



**AN EVALUATION ON GERMINABILITY AND
OIL CONTENT AT DIFFERENT STAGES OF
CAPSULE MATURITY IN PHYSIC NUT
(*Jatropha curcas L.*)**

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Flower Blooming.

April - October

**One inflorescence consists of
70 – 278 flowers.**

Female flower : Male flower

1 : 7 - 14

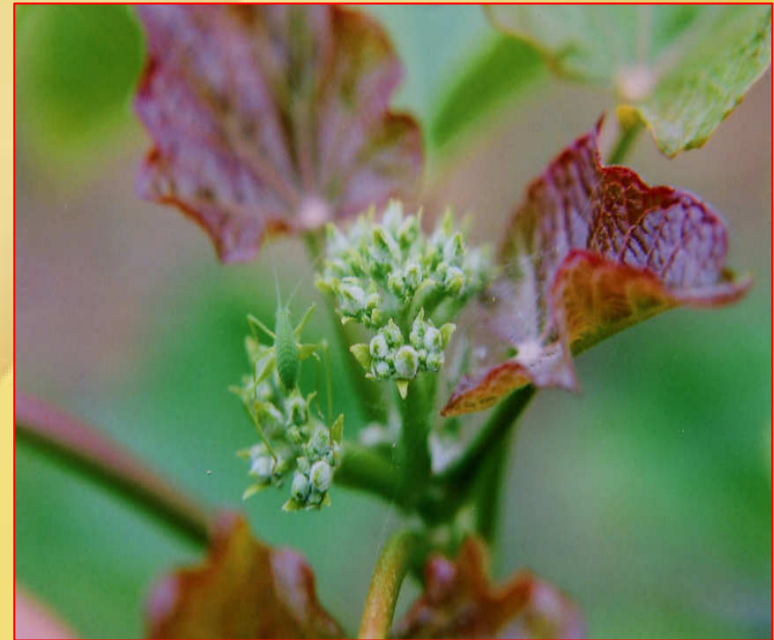
The background is a solid yellow color with several overlapping, curved, semi-transparent yellow shapes that create a sense of depth and movement. The shapes are layered, with some appearing in front of others, and they curve across the frame from the top and sides towards the bottom.

**It taker 36 days from initiation to
full bloom.**

It takes 15 days from floral bud to young flower.



