

**SUCCESS STORIES WITH RESPECT TO
MARKETING OF SOME DAIRY NURTITION
TECHNOLOGIES**

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DEMAND FOR FOODS OF ANIMAL ORIGIN GROWING

By the year 2020 :

World demand for milk to be 700 MMT (present figure 568 MMT)

In India,the demand for milk to be 150 MMT (present figure 95 MMT)

REASONS FOR FEED SHORTAGE

Efforts in increasing feed supply neutralized

Area under fodder production static at 4.4%

Grains not available for animal feeding

Oils cakes in short supply, exported, expensive

Mostly agro-industrial byproduct available, low in quality

Dry roughages are bulky, fibrous, low in nutrients

HOW TO OPTIMIZE NUTRIENT SUPPLY TO BOVINES

Generate newer feeds from non-conventional sources

Increase the efficiency of nutrient utilization

Modify feeds, through treatments

Modify feeding conditions/ feeding & general management

Active and passive manipulation of GI tract

Use of feed supplements, additives

TWO TYPES OF TECHNOLOGIES REQUIRED

For farmers, demonstration at the farmer's door steps

For feed manufactureres, for commercial production of feed

STRAW BASED DENSIFICATION TECHNOLOGIES :

Bailing of straw in the field

Pelleting

Bricketting

Block making/complete feed block

ADVANTAGES OF DENSIFICATION

Reduces bulk 4 to 5 times

Less space required for storage.

Transportation easier to far off places/deficit areas/difficult terrains.

In complete straw based feed block: scope for value addition

Complete feed block straw can actually be supplemented with ;

Minerals ,vitamins,molasses as catalytic supplements.

Bypass fat as a strategic supplement.

Bypass protein /legume hay/ LLM/grains as a substitutional supplement.

COMPLETE FEED BLOCK TECHNOLOGY

The concept of complete feed block is value added feed, to take care of all the nutrient required by the animal/day.

Fodder (straw), concentrate, supplements and binders like molasses, gums, bentonite etc. are mixed in a special TMR-mixer to make complete feed mash .

Complete feed mash is then pressed(hydraulic press) to facilitate binding of mash on the surface of fodder.

Not only are the complete feed blocks are commercially available, even the machinery is being manufactured in the country.

Complete feed block technology is a gateway to establish fodder banks in feed deficit areas



BYPASS PROTEIN TECHNOLOGY :

Decreases the wasteful ammonia production in rumen

Conserves energy through less urea synthesis in rumen.

Reduces dietary amino acid loss as urea.

Increases the total availability of amino acids supply

Increases growth and FCE for growth.

Increases milk yield and FCE for milk production.

Increases the efficiency of male/female reproduction.

TECHNOLOGY OF BYPASS PROTEIN.

HEAT TREATMENT:

Dry heat, steam treatment, roasting, extrusion.

The technology may not be cost-effective.

Requires fine tuning of time-temperature combination

FORMALDEHYDE TREATMENT:

Proven cost- effective technology.

On-station trials and on-farm trials have given positive results.

20-30% increase in growth rate,

10-15 % increase in milk yield

The technology has already gone commercial.

BYPASS FAT TECHNOLOGY

Bypass fat as strategic feed supplement

Fat is a concentrated source of energy

Limit to feeding unprotected fat (4% of total diet)

As BF, level of fat can be increased from 4 to 6 %

Bypass fat can increase the energy density of the diet

Bypass (unsaturated) fat increases USFA in milk fat

Bypass fat increases efficiency of milk production

TECHNOLOGY OF MINERAL SUPPLEMENTATION

Intensive crop production has caused imbalance of minerals in soil

Crop residues, and non-conventional feeds deficient in minerals

Recent surveys have brought out region specific mineral deficiencies

Mineral deficiency has been identified as the major cause of repeat-breeding

Mineral supplementation improves reproductive efficiencies in animals

Minerals in chelated form increase the bio-availability of minerals

TECHNOLOGIES INVOLVING USE OF FEED ADDITIVES

Live probiotic yeast, probiotic rumen fungi, fibrolytic enzymes, ionophors, vitamins, trace minerals and herbal preparations are the feed additives, some of these are now commercially available

The efficacy of these additives needs further testing on animals

Need to see their effectiveness in enhancing fibre digestion, growth rate and milk production of animals

Should be made cost-effective in order to popularize among the dairy farmers for increasing productivity of dairy animals.

Thank you