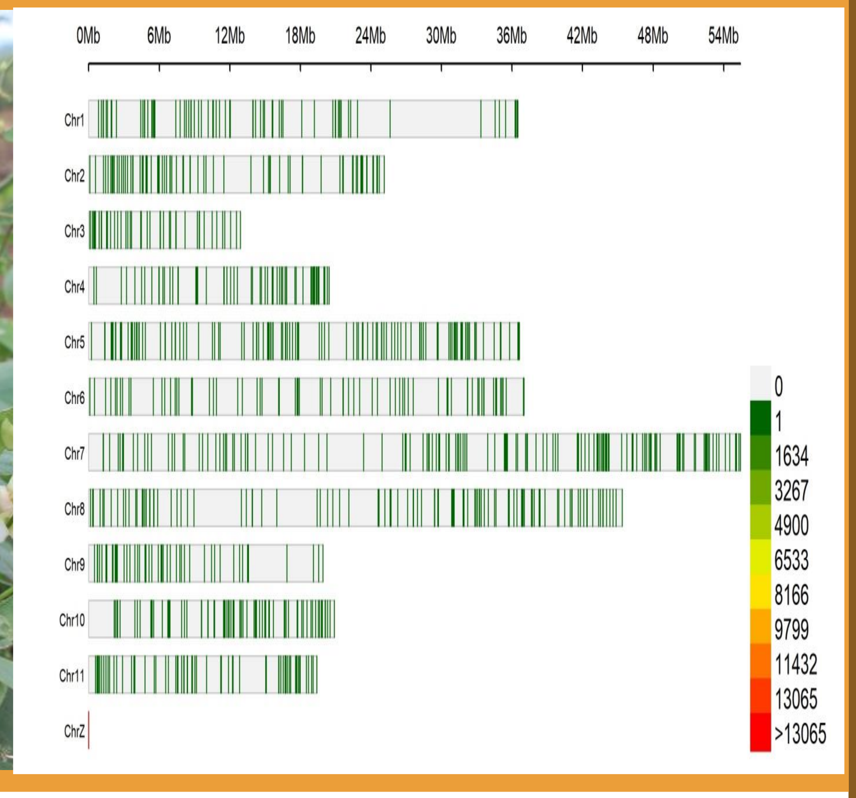

Candidate lablab varieties with high crude protein and digestibility with low phytate content
Photo credit source: Julius Pyton Sserumaga

The challenge

- Genetic diversity: accessing and preserving diverse lablab germplasm.
- Complex genetics: polyploidy and heterozygosity affecting breeding strategies.
- Long breeding cycles: considering lablab's perennial growth habit.
- Balancing multiple traits: optimizing lablab varieties for both forage and food production.
- The low nutritional quality among locally available forages

Our innovative approach

- Advances in genomics and molecular breeding for lablab.
- Integration of genomic data with phenotypic selection.
- Developing lablab varieties with enhanced stress tolerance and disease resistance.
- Collaborative efforts in lablab research and breeding.

CGIAR | INITIATIVE ON Accelerated Breeding

Lablab Germplasm Selection and Breeding: Enhancing Forage and Food Production

- **Enhancing forage production**: high-quality lablab varieties as a source of nutritious feed for livestock.
- **Improving food security**: lablab as a versatile food crop with high protein content.
- **Promoting agroecological sustainability**: lablab's nitrogen-fixing properties and soil improvement capabilities.

Julius Pyton Sserumaga

Senior Research Scientist
j.serumaga@gmail.com

Outcomes

- Examples of improved lablab varieties with enhanced traits.
- Increased forage yield and nutritional content.
- Cultivars adapted to different agroecological regions.
- Reduced cost of ruminant feed production.

Next steps

- **Forage quality**: increasing protein content, digestibility, and mineral composition.
- **Yield improvement**: enhancing biomass production and forage productivity.
- **Adaptability**: selecting lablab varieties with tolerance to abiotic stresses such as drought and heat.
- **Disease resistance**: developing lablab cultivars with resistance to common diseases.
- **Conventional breeding**: selection and crossing of lablab plants with desirable traits.
- **Molecular breeding**: utilizing DNA markers for efficient trait selection.
- **Biotechnological approaches**: genetic engineering and genome editing for precise trait manipulation.

Partners

NARO | Alliance Bioversity & CIAT | CGIAR | ILRI INTERNATIONAL LIVESTOCK RESEARCH INSTITUTE

The International Livestock Research Institute thanks all donors & organizations which globally support its work through their contributions to the CGIAR Trust Fund. cgiar.org/funders