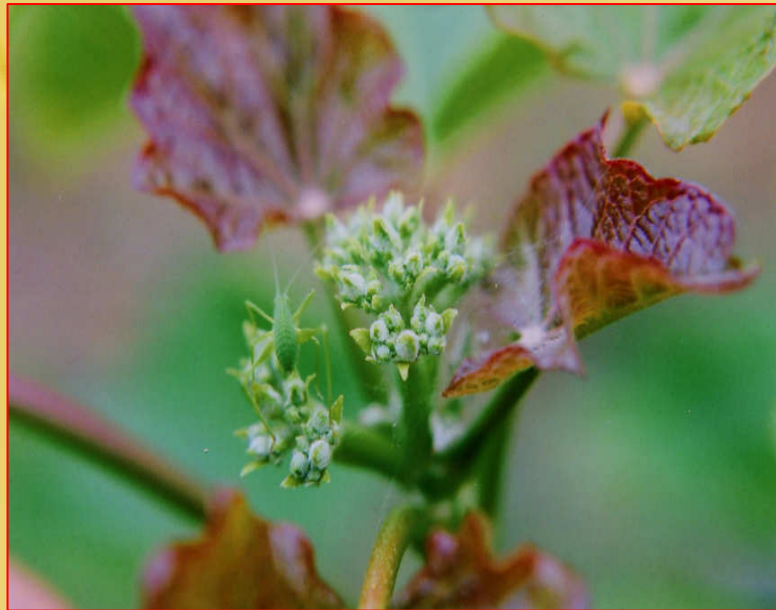
15 days
→



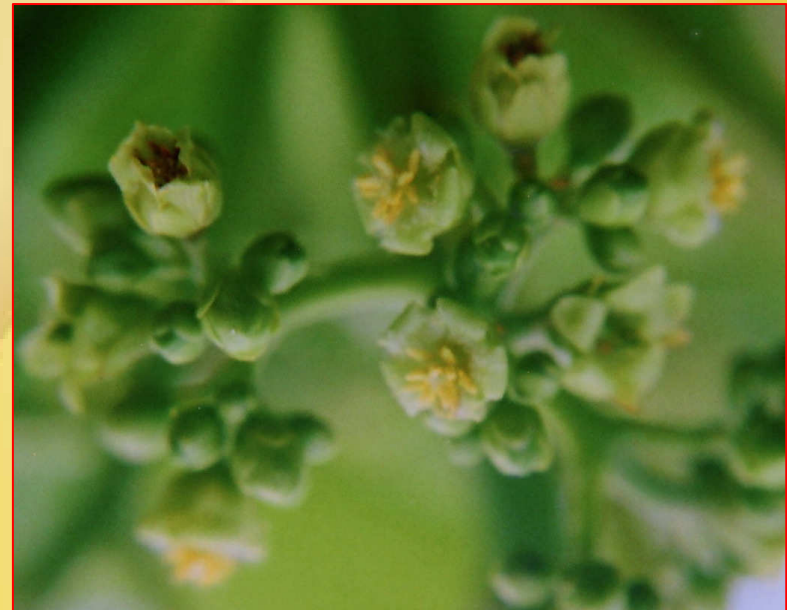
Floral bud

Young flower

It takes 21 days from young flower to full bloom.



21 days



Young flower

Full bloom



Staminate flower

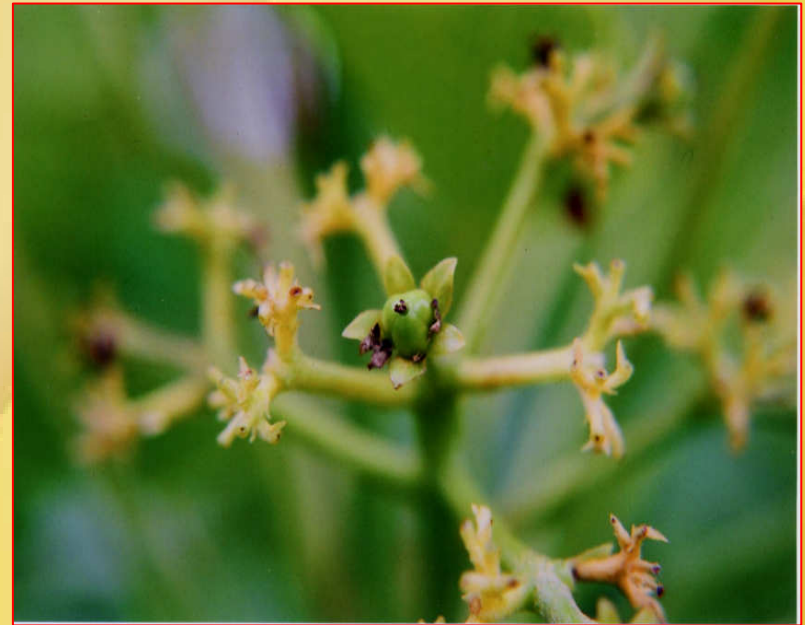


Pistillate flower

It takes 7 days from full bloom to fruit setting.



