

## Original Research Article

### **“An Investigation of the Distribution Channels and Demand Analysis for NFL products in Sri Ganganagar district of Rajasthan”**

#### **ABSTRACT**

Fertilizer is one of the strategic inputs for enhancing productivity which enables to meet the growing demand for food in the country. Distribution of various fertilizers is very active and dense, chiefly done by cooperative societies and some public, private sectors. The study analyzed the distribution system of fertilizers in the Sri Ganganagar district of Rajasthan. Total number of respondents were 95 in which 75 were farmers and 15 dealers and 5 wholesalers participated in the study. Farmers sought information about various fertilizers from dealers, peer experiences, company officers, demonstrations, and pamphlets. Farmers predominantly purchased fertilizers from dealers, retailers, wholesalers and though some also obtained them from other sources such as government societies.

Keywords: Distribution channels, Fertilizers, Cooperative societies, Demonstration.

#### **1. INTRODUCTION**

Fertilizers have played an important role in the success of the Indian green revolution and have led to increase in the production of food grains. The growth in fertilizer use has contributed significantly to the country's sustainable grain production. Demand and use of fertilizers in agriculture is growing rapidly with the development of various types of fertilizer products for crop production, pest control, storage and more. The global fertilizer market size was valued at USD 207.93 billion in 2022 and is expected to hit USD 271.6 billion by 2030 with a registered compound annual growth rate (CAGR) of 3.4% over the forecast period 2022 to 2030.(Source: precedenceresearch.com). The Indian fertilizer market size reached INR 898.5 Billion in 2022. Looking forward, IMARC Group expects the market to reach INR 1,188.3 Billion by 2028, exhibiting a growth rate (CAGR) of 4.85% during 2023-2028.(Source:imarcgroup.com)

#### **Key statistics of the Indian fertilizer industry:**

- **Industry size:** 56 large-scale plants that produce phosphatic, nitrogenous, and complex fertilizers 72 small and medium fertilizer companies that offer single super Phosphate (SSP).

- **Product offerings:** The main products offered by the fertilizer sector in India include nitrogenous fertilizers, complex fertilizers and phosphate-based fertilizers.
- **Global ranking:** Indian fertilizer industry ranks 3rd in world production.

Manufacturers generally use multiple marketing intermediaries to bring their products to users. Marketing intermediaries have different names such as traders, wholesalers, dealers & distributors and subsidiaries, retailers, authorized representatives. All such intermediaries are distribution channels. Manufacturers /manufacturers' depots and other direct sales outlets are also part of the distribution network.

## 2. METHODOLOGY

The research was descriptive in nature. Sri Ganganagar district based on Judgmental sampling it is selected because it is know as Rajasthan's food basket, most of crops are cultivated at commercial level because of there suitable agro climatic conditions. The description of tools and techniques used for collecting, analyzing and classifying data. Following multistage sampling procedure will be used for the study-

1. **Primary data:** were collected personally through field survey and with the help of questionnaire, personal interview, face to face discussion.
2. **Secondary data:** Secondary data information were collected through various census reports, research reports, statistical data of company, annual report, journals and books.

### Stage 1: Selection of District

There are 33 Districts in Rajasthan, out of which Sri Ganganagar District has been selected purposively for the study as it has maximum area under cotton ,wheat, mustard, moong bean cultivation.

### Stage 2: Selection of Block

Out of total 9 blocks in Sri Ganganagar district, one block that is Sri Ganganagar itself was selected purposively based on large amount of production of various crops in that area for the current study.

### Stage 3: Selection of Villages

A complete list of all villages (314) has been obtained from related Gram Panchayat office thereafter, villages were arranged in ascending order based on area under mustard, cotton, wheat, moong bean cultivation, and then 5% villages was selected randomly.

### Stage 4: Selection of Respondent

A village wise list of all respondents consuming major portion of fertilizer for crop production in sample villages were prepared along with the size of their operational holdings. Further these respondents were stratified on the basis of their holding size. Out of complete list 5% to 10% respondents were selected randomly for the study i.e., total 75 respondents.

**Table 1 : Selection of Respondents (Farmers)**

Size Group -1	Marginal Farmer	Less Than 1 Hectare
Size Group -2	Small Farmers	1 to 2 Hectare
Size Group -3	Semi Medium Farmers	2 to 4 Hectare
Size Group -4	Medium Farmers	4 to 10 Hectare
Size Group -5	Large farmers	Above 10 Hectare

(Source: PIB, Ministry of Agriculture and Farmers welfare, GOI.)

