

Algal Biotechnology

» ÁÐÇÑµÔ (Background)

ÈÒÈÀèÒÀÈËà»ÀÙÀÔ¹èÒ (Spirulina) à»ç¹áÈÀèŞà»ÃµÔ¹áÐÀÔÈÒÀàÀÔÁÙÀµèÒÈÙŞ´Ó¼Çj;Ã´àÇÁÑ¹´Òà»ç¹ á²è¹ jÃ´ÀÔá¹ÁÇ¼Çj µÁíáÃç.ÔÁÁi.ÔèãÈèÈÒàÇÔÁÇ àçá²à«ÀÒ¹Ô¹áÈèÈÒçèÒ áÁÐá²áÃ.Ô¹Á´i.ÔèãÈèÈÒÈèÁá´Ş «ÒèŞÈÒÁÔÁ¶Èj;Ñ´ÈÒÁÈÒàáÁÐà²ÃxèÍŞÈÓÍÒŞ

j;ÁÐèÁÇÔ´ÑÁà.²á¹áÁÁÔ³ÔÇÀÒ¼ÈÒÈÀèÒÁ (Algal Biotechnology) à»ç¹È¹èÇÁŞÒ¹È¹ÒèŞá¹ R&D Cluster ÁÈÒÇÔ.ÁÒÁÑÁà.²á¹ÁèÇÁj;Ñ¹ÑjÇÔ´ÑÁÇÍŞÈ¶Ô¹¼Ñ²¹ÒáÁÐ½Ôj¹ºÁÁáÁŞŞÒ¹µé¹áºº ÁÈÒÇÔ.ÁÒÁÑÁà.²á¹áÁÁÔ³ÁÐ´ÍÁàj;ÁéÒ¹ºØÁÔ áÁÐ¹ÑjÇÔ´ÑÈÙ¹Ái³¼Ñ¹ ØÇÒÈÇj;ÁÁÁáÁÐà.²á¹áÁÁÔ³ÔÇÀÒ¼áÈèŞ³ÒµÔ á´ÁàÁÔèÁj;ÔÁ´Òá¹Ô¹ŞÔ¹»ÁÐÁÔ³»Ô ¼.È. 2530 ´éÇÁá²ÁŞj;ÔÁ´“j;ÔÁ¹Ô¹éÓ.ÔéŞ´Ôj;áÁŞŞÒ¹á»éŞÁÑ¹ÈÓ»ÐÈÁÑŞÁÔà»ç¹áÈÀèŞj;ÔÈÒÁà¼xèíá²éàÁÔèÁŞÈÒÈÀèÒÁÈËà»ÀÙÀÔ¹èÒ”j;(BIOTEC) áÁÐá´é´Òá¹Ô¹j;ÔÁÇÔ´ÑÁ´éÔ¹j;ÔÁà¼ÔÐàÁÔèÁŞÈÒÈÀèÒÁ Èà»ÀÙÀÔ¹èÒ j;ÔÁ¼Ñ²¹ÒÈÒÁ¼Ñ¹ Øj;µÁí´¹.Ôj;ÔÁÇÔ´ÑÁá¹ÁÐ´ÑºÔÇáÁàÁj;ÔÁàj;ÔèÁÇj;Ñºj;ÔÁáÈ´ŞÍj;ÇÍŞÁÔ¹áÁÐáç¹á«Ái.Ôèàj;ÔèÁÇÇéÍŞj;Ñºj;ÔÁÈÑŞà²ÁÐÈj;ÈÒÁà²

á¹»Ô ¼.È. 2545 ÈÙ¹Ái³¼Ñ¹ ØÇÒÈÇj;ÁÁÁáÁÐà.²á¹áÁÁÔáÈèŞ³ÒµÔ ÁèÇÁj;Ñºj;ÁÐèÁÇÔ´ÑÁà.²á¹áÁÁÔ³ÔÇÀÒ¼ÈÒÈÀèÒÁ´Ñ´µá´ÁÁÔà»éÒÈÁÒÁà¼xèí¼ÁÑj;Ñ¹áÈèàj;Ô´ÇÒÁÁèÇÁÁxÍÁÐÈÇèÒŞÁÒ²áj;¹áÁÐj;ÁÐèÁÇÔ´ÑÁi à¼xèíáÈèàj;Ô´à²xÍÇèÒÁ j;ÔÁà¼xèíá¼ÔèÁ»ÁÐÈÔ. ÔÁÒ¼j;ÔÁ¼ÁÔµÇÍŞÁÒ²áj;µÈÒÈj;ÁÁÁ ÁÇÁ¶ÖŞj;ÁÐèÁÇÔ´ÑÁÈÒÁÔÁ¶¼ÁÔµŞÒ¹ÇÔ´ÑÁáÈéµÁŞµéÍ²ÇÔ.