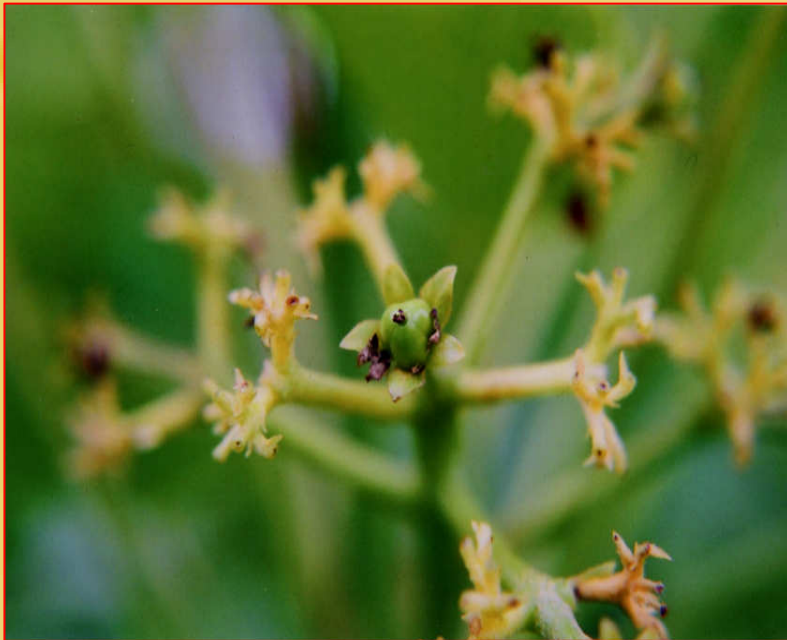
7 days



Full bloom

fruit setting

It takes 12 days from fruit setting to young green fruit.



12 days



Fruit setting

Young green fruit

It takes 11 days from young green fruit to
green fruit.



Immature fruit

11 days
→



Green fruit

It takes 8 days from green fruit to yellow fruit.



Green fruit

8 days
→



Yellow fruit

It takes 8 days from yellow fruit to yellowish brown fruit.



Yellow fruit

8 days
→



Yellowish brown fruit

It takes 4 days from yellowish brown fruit to brownish black fruit.



4 days



Yellowish brown fruit

Brownish black fruit



It takes 50 days from anthesis to maturity.

There are 4 stages of capsule maturity.

➤ Green 32 DAA



➤ Yellow 38 DAA



➤ Browish Yellow 44 DAA



➤ Browish Black 50 DAA



Tabale1 Fruit size, seed size and seed weight of *Jatropha curcas* L. at different stages of capsule maturity.

Color of fruit peel Days after anthesis (DAA)	Fruit size(cm)		Seed size (cm)			Seed weight (g)
	Width	Length	Width	Length	Thickness	
Green stage 32 DAA	2.94 b	3.05 b	1.20 a	2.03 bc	0.92	0.94
Yellow stage 38 DAA	3.07a	3.24 a	1.21 a	2.15 a	0.94	1.09
Yellowish Brown 44 DAA	2.76 c	3.03 b	1.16 b	2.07 b	0.94	0.98
Brownish Black 50 DAA	2.35 d	2.69 c	1.16 b	1.99 c	0.91	0.94
F-test	**	**	**	**	ns	ns
CV. (%)	3.31	2.47	2.53	2.80	3.30	14.73