### Stage 5: Selection of Market and Market Functioners

Basically a primary market where fertilizer is brought for sale and distribution from where it is dispatched to different parts of Sri Ganganagar district.

- **Marketing functionaries**

1. Selection of wholesaler : 5 wholesaler were randomly selected
2. Selection of retailers : retailers were randomly selected.
3. Number of dealers : 15 dealers are covered in my survey information regarding market share of NFL fertilizers, suggestion are also taken from the dealers.

- **Distribution channels of fertilizer Companies**

1. Company → Wholesaler → Dealer → Farmer

2. Company→ Wholesaler→ Farmer
3. Company→ Dealer→ Farmer

## 2.1 Analytical Tools Used in Research

### 1. Garrett's Ranking Technique: -

Garrett's Ranking Technique will be used in order to rank the problems faced by the farmers during their course of using E-commerce company. According to this, the respondents were asked to assign rank to different problems by using the following formula.

$$\text{(Garrett and Woodsworth, 1969): Per cent position} = [100 (R_{ij} - 0.5)] / N_j$$

where,  $R_{ij}$  = rank given for  $i$ th problem by  $j$ th individual;

$N_j$  = number of problems ranked by the  $j$ th individual.

### 2. Percentage formula: -

The percentage formula is used to find the share of a whole in terms of 100. Using this formula, you can represent a number as a fraction of 100.

- **Percentage** =  $(\text{Value}/\text{Total Value}) \times 100$
- **% increase** =  $[(\text{New number} - \text{Original number})/\text{Original number}] \times 100$

### 3. A Likert Scale: -

It is a type of rating scale used to measure attitudes or opinions. With this scale, respondents are asked to rate items on a level of agreement. Likert scales are popular in survey research because they allow to easily operationalize personality traits or perceptions. To collect data, present participants with Likert-type questions or statements and a continuum of possible responses, usually with 5 or 7 items. Each item is given a numerical score so that the data can be analysed quantitatively.

- **Ordinal data:** To get an overall impression of sample, find the mode, most common score, for each question. Create a bar chart for each question to visualize the frequency of each item choice.
- **Interval data:** Add up the scores from each question to get the total score for each participant and find the mean, or average, score and the standard deviation, or spread, of the scores for your sample.

### 3. RESULTS AND DISCUSSION

#### 3.1 Existing distribution channels of fertilizers

##### 1. Channel No.1



##### 2. Channel No.2



##### 3. Channel No.3



All the players were practicing three channels for fertilizer marketing.

1. In the first channel, there were two intermediaries between the company and farmers that is wholesalers and dealers. The company sells the fertilizer to the wholesalers. Later, wholesalers sell the fertilizer to the dealers, who in turn sell the same to the farmers.

2. In the second channel, only one intermediary was involved that is wholesaler. Company sells the fertilizer to wholesalers, which will directly sold to farmers.

3. In the third channel, company sells the fertilizer to the dealers who will sell it to the farmers. Here dealers buy fertilizers in more quantities and then sell it to farmers at retail price.

##### 3.1.1 Distribution Channel for the procurement and supply of fertilizer by wholesalers

Maximum number of wholesaler procure the fertilizers directly from the company, followed by both i.e. both from the company to distributor to wholesaler and company to wholesaler.

**Table 2 Procurement and supply of fertilizer by wholesalers**

PROCUREMENT OF FERTILIZER		
Distribution Channel	Frequency	Percentage
Company -Distributor- Wholesaler	0	0
Company- Wholesaler	4	80

Both	1	20
Total	5	100
SUPPLY OF FERTILIZERS		
Distribution Channel	Frequency	Percentage
Wholesaler-Dealer-Farmer	2	40
Wholesaler-Farmer	0	0
Both	3	60
<b>Total</b>	<b>5</b>	<b>100</b>

### 3.1.2 Distribution Channel for the procurement and supply of fertilizer by dealers

Maximum number of dealers procure and supply the fertilizers from the company to wholesaler to dealer to farmers and other is company to dealer to farmer.

