



PULSES AND CLIMATE CHANGE



Climate change: a threat to food security

Whether in the form of droughts, floods or hurricanes climate change impacts every level of food production.



Climate change puts **global food security at risk** and heightens the dangers of undernutrition in poor regions.

FOOD PRODUCTION AND CLIMATE CHANGE

Food production, food security and climate change are intrinsically linked.



The changing climate will continue to put pressure on agricultural ecosystems, particularly in regions and for populations that are particularly vulnerable.



Introducing pulses into crop production can be key to increasing resilience to climate change.

WHY PULSES?

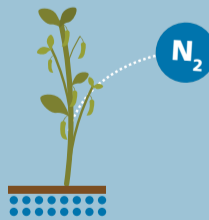
Pulses are climate smart as they simultaneously adapt to climate change and contribute towards mitigating its effects.



Pulses can fix atmospheric nitrogen and provide it to the soil. This **reduces the need for synthetic nitrogen fertilizers** and contributes in reducing greenhouse gas emissions.



85 million ha of pulses have contributed globally to fixating **3 - 6 million tonnes** of nitrogen in soils.*



Better varieties
Pulses have a **broad genetic diversity**.



This diversity is a particularly important attribute because **more climate-resilient pulse varieties can be developed**.

INCREASING RESILIENCE

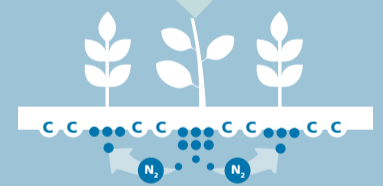


Pulse-based cropping systems

Including pulses in crop rotations **exploits symbiotic microbes to fix nitrogen**, partly transferring it to subsequent crops, increasing their yields.



Intercropping has a **higher soil carbon sequestration** potential than monocrop systems.



Pulses and agroforestry systems

Growing pulses such as pigeon peas simultaneously with other crops, **improve farmers' food security**, by helping them to diversify their nutrition and sources of income.



Pulses in animal nutrition

When included in livestock feed, pulse by-products **contribute to improve feed conversion ratio** while, reducing greenhouse gas emissions at the same time.



Decreased methane emissions from ruminants.