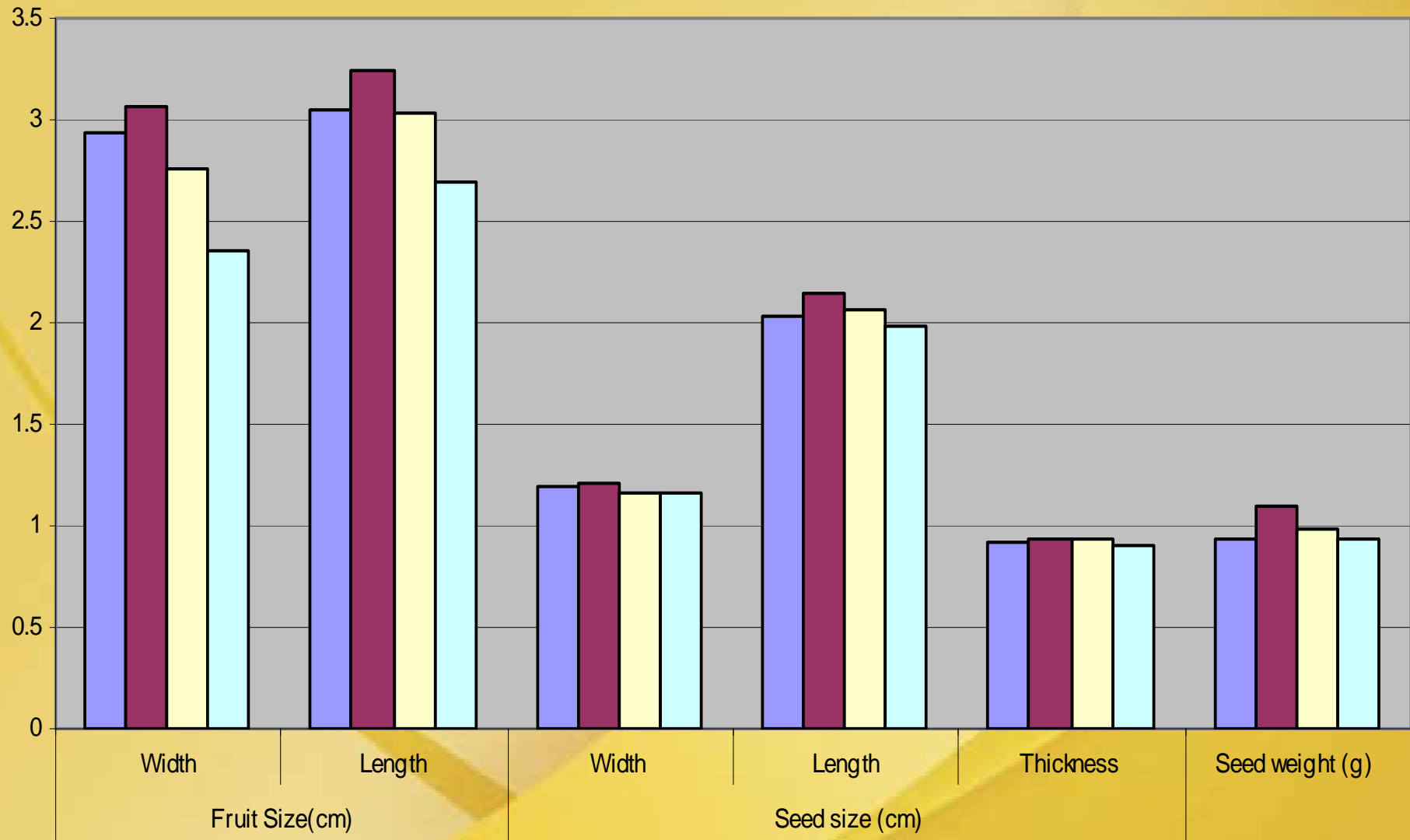


Table 2 Moisture content, germination percentage and oil content of *Jatropha curcas* L. seed at different stages of capsule maturity.

Color of fruit peel Days after anthesis (DAA)	Moisture content (%)	Germination percentage	Vigour		Oil content (%)
			Speed of germination	Growth rate	
Green stage 32 DAA	57.20 a	21.67 c	0.66 c	2.97 c	11.90 c
Yellow stage 38 DAA	43.00 b	57.92 b	1.68 b	3.18 c	26.94 b
Yellowish Brown 44 DAA	42.83 b	83.67 a	2.53 a	4.74 b	29.47 ab
Brownish Black 50 DAA	41.35 c	94.17 a	2.86 a	5.72 a	33.38 a
F-test	*	**	**	**	**
CV. (%)	1.91	14.81	14.69	17.76	7.95

