CHAPTER 5
RESULTS OF FIELD EXPERIMENT

Field experiment was carried out at Multiple Cropping Center of Chiang Mai University, Chiang Mai. The purpose of this study was to measure the effect of Potassium Iodide application rates and frequency of foliar application on yield, milling quality and nutritive value of rice grain in various rice varieties. The results of this experiment were reported as follow.

5.1 GROWTH ANALYSIS

From growth analysis results, Table 5.1 showed the analysis for Date to maximum culm, leaf and panicle dry weight, and maximum culm, leaf and panicle dry weight of three varieties in various rates and frequency of Potassium Iodide application.

Table 5.1 Analysis of variance results of dry matter accumulation

Source of variation	Days to maximum			Maximum		
	culm dry weight [1]	leaf dry weight[2]	panicle dry weight[3]	culm dry weight	leaf dry weight	panicle dry weight
Var (A)	*	*	ns	*	ns	*
Rate of KI application(B)	ns	ns	ns	ns	ns	ns
A x B	ns	ns	ns	ns	ns	ns
Frequency of spraying KI (C)	ns	ns	ns	ns	ns	ns
A x C	ns	ns	ns	ns	ns	ns
B x C	ns	ns	ns	ns	ns	ns
A x B x C	ns	ns	ns	ns	ns	ns
CV%	15.67	13.20	10.76	24.67	19.43	25.90

* Significant at 5% level

ns Non significant

[1] Days to maximum culm dry weight from transplanting

[2] Days to maximum leaf dry weight from transplanting

[3] Days to maximum panicle dry weight from PI

5.1.1 Number of days to maximum culm dry weight

Significant difference in number of days to maximum culm dry weight was found among varieties ($p<0.05$) (Table 5.1). On an average, number of days from transplanting to maximum culm dry weight of KDML105, KDS and CNT-1 variety were 116.3, 118.8 and 87.2 day, respectively (Table 5.2).

However, analysis of variance results revealed that potassium iodide application rate and frequency of foliar application had no significant effect on the number of days to maximum culm dry weight.

Table 5.2 Number of days to maximum culm dry weight from transplanting

Variety	Days[1]
KDML 105	116.3
KDS	118.8
CNT-1	87.2
$LSD_{(0.05)} = 8.57$	

[1] Days to maximum culm dry weight from transplanting

5.1.2 Number of days to maximum leaf dry weight from transplanting

Significant difference in number of days to maximum leaf dry weight from transplanting was found among varieties ($p<0.05$) (Table 1). Similar to number of days to maximum culm dry weight, it took longer duration for KDML105 and KDS variety to reach maximum dry weight of leaf than CNT-1 variety (Table 5.3).

However, analysis of variance results revealed that potassium iodide application rate and frequency of foliar application had no significant ($p>0.05$) effect on the number of days from transplanting to maximum leaf dry weight.

Table 5.3 Number of days to maximum leaf dry weight from transplanting

Variety	Days[1]
KDML 105	109.0
KDS	111.5
CNT-1	89.8
$LSD_{(0.05)} = 10.1$	

[1] Days to maximum leaf dry weight from transplanting

5.1.3 Number of days to maximum panicle dry weight

Analysis of variance results (Table 5.1) indicated that number of days to maximum panicle dry weight among varieties were not significant difference. An average of number of days to maximum panicle dry weight from PI stage of three varieties was about 55.11 day. It was also found that an average of number of days to maximum panicle dry weight from PI stage of the three varieties did not significantly response to rate and frequency of potassium iodide foliar application.

5.1.4 Maximum culm dry weight

Analysis of variance results (Table 5.1) indicated that there was significant difference ($p<0.05$) in maximum culm dry weight among varieties. The highest maximum culm dry weight was observed in KDML105 variety while the lowest maximum culm dry weight was recorded in CNT-1 variety (Table 5.4). However, analysis of variance results revealed that potassium iodide application rate and frequency of foliar application had no significant effect on the maximum culm dry weight.

