factsheet the multiple benefits of legumes for cropping-systems, citizen's health and the environment.
There are thousands of species of legumes in the world and a diversity of uses. In Europe, the most important ones are:

- pods or grains harvested fresh or dry: peas, beans, broad beans, lentils, chickpeas, soybean, lupins, green beans, and many more;
- cover crops (faba bean, vetch, clover, fodder and protein peas,...), green manures and forage legumes (alfalfa, medics, vetch, clovers, sainfoin, lupine, fodder and protein pea,...)

Legumes have an important role to play, in rebalancing animal and plant-based protein intake to move towards healthier and more sustainable diets and in strengthening the autonomy of livestock systems and the resilience of territories.

### Advantages for Producers

- Biological nitrogen fixation by the symbiosis between legumes and rhizobium bacteria improves soil fertility and reduces or eliminates the need for synthetic fertilizer;
- Possibility of autumn sowing depending on species and climate;
- Diversity of varieties even among single species – there is no agroclimatic zone that does not support at least a few legume cultivars;
- Maintenance of beneficial soil microorganisms;
- The root system of leguminous species helps to break soil compaction, improving its structure;
- Some species are more drought-tolerant than cereals and fodder grasses and require less irrigation in arid environments;
- Leguminous cover crops provide outstanding anti-erosion protection, fix good amount of nitrogen, and can be an important source of new organic soil matter in agroecosystems;
- Legume-based grasslands are even better than leguminous cover crops, at least if they are not ploughed or rotavated but let on the soil surface or slightly incorporated in soils;
- Good storage properties as dry grains.
Well managed legume-based cropping systems - as a primary, mixed or intermediate crop - with minimum tillage can **improve nitrogen use efficiency**, **reduce GHG emissions**, and **sequester carbon from the atmosphere**.

"**Pulses can contribute to climate change mitigation by reducing dependence on the synthetic fertilizers used to introduce nitrogen artificially into the soil.**"  (FAO)

### Advantages for Consumers

- Substantially contribute to daily energy, protein, and micronutrient intake – most legumes are 20-30% protein and soybeans are around 35-40%;
- Amino acid makeup complements that of staple cereals;
- Relatively high levels of riboflavin, thymine, iron, and calcium;
- Inverse relationship with type two diabetes, cardiovascular disease, and cancer;
- Culinary flexibility from vegetables and snacks to an array of fermented food products such as tempeh and soy sauce;
- Plant-based protein is less expensive than animal-based protein, and has a much longer storage potential.
DISCOVER OUR FOUR MUST-TRY TRADITIONAL LEGUME RECIPES YOU'LL WANT TO EAT ALL WEEK LONG!
ANCIENT LENTIL SOUP

From Greece

Ingredients

- 500g lentils
- 1.8 liters broth
- 1 large minced leek
- 1 carrot, sliced
- 1 stalk of celery, sliced
- 1 small onion, sliced
- 2 tablespoons vinegar
- 1 teaspoon honey
- olive oil
- salt and pepper to taste
- 12 coriander seeds

Preparation

Rinse the lentils thoroughly, then put them into a pot with the broth to boil. Reduce heat and simmer for one hour. When the hour is up, skim the top, add the vegetables, and simmer until cooked through, about 30 minutes. Add the vinegar and honey. Pour into serving bowls and add a good dollop of olive oil (about 2 tablespoons per serving), sprinkling on coriander seeds and salt and pepper to taste.
VEGETARIAN CASSOULET

From France

Ingredients

3 heads new-season garlic
3 medium fennel bulbs, trimmed (about 800g net weight)
6 tbsp extra-virgin olive oil
4 shallots, peeled and quartered through the stem
2 bay leaves
¼ bunch thyme, picked
Zest of 1 lemon
2 x 400g tin cannellini or haricot beans, drained and rinsed
150ml white wine
250ml vegetable stock

For the crisp topping
100g dried breadcrumbs
20g caster sugar
60g parmesan, finely grated
VEGETARIAN CASSOULET
From France

Preparation

Heat the oven to 200C (180C fan) gas 6. Bash open the heads of garlic and remove the outer layers. Top and tail the fennel, cut the bulbs in half, and cut across into thick slices.

Heat a large, wide saute pan over a high heat and add two tablespoons of the oil. Saute half the garlic, fennel, and shallots in the fat until rich and golden on all sides, then season generously and transfer to a wide baking dish. Add another two tablespoons of oil and repeat with the rest of the vegetables. Scatter over the bay leaves, thyme (save some for the top) and lemon zest, then add the beans, mix well, pour in the wine and stock, and season.

Toss the breadcrumbs, sugar, and parmesan with the reserved thyme leaves and scatter on top. Drizzle with the remaining oil, cover with foil and bake for 45 minutes. Uncover, bake for 15-20 minutes more, until the top is golden, then remove and leave to rest for 10 minutes.
FAGIOLI E PANCETTA

From Italy

Ingredients

200 grams precooked black-eyed peas
Smoked pancetta or bacon
Saffron
Long pepper

Preparation

Steep the black-eyed peas in water for about six hours. Discard the water and boil the beans for about 40 minutes, then strain them.

Soak the saffron in warm water and grind the long pepper in the mortar. Slice the pancetta or bacon, then cook it until it renders. Add the precooked black-eyed peas, the saffron, and the long pepper. Cook until the water dries, then plate and serve still hot.
BABGULYÁS
BEAN GOULASH

From Hungary

Ingredients

500g dried pinto beans
1 tsp bicarbonate of soda
250g smoked bacon lardons
1 tsp lard
1.5 onions finely chopped
4 garlic cloves finely sliced
1.5 tbsp paprika
900g stewing beef cut into chunks (you want fatty cuts from the neck ideally)
1 large tomato chopped roughly
1 celery stalk including leaves finely chopped
1 turnip, peeled and finely chopped
2 carrots, peeled and finely chopped
1 green pepper, finely chopped
1 red chilli pepper
2 bay leaves
250ml red wine
Salt and pepper
BABGULYÁS
BEAN GOULASH

From Hungary

Preparation

Soak the beans in cold water overnight. Drain the beans and add to a saucepan with fresh water, bring to the boil then simmer for about an hour until the beans are cooked through. Drain. Meanwhile, in a very large saucepan, fry the lardons and the lard until browned. Stir in the onion and continue to cook until they're translucent. Stir in the garlic and cook until the juices in the pan have evaporated. Remove from the heat and stir in the paprika, a teaspoon of salt and 1/4 teaspoon of ground black pepper, then stir in the beef, and once all the meat is covered and a deep paprika red stir in the tomatoes. Pour in enough water to just reach to the top of the ingredients, cover and bring to the boil.

Stir in the celery stalk, celery leaves, turnip, carrots, green pepper, whole unsliced chili pepper and bay leaves. Pour in the wine and enough water to reach about 2 cm above the ingredients. Cover, bring to the boil and then simmer for 3-4 hours until the meat is pull-apart tender. Top up the water from time to time. Stir in the beans. Cover and cook for a further 15 minutes.
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