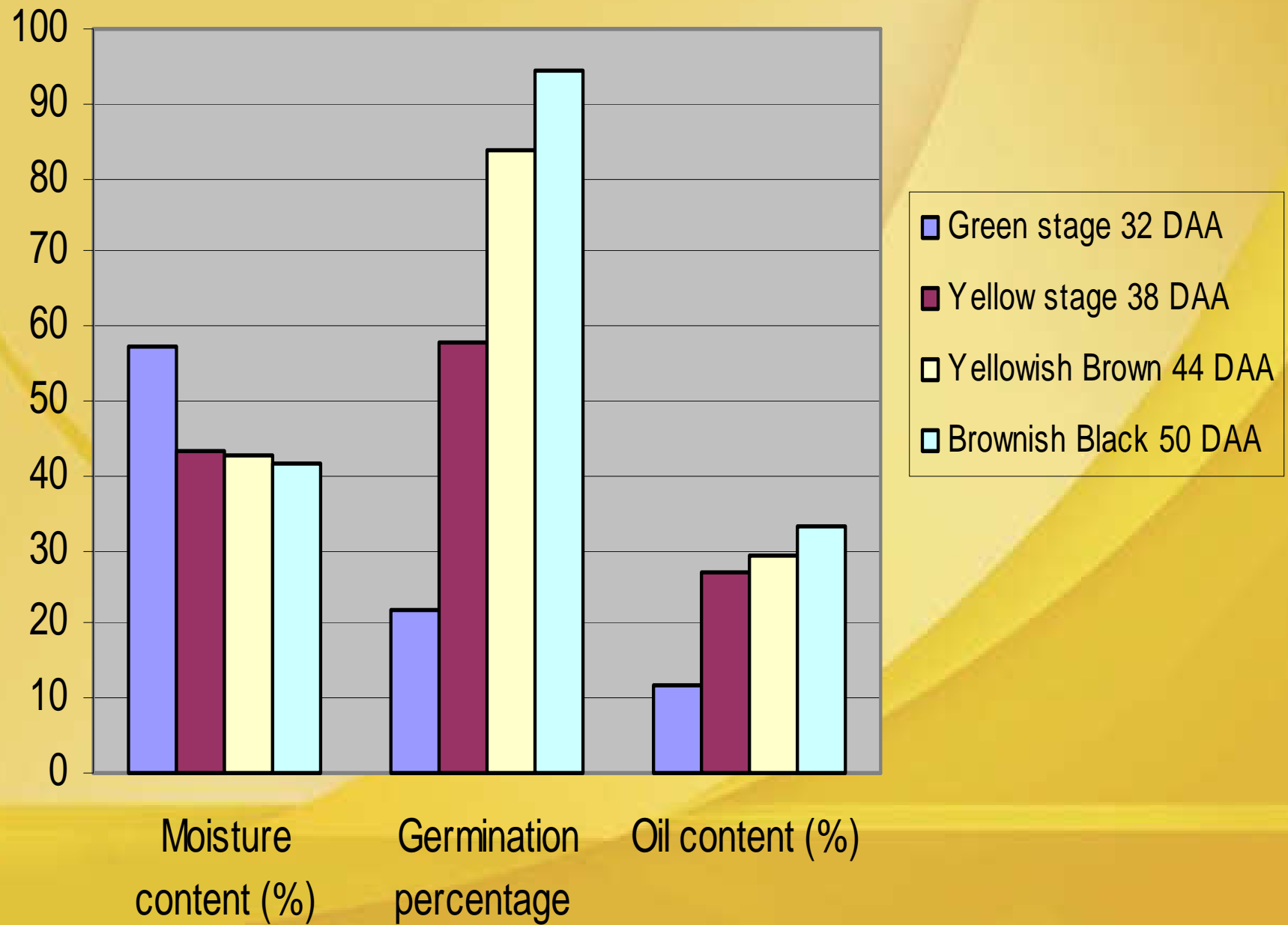


Table 3 Germination percentage moisture content and oil content of *Jatropha curcas* L. seeds under ambient condition and cold storage.

Stage	Under 25 - 30°C, 65 - 75% RH			Under 20 - 25°C, 60 - 65% RH		
	% Germination	% MC	% Oil content	% Germination	% MC	% Oil content
Green stage 32 DAA	38	9.35	15.47	39	5.92	17.96
Yellow stage 38 DAA	74	9.21	27.84	75	6.74	24.94
Yellowish Brown 44 DAA	82	8.36	27.38	81	5.1	26.47
Brownish Black 50 DAA	91	8.48	28.73	92	5.08	25.86
F-test	**	ns	**	**	ns	**
CV. (%)	1.72	7.06	5.09	1.28	11.75	4.62