**Table 3 : Procurement and supply of fertilizer by dealers**

PROCUREMENT & SUPPLY OF FERTILIZER		
Distribution Channel	Frequency	Percentage
Company-Wholesaler-Dealers-Farmers	12	80
Company-Dealer-Farmer	3	20
Both	0	0
<b>Total</b>	<b>15</b>	<b>100</b>

### 3.2 Demand analysis of NFL fertilizers

In this objective studied about the brand preference, supply, requirement, availability of particular fertilizer brand, wholesalers, dealer and farmers point of view and factors influencing them on purchase decision.

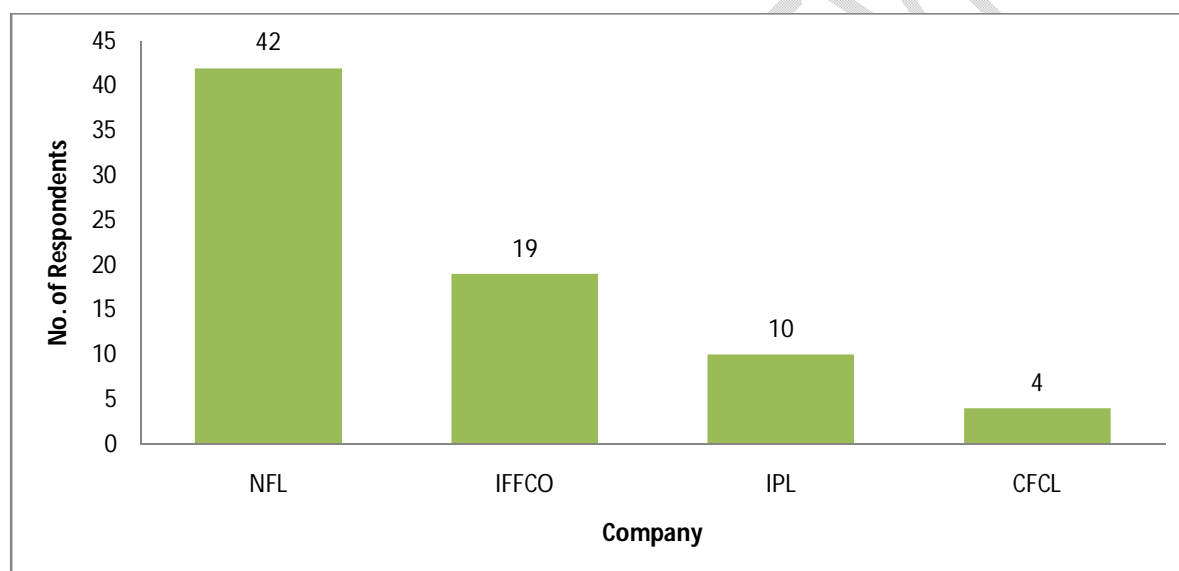
#### 3.2.1 Fertilizer's Brand Preference

There is data about the brand preference depend on time availability, demand, quality, credit policy, packaging etc. by most of the farmers, brand loyalty and some major factors depends the sale and name of the brand. Total number of respondents was 75. Figure 1 illustrate the

responses. In study area we have seen that NFL fertilizers are preferred by the Wholesalers, dealers, farmers followed by IFFCO, IPL and CFCL companies brand name.

**Table 4: Fertilizer Brand using by most of the Farmers**

S.No.	Fertilizer's Company	No. of Respondents	Rank
1.	NFL	42	□
2.	IFFCO	19	□
3.	IPL	10	□
4.	CFCL	4	□
<b>Total</b>		75	