Table 5.4 Maximum culm dry weight

Variety	kg/rai
KDML 105	1037
KDS	946
CNT-1	704
$LSD_{(0.05)} = 180$	

5.1.5 Maximum leaf dry weight

Analysis of variance results (Table 5.1) indicated that varieties, rate and frequency of potassium iodide application had no significant effect on the maximum leaf dry weight. It was found that an average of maximum leaf dry weight of the three varieties was 419 kg/rai.

5.1.6 Maximum panicles dry weight

Analysis of variance results (Table 5.1) indicated that maximum panicle dry weight among varieties was significantly difference ($p<0.05$). The highest of maximum panicle dry weight was observed in KDML105 variety while that the lowest of maximum panicle dry weight was recorded in CNT-1 variety (Table 5.5).

On the other hand, analysis of variance results revealed that potassium iodide application rate and frequency of foliar application had no significant effect on the maximum panicle dry weight.

Table 5.5 Maximum panicles dry weight

Variety	kg/rai
KDML 105	928
KDS	823
CNT-1	590
$LSD_{(0.05)} = 151$	

5.2 AVERAGE RATE OF DRY MATTER ACCUMULATION

5.2.1 Average rate of culm dry weight accumulation

Analysis of variance results (Table 5.6) revealed that average rate of culm dry weight accumulation was significantly difference ($p<0.05$) among varieties. Table 5.7 illustrates that KDML105 and CNT-1 variety had the higher rate of dry weight accumulation of culm than KDS variety. An average of dry weight accumulation rate of culm was measured for KDML105, CNT-1 and KDS variety were 0.36, 0.36, and 0.34 g/day, respectively.

Nevertheless, average rate of dry weight accumulation of culm was not significant difference under various rate and frequency of potassium iodide foliar application.

Table 5.6 Analysis of variance results of average rate of dry matter accumulation

Source of variation	Average rate of dry weight accumulation of		
	culm[1] (g/day)	leaf[2] (g/day)	panicle[3] (g/day)
Var (A)	*	ns	*
Rate of KI application(B)	ns	ns	ns
A x B	ns	ns	ns
Frequency of spraying KI (C)	ns	ns	ns
A x C	ns	ns	ns
B x C	ns	ns	ns
A x B x C	ns	ns	ns
CV%	13.26	16.07	19.50

Significant at 5% level, [ns] Non significant

[1] Average rate of dry weight accumulation of culm from transplanting

[2] Average rate of dry weight accumulation of leaf from transplanting

[3] Average rate of dry weight accumulation of panicle from PI stage

Table 5.7 Average rate of culm dry weight accumulation (g/day) from transplanting

Variety	g/day
KDML 105	0.36
KDS	0.34
CNT-1	0.36
$LSD_{(0.05)} = 0.033$	

5.2.2 Average rate of leaf dry weight accumulation

Analysis of variance results (Table 5.6) indicated that average rate of dry weight accumulation of leaf among varieties were not significant difference. An average rate of dry weight accumulation of leaf of three varieties was 0.61 g/day.

It was also found that average rate of dry weight accumulation of leaf of three varieties did not significantly response to rate and frequency of potassium iodide foliar application.

5.2.3 Average rate of panicle dry weight accumulation

Analysis of variance results (Table 5.6) revealed that average rate of dry weight accumulation of panicle from PI was significantly difference ($p<0.05$) among varieties. Tables 5.8 illustrate that KDML105 variety had the highest average rate of dry weight accumulation of panicle of all varieties. While, the lowest average rate of dry weight accumulation of panicle was found in KDS variety. Nevertheless, An average rate of dry weight accumulation of panicle from PI stage was not significant difference in rate and frequency of potassium iodide foliar application.

Table 5.8 Average rate of panicle dry weight accumulation from PI stage

Variety	g/day
KDML 105	0.72
KDS	0.50
CNT-1	0.60
$LSD_{(0.05)} = 0.16$	

5.3 YIELD AND YIELD COMPONENTS

5.3.1 Grain yield

Analysis of variance (Table 5.9) results indicate that grain yield among varieties was significant difference ($p<0.05$). The highest grain yield was found in KDML105 variety while the lowest grain yield was recorded in KDS variety (Table 5.10). However, grain yield was not significant difference in rate and frequency of potassium iodide foliar application.