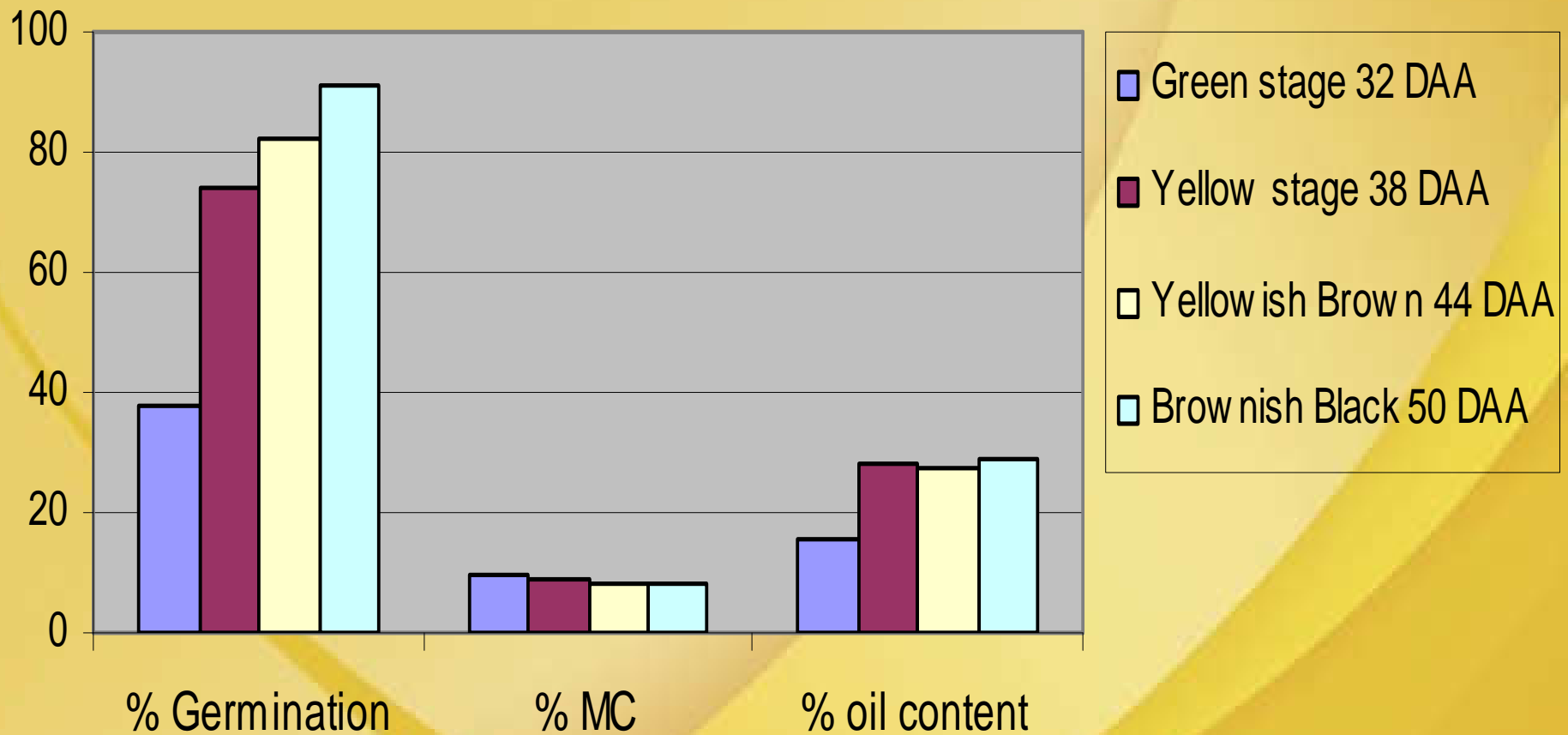


Figure 1 : Germination percentage, moisture content and oil content of *Jatropha curcas* L. seeds under ambient condition at Under 25 - 30°C, 60-75% RH

