

Dairy Hub Training Booklets

Titles

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| 1) Importance of Water | 9) Breeding |
| 2) Fodder | 10) Calf Rearing |
| 3) Wheat Straw Enrichment | 11) Diseases and Health |
| 4) Silage (Fodder Pickle) | 12) Mastitis |
| 5) Hay Making | 13) De - Worming |
| 6) Balanced Ration | 14) Mechanized Dairy Farming |
| 7) Dairy Farming as an Enterprise/Business | 15) Vaccination |
| 8) Heat Stress | |

Fodder

"Healthy Animals, Wealthy Farmers"



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Dairy Hub is a Community Dairy Development Programme, which has been initiated for the development of small farmers. The aim of this programme is to keep farmers informed about modern ways of dairy farming, to provide practical help for improving their skills and to increase production of their animals. This programme will increase not only the average production of animals but also the income of farmers, and thus decrease considerably the rate of poverty in rural areas. This booklet is a part of this programme.



Yours truly,

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Design agency:

Red Communication Arts

Printer:

Vantage Printers

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Importance of Fodder for Successful Dairy Farming:

Dairy farmers spend most of their money on feeding their animals for growth. Approximately 60% of all expenses on dairy farming are spent on the provision of appropriate feed according to the requirements of animals.

God Almighty has blessed dairy farmers with different kinds of fodder for the health of his animals and to make his business profitable. He can provide the best quality of feed to his animals with comparatively less expense.

Fodder for Animals:

1. The cheapest source of feed.
2. Fodder provides a variety of important nutrients.
3. Fodder provides animals their favourite feed, throughout the year.
4. Excessive fodder can be easily stored for seasons when there is a shortage of fodder.



Types of Fodder:

God Almighty has blessed man with various kinds of fodders according to the needs of the animals in different seasons. For instance, wintertime fodders have a higher protein content to help tolerate a cold climate; in the summertime fodders contain less protein to counter the ill effects of high temperatures. These fodders can be divided according to the productive age of the fodders and different seasons, as listed below:

1. Multicut / evergreen fodders
2. Winter Fodders
3. Summer Fodders

Evergreen Fodders (Perennial):

This is the fodder which is planted once only and may be utilized all year long or even for many years. These fodders are lucern, mott grass, sudan grass, etc.

Fodders of the Winter Seasons:

These fodders are grown at the beginning of winter. They ensure provision of fodder in the cold season and reaches maturity in summer. These fodders are barseem, oats, rye grass etc.



Fodders of the Summer Seasons:

These fodders are grown at the beginning of summer. They ensures provision of fodder till the beginning of the winter season. These fodders are maize, sorghum, millet etc.



Nutritional Value of Different Fodders:

Fodder Name	Proteins (percent)
Berseem	18-20 %
Lucern	20-24 %
Oats	10-12 %
Maize	8-10%
Sorghum	7-9 %
Millet	7-9 %
Perennials	7-8 %
Sudan grass	7-8%
Junter	10-12%
Mustard	8-12%
Mott grass	6-8%

The Schedule of Permanent Provision of Fodders to the Cattle:

Fodder Name	Time of Cultivation	Harvesting Time
Berseem	25 September to October	November to May
Lucern	15 September to October	Permanent yield from December for 3 years, after every 45 days
Oats	October to December	January to May
Rye grass	October to December	December to April
Maize	February to September	May to December
Sorghum	March to May	June to November
Perennials	March to May	May to October
Millet	April to September	June to November
Gwar	April to July	June to November
Mott grass	February to March, July to August	May to November

Modern Trends in the Production of Fodder:

1. Selection of fodder with higher nutritional value
2. Preference for fodder with a higher per acre production
3. Preference for (multicut) fodder
4. Preference for fodder which can be easily preserved/stored

Important Factors that Increase per Acre Production of Fodder:

1. Seeds which produce high yield
2. Timely cultivation according to schedule
3. Timely use of balanced fertilizers and water
4. Timely use of insecticides
5. Timely harvesting



Use of crop residues and by-products:

It is important to reduce expenses on the farm to a suitable level to make the dairy business a successful industrial unit. This aim can be achieved by using the inexpensive residues of crops in a better way, because they constitute 2/3 the amount of total production of grains. These residues include wheat chaff, maize stems and cobs etc. It can be purchased at a low price at the time of their harvesting. Its nutritional value can be easily increased by mixing it with urea, molasses and mineral mixture.