**Figure: 1 Fertilizer Brand using by most of the Farmers**

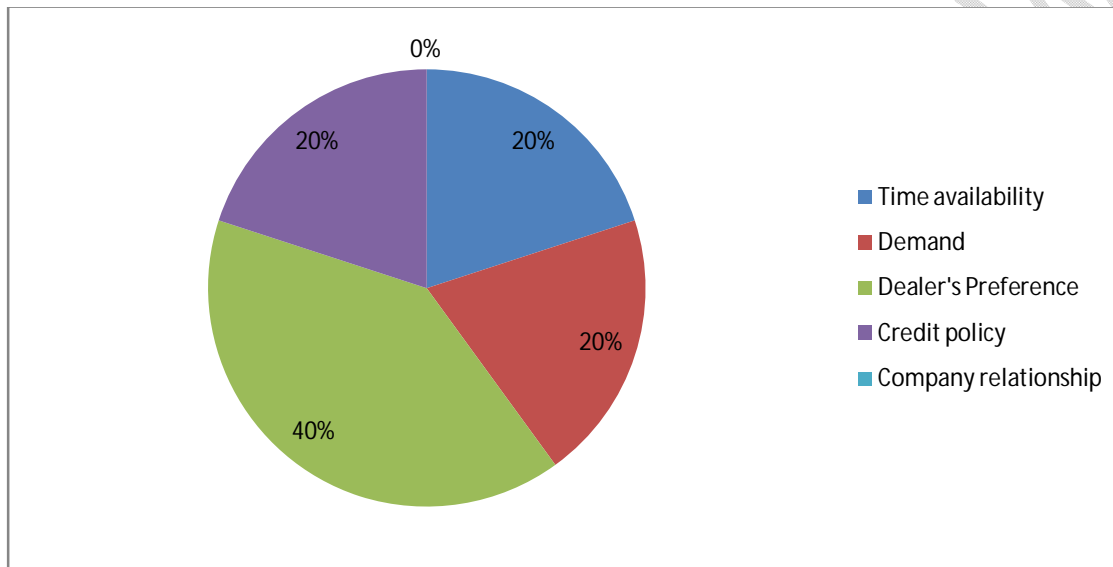
### 3.2.2 Factors influencing to wholesaler on purchase of NFL fertilizers

Reasons listed below as per data collection on purchase of NFL fertilizer by the wholesalers . Figure 2 shows the number of responses according to the factors selection. Total number of respondents were 5 i.e. wholesalers.

**Table 5: Factors influencing to wholesaler on purchase of NFL fertilizers**

S.No.	Factors Influencing	No. of Respondents
1	Timely Availability	1

2	Demand	1
3	Dealer's preference	2
4	Credit policy	1
5	Company Relationship	0
<b>Total</b>		5



**Figure: 2 Factors influencing to wholesaler on purchase of NFL fertilizers**

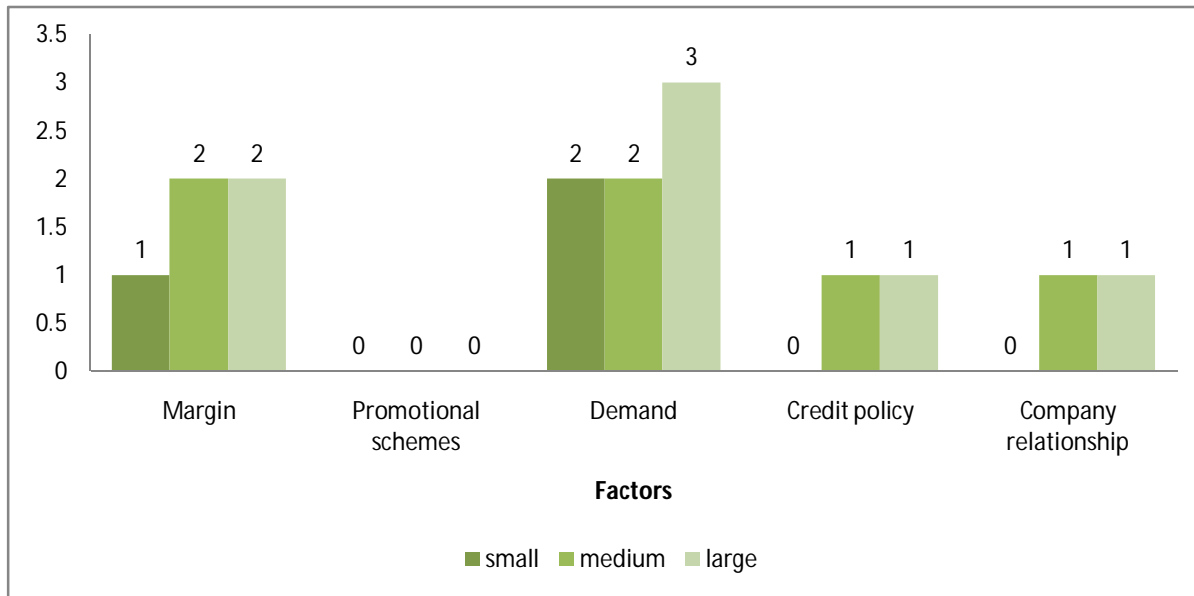
### 3.2.3 Factors influencing to dealers on purchase NFL fertilizers

Reasons for selling NFL products from Dealer's point of view is discussed by considering several factors they are listed below. The number of Respondents were 15 that is dealers. The figure 3 depicts the number of respondents considering factors.

