of 11.98, 16.23 and 17.05 per cent over CoG 93076, Co 85019 and Co 8021 respectively [Table 4 and 5].

Over all performance of C 90025 as compared to CoG 93076 is furnished in Tables 6 and 7.

In plant crop, C 90025 registered cane yield of 130.33 t/ha as against 116.00 t/ha by CoG 93076 accounting for 12.35 per cent increase in cane yield. Regarding CCS%, C 90025 recorded CCS% of 11.94 as against 11.53 by CoG 93076 accounting an increase of 3.56 per cent. C 90025 recorded sugar yield of 15.59 t/ha as compared to 13.33 t/ha by CoG 93076 registering 16.95 per cent increase in sugar yield.

In ratoon crop also, C 90025 recorded cane yield of 119.75 t/ha as against 111.24 t/ha by CoG 93076 with an increase of 7.65%. With regard to CCS%, it registered 12.55 as compared to 12.18 by CoG 93076 with an increase of 3.04 per cent. Regarding sugar yield, C 90025 recorded 15.08 t/ha against 13.56 t/ha by CoG 93076 with an increase of 11.21 per cent.

The clone C 90025 was tested in 62 trials both in AYT and CAE with a common standard CoG 93076 and it excelled CoG 93076 in respect of cane yield, CCS% and sugar yield. Based on the superior performance, the clown C 90025 was released as CoC 99061 during January 1999. It gave an average cane yield of 130.33 t/ha, CCS% of 11.94 sugar yield of 15.59 t/ha. It is moderately resistant to red rot disease and tolerant to borers (Tables 8 and 9). The distinguishing morphological characters of the variety CoC 99061 (C 90025) is furnished in Table 10.

Salient Features

Mid late variety (330-360 days)
Erect, medium thick cane
Non lodging, Non flowering
High cane yield (130.33 t/ha)
High CCS% (11.94), High sugar yield (15.59 t/ha)
Modeately resistant to red rot
Tolerant to borers.
Good ratooner.

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Economic viability of ratooning rice

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Abstract : A study was conducted at TNAU, Coimbatore to assess the effect of ratooning on the yield, yield parameters and income of medium duration rice cultivars viz., IR20, CO43,ADT38 and Ponni under lock - lodge technology and conventional method of ratooning. Although there was not much difference in the regeneration of stubbles between lock-lodging and conventional ratooning, the braiding and lodging technique (lock-lodging) was found to be superior to the conventional method in favourably influencing all yield parameters except productive tiller number per hill. All the four medium duration rice varieties produced significantly higher grain yield (2443 to 3106 kg ha^{-1}) under lock-lodge ratooning as against the yield recorded (1285 to 1704 kg ha^{-1}) in conventional ratooning thus resulting in higher income from the new technology of rice ratooning. Co 43was consistently superior. The lock-lodge ratooning also proved its superiority by registering high C:B ratio (2.39) compared to the conventional ratoon practice (1.40) and the main crop (1.93). (*Key Words : Rice, Agro-climatic zones, Yield, income).*

Rice is the staple food for more than half of the world's population. The rice production needs to be doubled in the next 15-20 years to meet the food demand for ever increasing population. Crop intensification and higher yield are the possible ways to bridge the gap between the production and consumption. Particularly in densely populated Tropical Asia, it warrants immediate attention because there is very little new land area available for rice cultivation (Chauhan et al., 1985). Ratooning offers good scope for increasing rice production and making the land productive with limited resources.

Although, rice ratooning has been tried in many countries like India (Balasubramanian et al., 1970), Japan (Ishikawa, 1964) and United states (Evatt and Beachell, 1960), it is practiced only in limited areas. Ratooning of rice needs evaluation as a means of making the land productive after the dry season crop in irrigated areas and after the rainy season crop in rainfed areas (Bahar and De Datta, 1977). However, rice ratooning has so far received genotypes with good ratooning ability. Braiding and lodging (lock-lodging) the stubbles after the harvest of main crop, a novel ratooning technique, helps in achieving profuse tillering,

Table 1. Yield attributes of ratoon rice as influenced by varieties and ratoon establishment methods.