According to NARC, the nutritional value of wheat straw for animal feed can be increased according to the following formula:

Wheat straw	100 kg
Urea	4 kg
Water	50 litres
Molasses	15 litres
Mineral mixture	2 kg

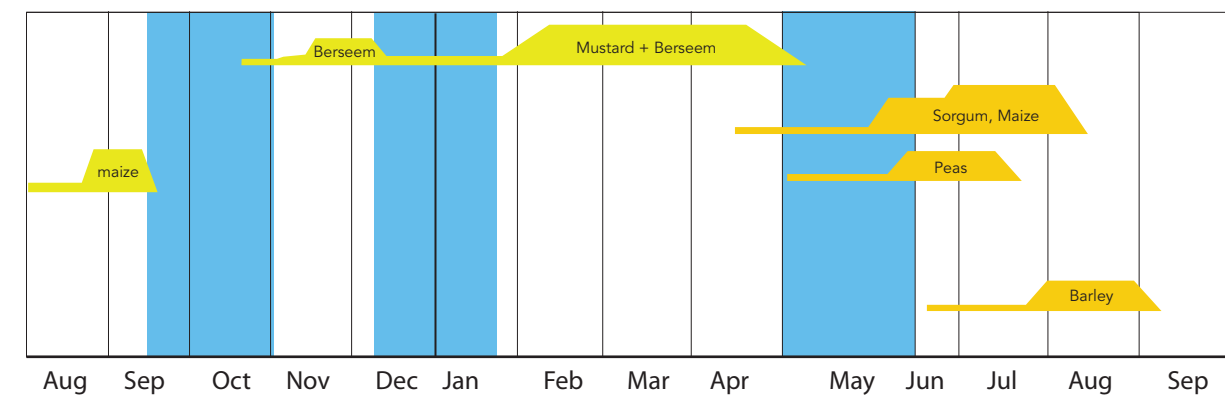
According to the UAF, the nutritional value of maize cobs can be increased considerably according to this formula:

Maize cobs	100 kg
Urea	4 kg
Water	50 litres
Molasses	15 kg
Mineral mixture	2 kg

Hurdles in Continous Provision of Fodder and How to overcome them:

Sowing and harvesting fodder depends on weather suitable for growth of each required fodder. The farmer divides fodder into groups of winter, summer and perennials according to the appropriateness of sowing and harvesting. He has to grow the required fodder according to the weather conditions to get a better yield. Due to this seasonal schedule of sowing and harvesting of fodder, he has to face its shortage three times in a year. The following table describes this shortage:

Production of Fodder in Punjab with Traditional Methods:





A farmer has the following options during this fodder shortage:

1. Purchasing expensive fodder to feed animals thus wasting all his possible savings
2. Keeping his animals hungry or under-fed and as a result adversely affect their production
3. Buying cheap fodder of low quality and then bear losses of health and production of his animals

Traditionally, the farmer bears the negative effects on the health and production of his animals, but it is not difficult for a successful dairy farmers to find a solution to these problems. The secret of his success is in providing cheap but quality fodder to his animals all the year round, without hindrance.

If the dairy farmer takes note of these points and acts upon this procedure, he will always benefit from his dairy farming. There would be no negative effects on health and production of the animals.

1. The farmer must know how much fodder is required for all of his animals for the whole year and he must meet his target.
2. He must choose those fodders whose per acre production is double that of traditional fodder. He can thus double its production and feed more animals from the same piece of land. The per acre production of traditional sorghum is 300 maunds (12000 kgs) whereas the per acre production of hybrid sorghum is 700 maunds (28000 kgs). Just by changing the variety of the crops he gets double the production of fodder and reduces the price of per maund fodder.

3. He can get the whole production in one go, unlike growing traditional fodder in which he has to go through the process of growing the fodder and preparing the land again for planting; whereas due to the use of scientific methods in agriculture he can get fodder seeds which yield many times more production. He can get many cuts and more fodder by using these methods.
4. If he grows seasonal fodder on one piece of land and perennial fodder on the remaining land, he can manage the problem of fodder shortage which he encounters thrice a year.

5. The latest blessing in these contemporary times for the farmer is the technology of preserving fodder. He can preserve, in the form of hay and silage, the fodder that he gets when the production is in plenty. This preserved fodder can be easily used at the time of scarcity of fodder. Thus he can maintain the health and production of his animals, and he would be known all around as a successful farmer.
6. Better use of the residues of crops.



What is Good Fodder?

Dairy farmers should choose the best type of fodder for better growth of their animals. The growth and production of animals depends on the fodder they eat. Only the best fodder can guarantee their growth and maximum production. So fodders which fulfill the following criteria should be given to the animals for profitable dairy farming.

1. Fodder according to the animal's liking, that it consumes happily.
2. There should be a reasonable amount of dry matter in the fodder.
3. There must be an appropriate amount of raw proteins to meet the requirements of the body.
4. There should be enough digestible raw proteins in the fodder so that the animals' digestive system remains healthy.
5. The fodder should be completely digestible.
6. It must have the quality to be preserved so that the farmer knows how much of the nutritional requirements of his animals are being fulfilled.