**Table 6 : Factors influencing to dealers on purchase NFL fertilizers**

S.No.	Factors Influencing	No. of Respondents
1	Margin	4
2	Promotional Schemes	0
3	Demand	7
4	Credit policy	2

5	Company Relationship	2
<b>Total</b>		15



**Figure: 3 Factors influencing to dealers on purchase NFL fertilizers**

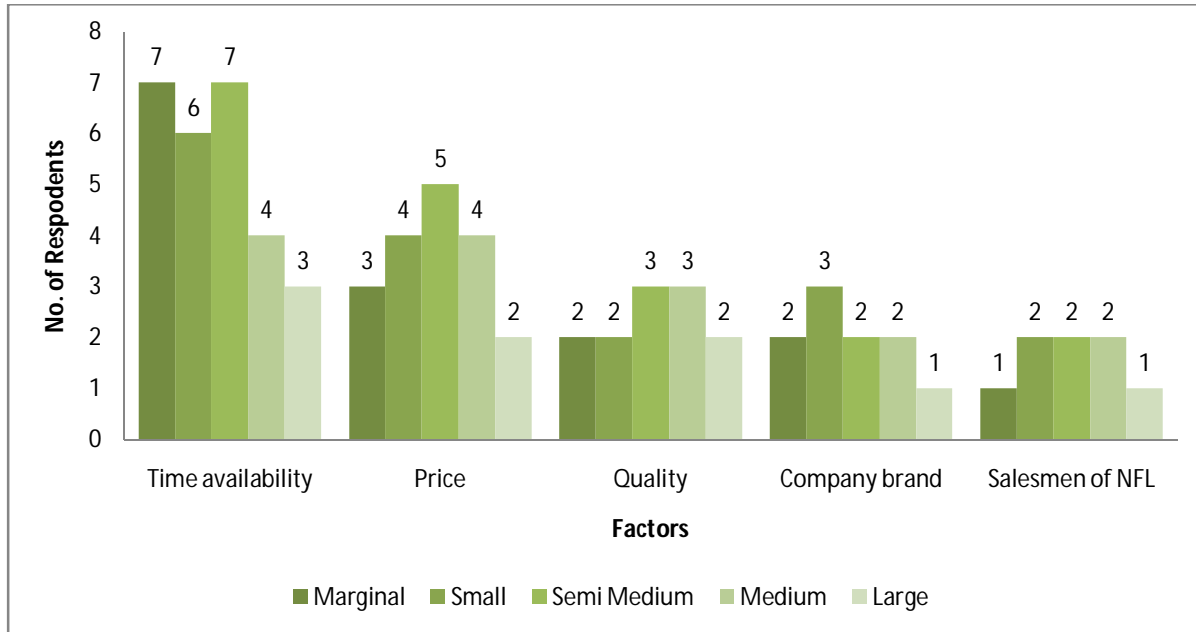
### 3.2.4 Factors influencing to farmers on purchase NFL fertilizers

Farmer's point of view is one of the important factors which decide the course of action for any producers. Figure 4 depicts the farmer's perception in purchasing of fertilizer in Sri Ganganagar district for small and medium farmers, the timely availability and price of the product were the main attributes for purchasing fertilizer while in case of large farmers the company brand name of the product becomes the main factor. Total number of Respondents that is farmer were 75 .

**Table 7 Factors influencing to farmers on purchase NFL fertilizers**

S. No.	Attribute	Farmer Category					No. of Respondents
		Marginal	Small	Semi - medium	Medium	Large	
1	Time availability	7	6	7	4	3	27
2	Price	3	4	5	4	2	18
3	Superior quality	2	2	3	3	2	12
4	Company brand name	2	3	2	2	1	10