Varieties	Productive tillers hill-1			Filled grains panicle-1			Green grains panicle-1			Test weight (g)		
	M1	M2	Mean	M1	M2	Mean	M1	M2	Mean	M1	M2	Mean
IR 20	8.9	9.4	9.1	43.6	85.8	64.7	29.3	17.8	23.6	20.31	21.54	20.92
CO 43	7.5	7.1	7.3	43.3	84.9	64.1	32.2	16.1	24.2	19.20	20.04	19.62
ADT 38	9.1	8.6	8.9	49.6	92.3	70.9	30.1	19.8	24.9	20.00	20.75	20.37
PONNI	8.7	6.9	7.8	48.0	113.2	80.6	36.6	19.1	27.8	15.67	18.52	17.10
Mean	8.6	8.0	-	46.1	94.1	-	32.1	18.2	-	18.80	20.21	-
	SEd	CD (0.05)		SEd	CD (0.05)		SEd	CD (0.05)		SEd	CD (0.05)	
V	0.16	0.2		0.44	0.9		0.28	0.5		0.06	0.11	
M	0.21	0.4		0.64	1.3		0.47	0.9		0.08	0.16	
M at V	0.23	0.4		0.88	1.8		0.57	1.1		0.11	0.22	
v at M	0.27	0.5		0.89	1.8		0.62	1.2		0.11	0.22	

M1 - Conventional ratoon practice M2 - Lock - lodge ratoon practice

higher plant survival and more synchronous maturity, increased yield and income of ratoon rice (*Calendacion et al.* 1992).

Though a lot of information is available on rice ratooning, establishment studies on ratoon crop and suitable varieties with ratooning ability are meagre. This investigation was, carried out to find out better methods of establishing ratoon rice crop to boost the income and to select the rice varieties suited for ratooning.

Materials and Methods

The experiment was conducted at the Wetland Farm, TNAU, Coimbatore during the year 1993-94. The soil was clay loam with a pH of 7.2. It was low in available N and P_2O_5 (274 and 8.5kg ha-1, respectively) and high in available K2O (640kg ha-1). Two methods of establishing ratoon (conventional and lock-lodging methods) in four medium duration rice varieties (IR 20, Co 43, ADT 38 and PONNI) were tested in a split plot design with three replications, assigning the varieties to main plots and the establishment methods to sub plots. The plot measured 4.2 x 3.1 m. After the harvest of main crop, the stubbles were either lock-lodged on the same day by braiding the stubbles (Lock-lodge) or left as such (conventional) according to the treatments. The ratoon crop was supplied 120:60:60 kg N, P_2O_5 adn K_2O per ha. The first irrigation was given on the 3rd day after harvest. The data on the yield attributes, number of green grains per panicle which is a measure for maturity synchronization as well as on grain and straw yields were recorded and the economics were worked out and discussed in this paper.

Results and discussion

Among the varieties tested, IR 20 registered more number of productive tillers per hill (9.1) and was on par with that of ADT 38 (8.9). The number of productive tillers per hill was significantly lower in lock-lodged ratoon rice which may be attributed to the suppression of the emergence of top nodal buds (Table 1).

The variety IR 20 registered significantly lower number of green grains per panicle (23.6) and higher 1000 grain weight which may be attributed to the synchronised development of tillers from the harvested stubbles of the main crop. However, Ponni recorded significantly more number of filled grains and green grains per panicle. The synchronised stubble emergence and development of tillers were noticed under lock-lodging ratoon practice which can be measured by the presence of green grain number per panicle. Lock-lodge method

Table 2. Economics of main and ratoon crop

Treatments	Gross income*	Cost of cultivation	Net income	C : B ratio (Rs).
	---------- Rs. ha^{-1} ----------			
A. Main crop				
IR 20	13,968	10,633	3,335	1.31
CO 43	17,548	10,812	6,736	1.62
ADT 38	21,752	10,722	11,029	1.03
PONNI	29,655	10,812	18,842	2.74
Mean	20,730	10,745	9,985	1.93
B. Ratoon crop				
Conventional practice	6,719	4,784	1,934	1.40
Lock - lodge practice	12,870	5,381	7,489	2.39
Mean	9,794	5,083	4,712	1.90

* The gross income of the varieties were arrived using their respective grain rates while mean price of the grain was used to arrive at the gross income of ratoon methods.