Table 5.9 Analysis of variance results of grain yields and yield component

Source of variation	Grain yield (kg/rai)	Number of tiller/hill	Number of panicles /hill	Number of filled grains/ Panicle	Percent unfilled grain	1000-grain weight	Harvest Index (HI)
Var (A)	*	*	*	*	*	ns	*
Rate of KI application(B)	ns	ns	*	ns	ns	ns	ns
A x B	ns	ns	ns	ns	ns	ns	ns
Frequency of spraying KI (C)	ns	ns	ns	ns	ns	ns	ns
A x C	ns	ns	ns	ns	ns	ns	ns
B x C	ns	ns	ns	ns	ns	ns	ns
A x B x C	ns	ns	ns	ns	ns	ns	ns
CV%	17.28	14.49	7.64	21.03	35.48	6.97	0.16

* Significant at 5% level, ns Non significant

Table 5.10 Average weight of grain yield

Variety	kg/rai
KDML 105	696
KDS	473
CNT-1	610
$LSD_{(0.05)} = 163$	

5.3.2 Yield components

5.3.2.1 Number of tillers per hill

Analysis of variance results (Table 5.9) indicate that number of tillers per hill among varieties was significantly difference ($p<0.05$). The highest tillers per hill was observed in CNT-1 variety while the lowest tillers per hill was recorded in KDS variety (Table 5.11). However, analysis of variance results revealed that potassium iodide application rate and frequency of foliar application had no significant effect on number of tillers per hill.

Table 5.11 Number of tillers per hill

Variety	Number
KDML 105	10.97
KDS	7.30
CNT-1	16.91
$LSD_{(0.05)} = 0.97$	

5.3.2.2 Number of panicles per hill

Number of panicles per hill was found significantly difference at $p<0.05$ among varieties and application rates of potassium iodide (Table 5.9). However, the number of panicles per hill was not significantly difference for the frequency of foliar application. The analysis results (Table 5.12) indicated that CNT-1 variety has higher number of panicles per hill than the other varieties. An average of number of panicles per hill of CNT-1, KDML105 and KDS variety were 14.05, 10.37 and 6.02, respectively.

It was found that number of panicles per hill was affected significantly ($p<0.05$) by potassium iodide application rate. It showed that the rice plants which were treated by potassium iodide application rate at 0.2g% produced the highest number of panicles per hill (10.78 panicles). The lowest number of panicles per hill was found in the potassium iodide application rate at 0.1g%, which was 9.46 panicles (Table 5.12). Additionally, the frequency of potassium iodide foliar application had no significant effect on number of panicles per hill of those varieties.

Table 5.12 Number panicles per hill of KDML 105, KDS and CNT-1 variety under KI treatments

Rate of KI	Number of panicle			mean
	KDML 105	KDS	CNT-1	
0 g%	10.72	6.39	13.5	**10.20**
0.1 g%	9.67	5.39	13.33	**9.46**
0.2 g%	10.72	6.28	15.33	**10.78**
mean	**10.37**	**6.02**	**14.05**	**10.15**

$LSD_{(0.05)}$ variety = 0.59 $LSD_{(0.05)}$ rate of KI = 0.94

5.3.2.3 Number of filled grains per panicle

Number of filled grains per panicle varied significantly ($p<0.05$) among varieties (Table 5.9). The KDML105 variety had the highest number of filled grains per panicle which was 122.1 grains. The lowest number of filled grains per panicle was found in CNT-1 which was 82.5 grains.

In contrast, analysis of variance results indicated that number of filled grains per panicle was not significantly response ($p>0.05$) to rates and frequency of potassium iodide foliar application.