5	Salesmen of NFL	1	2	2	2	1	8
<b>Total</b>		15	17	19	15	9	75



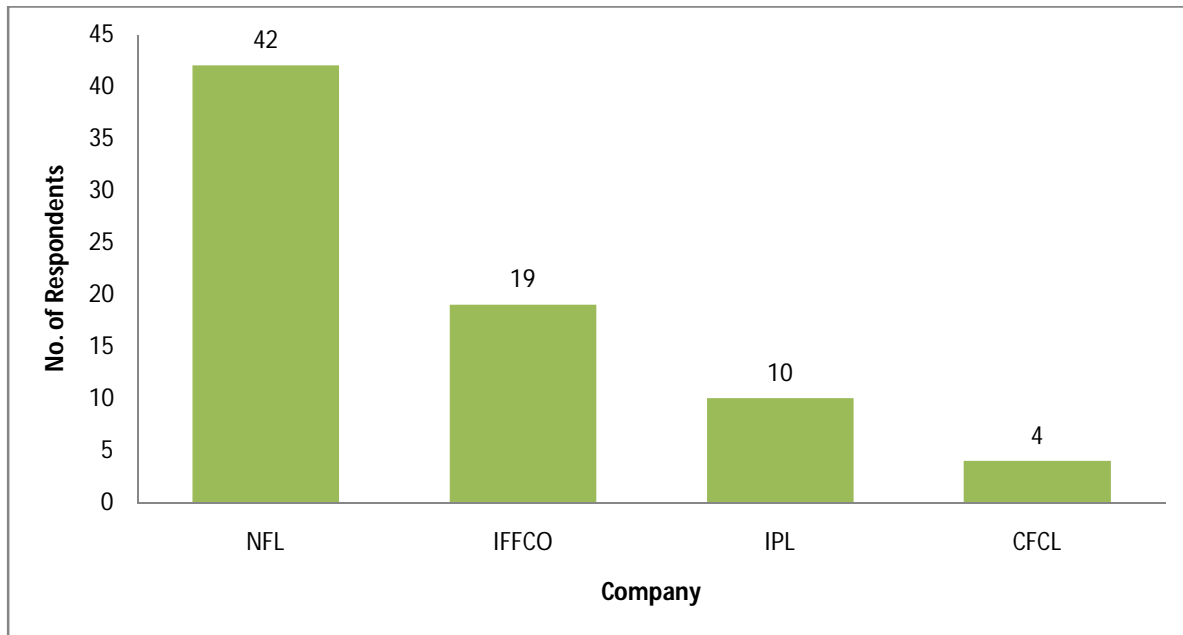
**Fig: 4 Factors influencing to farmers on purchase NFL fertilizers**

### 3.2.5 Fertilizer's Brand Preference

Figure 5 indicates the data about the brand preference by most of the farmers, brand loyalty and some major factors depends the sale and name of the brand. In study area we have seen that NFL fertilizers are preferred by the Wholesalers, dealers, farmers followed by IFFCO, IPL and CFCL companies Brand name. Here are some responses of respondents.

**Table 8 Fertilizer Brand using by most of the Farmers**

S.No.	Fertilizer's Company	No. of Respondents	Rank
1	NFL	42	1
2	IFFCO	19	2
3	IPL	10	3
4	CFCL	4	4
<b>Total</b>		75	



**Fig: 5 Fertilizer Brand using by most of the Farmers**

#### 4. CONCLUSION

- The study revealed that the distribution channel followed by NFL fertilizers in Sri Ganganagar district was off four tier & three tier i.e. from company to wholesaler to dealers to farmers. The study also revealed that the major preference and availability of fertilizer in the area of Sri Ganganagar was of the NFL company followed by the IPL, then CFCL and IFFCO.
- The wholesalers procure the fertilizer directly from the company i.e. 4 (80 per cent) followed by 1 (20 per cent) i.e. both from company to distributor to wholesaler & company to wholesaler. The supply of fertilizer the maximum no. of channel being followed was both i.e. 3 (60 percent) followed by 2 (40 per cent) i.e. through wholesaler to dealers to farmers.
- About the dealers, the maximum no. of dealers procured & supplied the fertilizer from the company to wholesaler to dealer to farmer i.e. 12 (80 per cent) followed by 3 (20 per cent) i.e. from company to dealer to farmer.
- Through the study we came to know that the demand of various fertilizers of many cooperative, private, public firms are participated to provide their services, out of them NFL fertilizers play a major role in the study area followed by IFFCO, IPL, CFCL, KRIBHCO, Coromandel fertilizers etc. Various Wholesalers, Dealers, Farmers prefer the NFL due to its easy availability and some other points discussed previously.

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