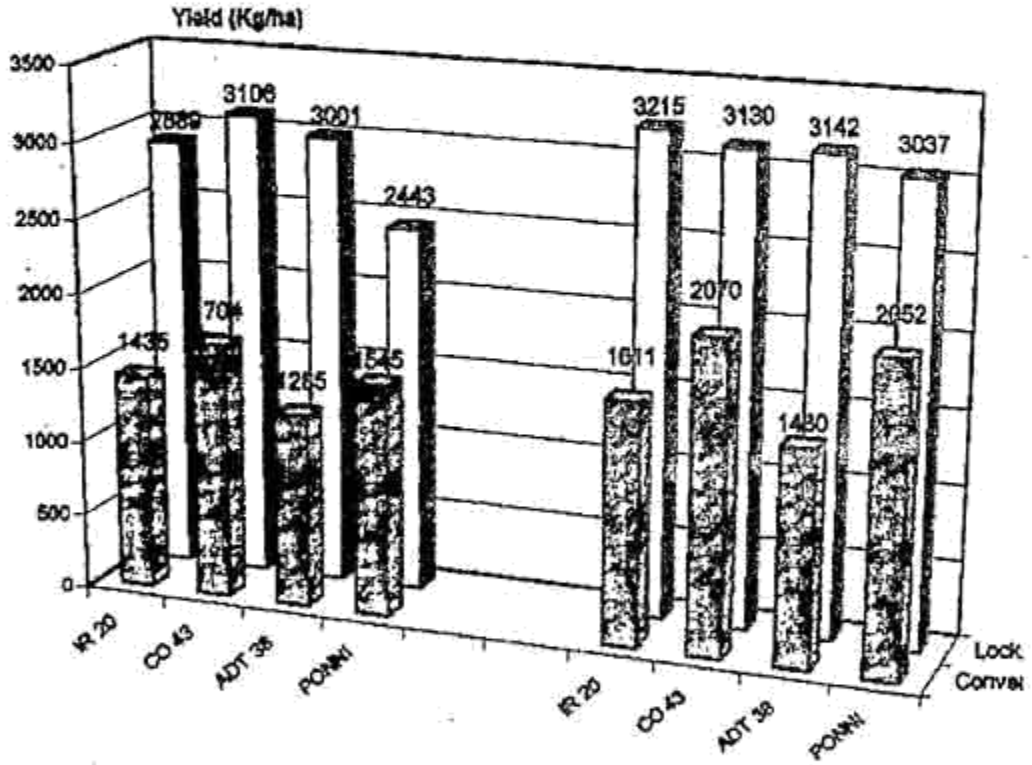

Fig. 1. Grain and straw yields (kg/ha) of ratoon rice.

of ratooning which activated only the basal nodes of the stubbles with enhanced hormonal activity due to the bending and lodging of harvested stubbles resulted in significantly lower number of green grains, higher filled grains per panicle and higher test weight of grains than conventional ratooning practice in which the stubbles were left as such after harvest (Table 1).

Significant higher ratoon grain (2405 kg ha^{-1}) and straw (2600 kg ha^{-1}) yields (Fig 1) were observed in CO 43 when compared to rest of the varieties. Braiding and lodging the stubbles consistently yield higher grain (2860 kg ha^{-1}) and straw (3131 kg ha^{-1}) than the conventional ratooning (1493 and 1791 kg grain and straw ha^{-1}, respectively). This was attributed to the synchronized emergence and development of tillers, increased numbers of filled grains with greater test weight (*Calendacion et. al.* 1992)

The highest grain yield was obtained from the variety CO 43 under lock-lodge ratoon practice (3106 Kg ha^{-1}) and that was on par with ADT 38

lock-lodge ratoon rice yield (3001 Kg ha^{-1}). On an average, as braiding and lodging the harvested stubbles involved manual labour, the cost of cultivation of lock - lodge ratoon crop increased by 12.5 per cent over conventional practice however stands at 75 per cent when compared to the main crop cost of cultivation (Table 2). Consequently, the C:B were substantially higher in the lock -lodge ratoon practice when compared to the conventional ratoon practice revealing its superiority and economic viability in the ratoon rice technology.

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Industrial locale : Facing threats to employment status in agriculture

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Abstract : The environmental deterioration is increasing with the acceleration of industrialisation and thus cause substantial harmful effects not only for the whole society but also for the very existence and survival of the farming community. The present study was carried out with the objective of analysing the changing trend, over a period of time and factors involved with regard to nature of occupation, extent of employment in agriculture and extent of cultivation, in the Pondicherry region of Union of Pondicherry. The observations were analysed in comparison with a non-industrialised zone, having similar agro-economic background. Factors favoring intensive and / or extensive agriculture were analysed and compared. Some remedial measures as suggested by the farming community are detailed to over come the problems. (*Key Words : Nature of occupation, Status of employment, Extent of cultivation, Industrialised zone, Non Industrialised zone).*

Since independence, India has emerged as a potentially powerful country, scientifically and technologically progressive, agriculturally self-sufficient and economically viable nation of the world. These gains are unfortunately associated with certain amount of deterioration in the quality of environment. Thus, exploitation and protection of the environment are the dual responsibility of the nation, which can be reconciled through rational resource planning. So that, the needs of the development can be met out and at the same time environment can be judiciously managed and protected. This environmental deteriorations is increasing with the acceleration of industrialisation and thus, cause substantial harmful effects not only for the society as a whole but also for the very existence and survival of the farming community. Hence, the present study was carried out with the objective of analysing the changing trend, over a period of time and factors involved, with regard to nature of occupation, extent of employment in agriculture and extent of cultivation, in the Pondicherry region of Union Territory of Pondicherry. Wherein, agriculture is quite intensive, highly diversified with many different types of cropping patterns. Besides, being a small region spread over 492 sq km; it consists of more than 5000 industrial units of various kinds, which in