Table 5.13 Number of filled grains per panicle

Variety	Number
KDML 105	122.1
KDS	104.6
CNT-1	82.5
LSD(0.05)= 24.4	

5.3.2.4 Percentage of unfilled grain

Significant difference ($p<0.05$) was found in percentage of percent unfilled grain among varieties (Table 5.9). The highest percent unfilled grain was found in KDS variety while, KDML105 variety had the lowest percentage of unfilled grain (Table 5.14). The average percentages of unfilled grain of KDS, CNT-1 and KDML105 variety were 32.76, 18.15 and 17.49%, respectively.

However, analysis of variance results revealed that potassium iodide application rate and frequency of foliar application had no significant effect on percentage of unfilled grain among varieties.

Table 5.14 Percent unfilled grain

Variety	Percent
KDML 105	17.46
KDS	32.76
CNT-1	18.15
LSD (0.05)= 10.13	

5.3.2.5 1000-grain weight

Analysis of variance results (Table 5.9) indicated that varieties, rates and frequency of potassium iodide application had no significant effect on rice 1000-grain weight. It was found that an average of 1000-grain weight of the three varieties was 26.6 gram.

5.3.2.6 Harvest Index (HI)

Analysis of variance results (Table 5.9) indicated that harvest index among varieties was significantly difference ($p<0.05$). The highest harvest index was observed in CNT-1 variety while the lowest harvest index was recorded in KDS variety (Table 5.15). The average of harvest index of KDML105, KDS and CNT-1 variety were 0.44, 0.25 and 0.76, respectively.

However, analysis of variance results revealed that potassium iodide application rates and frequency of foliar application had no significant ($p>0.05$) effect on harvest index of three varieties.

Table 5.15 Harvest index

Variety	Harvest Index (HI)
KDML 105	0.44
KDS	0.25
CNT-1	0.76
LSD (0.01)= 0.16	

5.4 MILLING QUALITY

5.4.1 Percentage of head rice

Significant difference ($p<0.05$) was found in percentage of head rice among varieties (Table 5.16). The highest percentage of head rice was found in KDML105 variety while, KDS variety had the lowest of percent head rice. The average percentages of head rice of KDML105, KDS and CNT-1 variety were 49.35, 19.49 and 36.19%, respectively.

Moreover, the analysis of variance results indicated that percentage of head rice was affected significantly ($p<0.05$) by potassium iodide application rates (Figure 5.1). It was found that percent of head rice yield was enhanced when applying KI. According to the results, KDML 105 variety produced high percent head rice (53.01%) when applied 0.2g%KI. However, KDS and CNT-1 variety show high percent head rice which was 39.05% and 22.43%, respectively when received 0.1g%KI.

Analysis of results demonstrate that the frequency of potassium iodide application had no significant effect on percent head rice of three varieties.

Table 5.16 Analysis of variance results of milling quality

Source of variation	Percent head rice	Percent broken rice	Percent mill rice	Percent brown rice	Percent husk	Percent bran	Grain hardness
Var (A)	*	*	*	*	*	*	*
Rate of KI application(B)	*	*	ns	ns	ns	*	ns
A x B	ns	ns	ns	ns	ns	ns	*
Frequency of spraying KI (C)	ns	ns	ns	*	*	ns	ns
A x C	ns	ns	ns	ns	ns	ns	ns
B x C	ns	ns	ns	ns	ns	ns	ns
A x B x C	ns	ns	ns	ns	ns	ns	ns
CV%	11.79	13.11	2.65	0.85	2.89	3.86	12.04