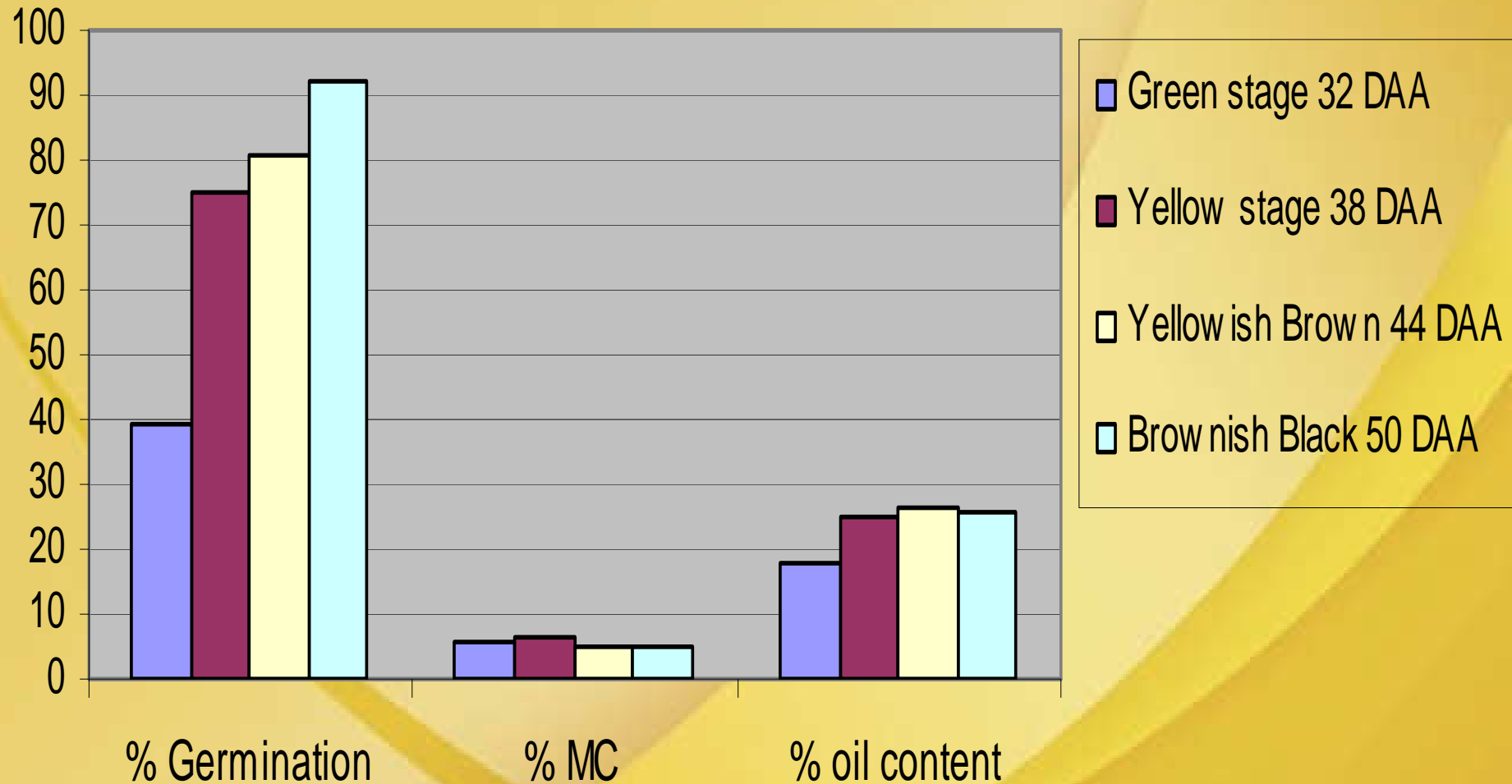


Figure 2 : Germination percentage, moisture content and oil content of *Jatropha curcas* L. seeds under cold storage at Under 20 - 25°C, 60 - 65% RH

CONCLUSION

At harvesting

	Germination	%MC	%Oil
Green stage 32 DAA	21	57	11
Yellow stage 38 DAA	27	43	26
Yellowish Brown 44 DAA	83	42	29
Brownish Black 50 DAA	93	41	33

After one month of storage

	Germination	%MC	%Oil
Green stage 32 DAA	38 – 39	5 – 9	15 – 17
Yellow stage 38 DAA	74 – 75	6 – 9	24 - 27
Yellowish Brown 44 DAA	81 – 82	5 – 8	26 - 27
Brownish Black 50 DAA	91 – 92	5 – 8	25 - 28

Germination (%)

Oil content (%)

At harvesting

After one month

At harvesting

After one month

Green

21

38

11

15

Yellow

57

74

26

24

Yellowish Brown

83

81

29

26

Brownish Black

93

91

33

25

Thank you

