



Left: A farmer cooperative member produces feed pellets using olive cakes, wheat bran, barley and faba beans. Middle: feed pellets. Right: Dairy cows feeding on locally manufactured feed pellets, replacing partly expensive imported feed concentrates. Photos ICARDA/Udo Rudiger



Transforming locally available feed ingredients into affordable and nutritious livestock feed pellets

Context

- Animal feed comprises up to **70% of ruminant production costs** in Tunisia.
- **Feed scarcity** during certain periods of the year are leading to low meat and milk production.
- Rangelands are suffering from **overstocking, overgrazing** and **soil erosion**.
- **Locally manufactured feed pellets** composed mainly of agri-food by-products are an **inexpensive feed alternative** to forages (partially) and expensive imported livestock feed concentrates.

Our innovative approach

- **Farmers in Tunisia are embracing feed pellet production**, made accessible through farmer organizations that have adopted the feed business innovation.
- A **range of feed pellet formulas** has been developed in collaboration with Tunisian NARES, considering regional variations and availability of by-products (eg. in the south, oasis farmers utilize downgraded dates and kernels; in central Tunisia, olive cakes are produced).

| Ingredients | Formula types and % | | |
|---------------------------|---------------------|----|----|
| | #1 | #2 | #3 |
| Olive cake | 34 | 0 | 0 |
| Faba beans | 30 | 10 | 0 |
| Luzerne | 0 | 25 | 25 |
| Barley | 0 | 15 | 15 |
| Downgraded dates, kernels | 0 | 20 | 30 |
| Wheat bran | 30 | 26 | 26 |
| Minerals + Vitamins | 4 | 4 | 4 |
| Protein | 17 | 14 | 11 |

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Progress

- Over **500 imported pelletizing machines** of different sizes (capacity between 150 kg/ and 2,000 kg/h) are used by individual farmers and cooperatives after decentralized introduction of the technology by NARS and ICARDA.
- One farmer cooperative has developed its **own feed pellet label** called “Youfeed” and sells about **7 tons of Youfeed** per month to its members.
- One local machine manufacturer has produced a **Tunisian prototype of a pelletizing machine**.

Next steps

SAPLING

- **Ethiopia:** Foster development of feed businesses managed by farmer cooperatives by introducing feed production chains. Three feed units already distributed, with ongoing training sessions on feed composition and market linkages.
- **Mali:** Identify and explore small-scale mechanization possibilities for feed production, aimed at enhancing efficiency and productivity.

LIVESTOCK & CLIMATE

- **Tunisia:** Establish a pastoral living lab in southern Tunisia, dedicated to the development of livestock-related initiatives. Introduce feed production machinery such as pelletizers, grinders, and feed mixers to facilitate growth of the feed businesses.



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