* Significant at 5% level, ns Non significant

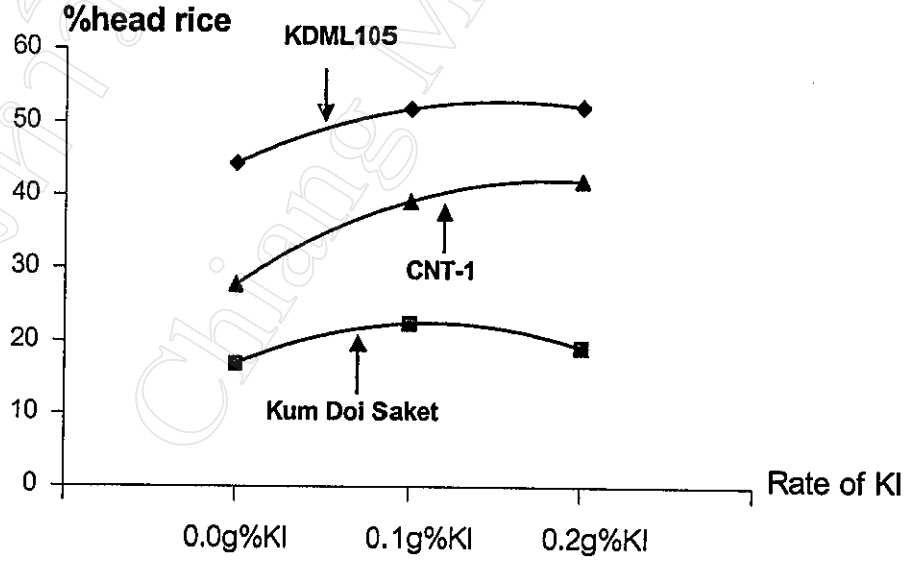

Figure 5.1 Effects of potassium iodide application rate on percentage of head rice

5.4.2 Percentage of broken rice

Percentage of broken rice was found significantly difference ($p<0.05$) among varieties (Table 5.16). It was found that the percentage of broken rice of KDS variety was greater than CNT-1 and KDML105 variety. The average of percentage of KDS, CNT-1 and KDML105 variety was 44.67, 35.39 and 20.99, respectively.

In contrast to percentage of broken rice, it showed that the analysis of variance results of the percentage of broken rice was significantly ($p<0.05$) affected by potassium iodide application rates. Figure 5.2 illustrated that rice plants which were applied KI at the concentration of 0.0g% (no KI applied) produced the percentage of broken rice higher than other concentration. On an average, the percentage of broken rice were observed 39.57, 36.66 and 30.52 % for the concentration of potassium iodide application rate at 0.0,0.1 and 0.2g%, respectively. Additionally, the frequency of potassium iodide foliar application had no significant effect on percent broken rice of the three varieties.

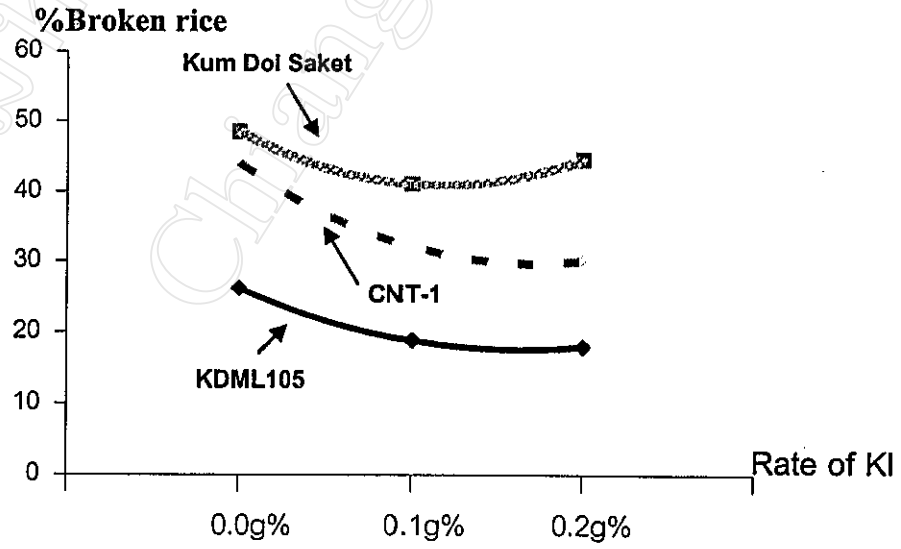

Figure 5.2: Effects of potassium iodide application rate on percentage of broken rice

5.4.3 Percentage of milled rice

Analysis of variance results (Table 5.16) indicated that percentage of milled rice among varieties was significant difference ($p<0.05$). It was found that CNT-1 variety produced the highest percentage of milled rice (71.58%), which greater than KDML105 variety (70.68%) and KDS variety (64.29%) (Table 5.17). However, rate and frequency of potassium iodide foliar application had no significant effect on percent milled rice of three varieties.