Given below is the importance of the fodder according to its nutritional value:

Name of Fodder	Percentage of CP
Lucern	20-24%
Berseem	18-24%
Maize	10-12%
Sorghum	7-8%
Millet	6-7%

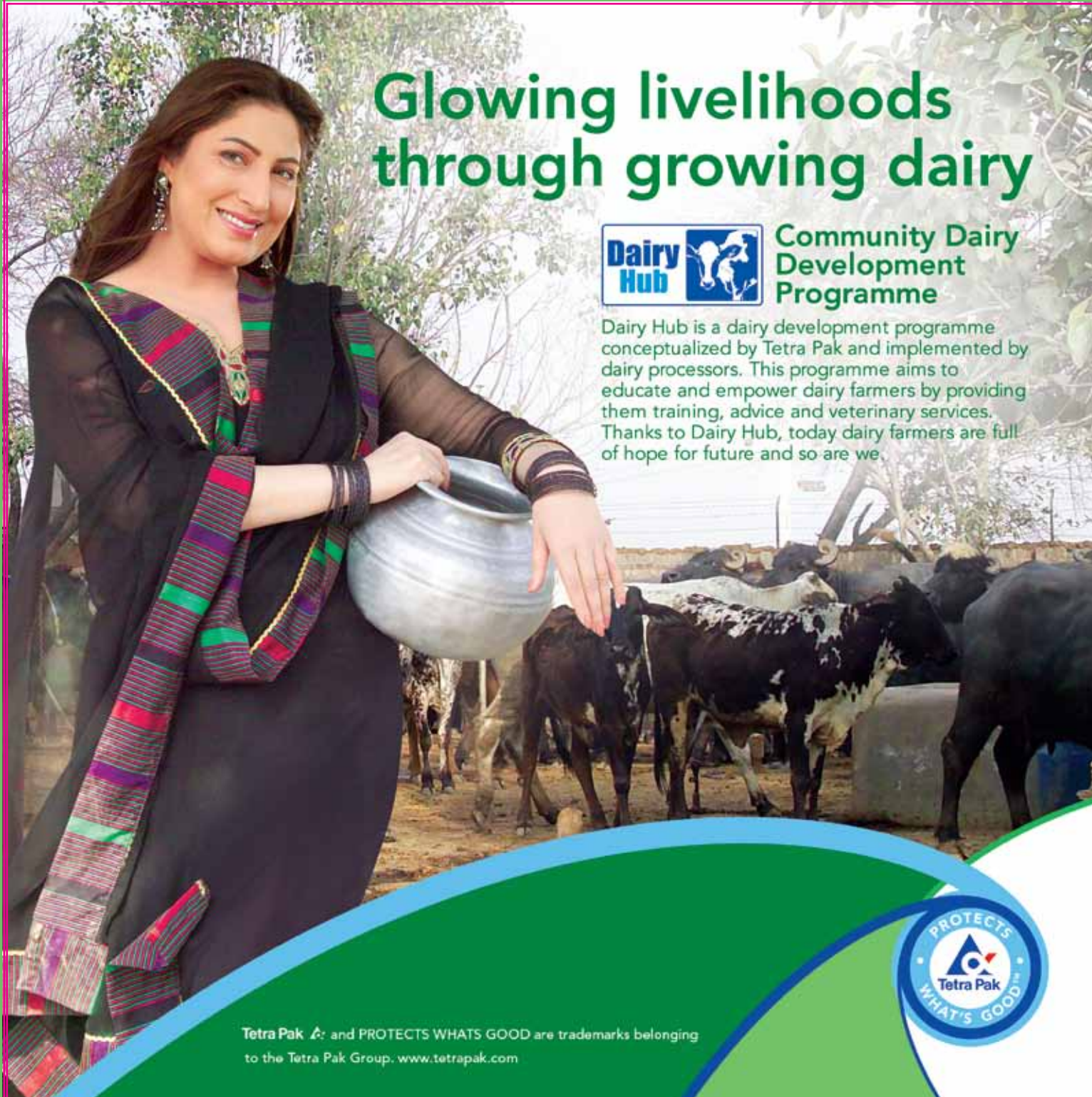
Keeping in mind this table, the dairy farmer can arrange his own schedule of growing fodder. From the chosen fodder the farmer himself would know what quality of fodder he is feeding to his animals and what nutritional ingredients are required to make a balanced diet for them.

Glowing livelihoods through growing dairy



Community Dairy Development Programme

Dairy Hub is a dairy development programme conceptualized by Tetra Pak and implemented by dairy processors. This programme aims to educate and empower dairy farmers by providing them training, advice and veterinary services. Thanks to Dairy Hub, today dairy farmers are full of hope for future and so are we.



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Dairy Hub is an important step by Tetra Pak towards the well-being of dairy-farmers. It will certainly open new vistas of progress for dairy farmers. I congratulate Tetra Pak on the opening of a new era for the prosperity of dairy farmers. All these training booklets are a part of this developmental programme and they have been written specially for the help and guidance of dairy farmers.

Based on various topics, these training booklets contain important pieces of information and suggestions which will help the farmers in better rearing of their animals, protecting them from different diseases and to increase their milk production.

I do hope that this effort by Tetra Pak will be useful for the prosperity of the farmers and help them solve their problems regarding health of their animals.

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