Table 5.17 Percentage of milled rice of KDML 105, KDS and CNT-1 variety under KI treatments

Variety	Percentage
KDML 105	70.68
KDS	64.29
CNT-1	71.58
LSD (0.05)= 1.29	

5.4.4 Percentage of brown rice

Analysis of variance results (Table 5.16) indicated that percentage of brown rice showed significant difference ($p<0.05$) among varieties. In general, CNT-1 variety produced the highest percentage of brown rice (78.63%). The lowest percentage of brown rice was found in KDS variety, which was 76.16%. The KDML 105 variety produced similar percentage of brown rice to KDS variety which was 76.78%.

Beside, it was found that percentage of brown rice was also affected by the frequency of potassium iodide foliar application. It was found that only one time of potassium iodide foliar application at panicle initiation stage had greatest average of

percent brown rice (76.98%) which was significantly greater than the percentage of brown rice obtained from the other treatments (Table 5.18). However, the difference in percent of brown rice among treatment was small. The rates of potassium iodide application had no significant effect on percent brown rice of three varieties.

Table 5.18 An average of percent brown rice of KDML 105, KDS and CNT-1 variety at various frequency of potassium iodide foliar application

Varieties	Frequency of KI	Percentage of brown rice			mean
		0.0g%KI	0.1g%KI	0.2g%KI	
KDML105	one time at PI	76.40	76.59	75.88	76.29
	once a week*	76.75	77.57	77.42	77.25
	twice a week**	76.67	76.75	76.98	76.80
mean		76.60	76.97	76.76	**76.78**
KDS	one time at PI	76.43	75.72	76.35	76.16
	once a week*	76.46	77.13	76.49	76.69
	twice a week**	75.96	74.99	75.92	75.62
mean		76.28	75.94	76.25	**76.16**
CNT-1	one time at PI	78.20	78.27	79.02	78.49
	once a week*	78.73	78.54	78.79	78.69
	twice a week**	79.25	78.22	78.64	78.70
mean		78.73	78.34	78.82	**78.63**
$LSD_{(0.05)}$ Variety = 1.14		$LSD_{(0.05)}$ Frequency = 0.36			

* Potassium iodide foliar application once a week starting form panicle initiation till anthesis stage.

** Potassium iodide foliar application twice a week starting form panicle initiation till anthesis stage.

5.4.5 Percentage of husk

Analysis of variance results (Table 5.16) indicated that percentage of husk showed significant difference ($p<0.05$) among varieties. In general, KDS variety produced the highest percentage of husk (23.84%). The lowest percentage of husk was observed in CNT-1variety, which was 21.37%. The percentage of husk of KDML105 variety was 23.22%.

It was also found that percentage of husk was also differed significantly from the different frequency of potassium iodide foliar application. Table 5.19 illustrated that an average of percentage of husk was 22.80%, which observed in the one time of potassium iodide foliar application at panicle initiation stage. The average percentage of husk obtained from treatments of once a week and twice a week of potassium iodide foliar application during panicle initiation till anthesis stage were 22.92 and 22.73%, respectively. However, rate of potassium iodide foliar application had no significant effect on percent husk of three varieties.

Table 5.19 An average of percentage of husk of KDML 105, KDS and CNT-1 variety at various frequency of potassium iodide foliar application

Varieties	Frequency of KI	Percentage of husk			mean
		0.0g%KI	0.1g%KI	0.2g%KI	
KDML105	one time at PI	23.60	23.41	24.12	23.71
	once a week*	23.25	22.43	22.58	22.75
	twice a week**	23.34	23.25	23.03	23.21
mean		23.40	23.03	23.24	**23.22**
KDS	one time at PI	23.58	24.28	23.65	23.84
	once a week*	23.54	22.87	23.51	23.31
	twice a week**	24.04	25.01	24.08	24.38
mean		23.72	24.05	23.75	**23.84**
CNT-1	one time at PI	21.80	21.75	20.98	21.51
	once a week*	21.27	21.46	21.21	21.31
	twice a week**	20.75	21.78	21.36	21.30
mean		21.27	21.66	21.18	**21.37**
$LSD_{(0.05)}$ Variety = 1.14		$LSD_{(0.05)}$ Frequency = 0.36			

* Potassium iodide foliar application once a week starting form panicle initiation till anthesis stage.

** Potassium iodide foliar application twice a week starting form panicle initiation till anthesis stage.

5.4.6 Percentage of bran

Significant difference ($p<0.05$) was found in percentage of bran among varieties (Table 16). The highest percentage of bran was found in KDS variety (11.87%) while, KDML105 variety had the lowest of percent bran. An average of percent bran of CNT-1 variety and KDML105 variety was 7.04 and 6.10%, respectively.

It was also found that percentage of bran was affected significantly ($p<0.05$) by potassium iodide application rate. It was showed that the rice plants which were treated with potassium iodide application rate at 0.1g% produced the highest percentage of bran (8.69 %). The lowest percentage of bran was found in the potassium iodide application rate at 0.0g% (no KI applied), which was 7.86 % (Table 5.20). Additionally, the frequency of potassium iodide foliar application had no significant effect on percent bran of three varieties.

Table 5.20 Percent bran of KDML 105, KDS and CNT-1 variety under KI treatment

Rate of KI	Percentage of bran			mean
	KDML 105	KDS	CNT-1	
0 g%	6.11	10.48	6.98	**7.86**
0.1 g%	6.40	12.46	7.21	**8.69**
0.2 g%	5.80	12.67	6.94	**8.47**
mean	**6.10**	**11.87**	**7.04**	**8.34**

$LSD_{(0.05)}$ Variety = 0.24 $LSD_{(0.05)}$ Rate of KI = 0.68

5.4.7 Grain hardness

The interaction between varieties and potassium iodide application rates was found significant ($p<0.05$) (Table 5.16) for grain hardness. Figure 5.3 presents grain hardness of three varieties at difference rate of potassium iodide application. It reveals that grain hardness tended to increase as increasing in rate of potassium iodide application for all varieties.

The analysis of variance results also indicated that grain hardness showed significant difference ($p<0.05$) among varieties. In general, KDML105 variety had the highest grain hardness (80.90 N/cm^2). The lowest grain hardness was found in KDS variety, which was 64.72 N/cm^2. However, analysis of variance results revealed that the frequency of potassium iodide foliar application had no significant effect on the grain hardness of three varieties.

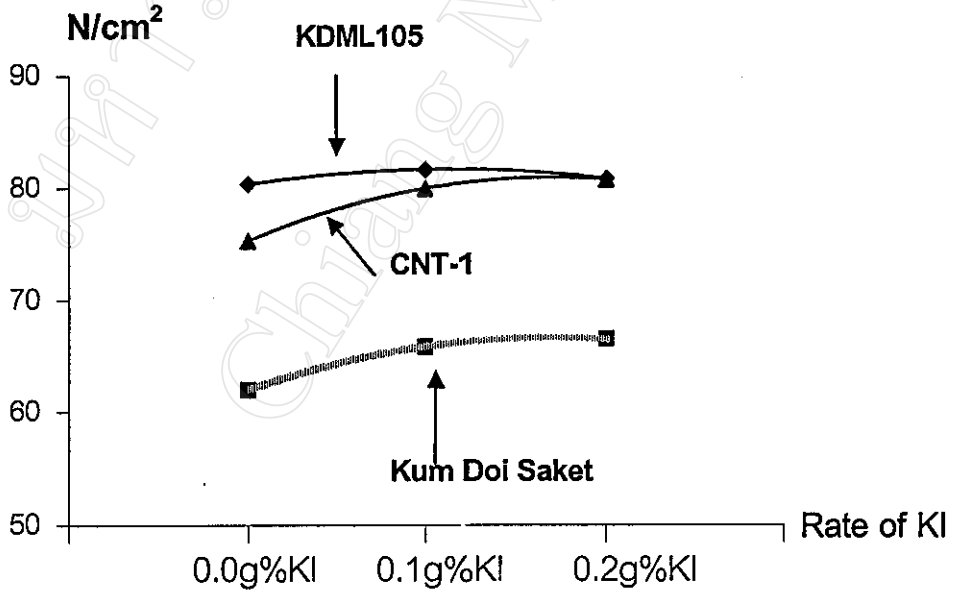

Figure 5.3 Effects of potassium iodide application rate on grain hardness

5.5.1 Percentage of Iodine content (μg/100g)

Analysis of variance results (Table 5.21) indicated that varieties, rate and frequency of potassium iodide foliar application had no significant ($p>0.05$) effect on percentage of iodine content in brown rice. It was found that an average of percentage of iodine content in brown rice of three varieties was about 5.51%. Additionally, an average of percent iodine content in brown rice of KDML105, KDS and CNT-1 variety was about 5.13, 6.07 and 5.52%, respectively. However, the trend of percentage of iodine content in brown rice was responded to the rate of potassium iodide application, which was 5.39, 5.43 and 5.72% for 0.0, 0.1 and 0.2g%KI, respectively.

Table 5.21 Analysis of variance results of nutritive values

Source of variation	I	K	Protein
Variety	ns	*	*
Rate of KI application	ns	ns	*
Variety x Rate	ns	ns	ns
Frequency of spraying KI	ns	ns	ns
Variety x Frequency	ns	ns	ns
Rate x Frequency	ns	ns	ns
Variety x Rate x Frequency	ns	ns	ns
CV%	18.33	20.15	12.85

* Significant at 5% level, ^{ns} Non significant

5.5.2 Percentage of potassium content

Analysis of variance results (Table 5.21) indicate that potassium content in brown rice among varieties was significantly difference ($p<0.05$). The highest potassium content in brown rice was observed in KDS variety while the lowest potassium content was recorded in KDML105 variety (Table 5.22). The average of potassium content in brown rice of all varieties (KDS, CNT-1 and KDML105 variety) were 240.46, 203.58 and 160.47 %, respectively.

However, analysis of variance results revealed that rate and frequency of potassium iodide foliar application had no significant effect on the potassium content in brown rice of three varieties.

Table 5.22 Percentage of potassium

Variety	mg/100g
KDML 105	160.47
KDS	240.46
CNT-1	203.58
LSD(0.05)= 11.22	

5.5.3 Percentage of protein content

Significant difference ($p<0.05$) was found in percentage of protein content in rice grain among varieties (Table 5.21). The highest percentage of protein content in brown rice was found in KDS variety while, KDML105 variety produced the lowest of percent protein content. Percentages of protein content in brown rice of KDS, CNT-1 and KDML105 variety were 13.31, 11.57 and 10.23 %, respectively.

The analysis of variance also results indicated that percentage of protein content in brown rice was affected significantly ($p<0.05$) by potassium iodide application rate. It was found that the potassium iodide application rate at 0.1g%

produced the highest percentage of protein content in brown rice (12.04 %). The lowest percentage of protein content in brown rice was observed in the potassium iodide application rate at 0.0g% (non-applied with KI), which was 11.14 %, and the potassium iodide application rate at 0.2g% produced the percentage of protein content in brown rice 11.93 % (Table 5.23). However, it was found that the frequency of potassium iodide foliar application had no significant effect on percentage of protein content in brown rice.

Table 5.23 Percentage of protein content in brown rice of KDML 105, KDS and CNT-1 variety under KI treatments

Rate of KI	Percent protein content in brown rice (mg/100g)			mean
	KDML 105	KDS	CNT-1	
0 g%	10.0	12.37	11.04	**11.14**
0.1 g%	10.34	13.99	11.78	**12.04**
0.2 g%	10.33	13.56	11.89	**11.93**
mean	**10.23**	**13.31**	**11.57**	**11.70**

$LSD_{(0.05)}$ Variety = 1.03 $LSD_{(0.05)}$ Rate of KI= 0.45