ÇÑµ¶¶»ÁÐÈŞµi

¼Ñ²¹Òà.²¹Ôµj;ÔÁà¼ÔÐàÁÔèÁŞ áÁÐ¼Ñ²¹ÒÈÒÁ¼Ñ¹,Øj;.ÔèÁÔ²²²èÒà²ÔŞ¼Ò³Ô²Ái

ÈÒj;ÈÒj;ÔÁÈÑŞà²ÁÐÈj;ÈÒÁàÀÔÁÙÀµèÒÈÙŞá¹ÈÒÈÀèÒÁÈËà»ÀÙÀÔ¹èÒ

á²èÈÒÈÀèÒÁÈËà»ÀÙÀÔ¹èÒà»ç¹áÁá´ÁÇÍŞ¼x² ÉÓÈÁÑºj;ÔÁÈÒj;ÈÒj;ÔÁµj;È¹ÍŞµéÍÁÀÒÇÐj;´Ñ¹ (stress respond) ·ÑéŞj;ÔÁÈÑŞà²

ÈèŞàÈÁÔÁáÈèàj;Ô´ÇÒÁÁèÇÁÁxÍÁÐÈÇèÒŞÁÈÒÇÔ.ÁÒÁÑÁáÁÐÈ¹èÇÁŞÒ¹áj;¹¹ÀÒ²j;µÈÒÈj;ÁÁÁ.Ôèàj;ÔèÁÇj;Ñºà.²á¹áÁÁÔ³

ŞÒ¹ÇÔ´ÑÁáÁÐ¼Ñ²¹ÒÇÍŞj;ÁÐèÁá¹é¹ 3 á¹Ç.ÒŞÈÁÑj;´ÑŞ¹Ôé

1. j;ÔÁà¼ÔÐàÁÔèÁŞ (Mass Cultivation)

ÁÐèŞà¹é¹áÈèá´é¼Á¼ÁÔµáÁÐ»ÁÐáÁ¹j;´Ôj;¼Á¼ÁÔµÁÔj;.ÔèÈØ´ ÁÔŞÒ¹ÇÔ´ÑÁ¶ÖÖ¼ÁÇÍŞ»Ñ´ÑÁÈÒèŞáÇ´ÁéÍÁµéÍj;ÔÁá´ÁÔ-ÇáÁÐj;ÔÁÈÒj;ÈÒ´éÔ¹j;ÔÁ´ÔÁÍŞ.ÔŞ³ÒµÈÒÈµÁi (math model) ÇÍŞÁÐºà¼ÔÐàÁÔèÁŞ

2. ÊÒÃà¼ÁÓÁÙÀ¼èÒÊÙ\$ (High Value Chemicals)

ÁÔ;ÒÃ´Óà'Ô'Ï\$Ò'ÇÔ"ÑÁà¼xèíãËéà;Ô'Í\$¼¼ÇÒÁÁÙéà;ÔèÁÇ;Ñ°ÊÒÃà¼ÁÓÁÙÀ¼èÒÊÙ\$ã'ÊÒËÃèÒÁËä»ÁÙÁÔ'èÒ á'ÁËÖ;ËÔ
àºè' ÁÔ»Ô'ËÃí GLA ä; â¼ä«ÁÒ'Ô' áÁÐà¼ÁÔá«¼¼ÒäÁ'í"Ò;ÊÒËÃèÒÁËä»ÁÙÁÔ'èÒ ÁÇÁ¶Ö\$;ÔÃËÖ;ËÔ¼ØºËÁºÑµÔ;ÒÁà»

3. ;ÒÃËÖ;ËÔ´éÒ¹ªÖÇáÁàÁ;ØÁ (Molecular biology)

ÁØè\$à'é'ãËéà;Ô'¼ÇÒÁÁÙé¼ÇÒÁà¼éÒã"´éÒ'ËÃÖÇÔ.ÁÒ¼Í\$ÊÒËÃèÒÁËä»ÁÙÁÔ'èÒ ÁÇÁ¶Ö\$;Áä; ;ÒÃÇº¼ØÁ áÁÐ;ÒÃËÑ\$
Proteomic Genomic áÁÐ In silico Spirulina modeling

;ÒÃ¶èÒÁ.Í'à.¼á'áÁÃÖ

à.¼á'áÁÃÖ;ÒÃà¼ØÐàÁÖéÁ\$ áÁÐ;ÒÃÍ;áººÁÐºº

;ÁÐºÇ';ÒÃË;Ñ'ÊÒÃà¼ÁÓÁÙÀ¼èÒÊÙ\$"Ò;ÊÒËÃèÒÁËä»ÁÙÁÔ'èÒ

;ÒÃºÁÔ;ÒÃ

ãËéºÓ»ÃÖ;ËÔ

ºÁÔ;ÒÃµÃÇ"ÇÒà¼ÒÐË;¼ØºÀº¼ÊÒËÃèÒÁ

“Ñ½ÖjÍÁÁáè¹ÑjÇÔªÖjÖÁ ÀÒªáíª¹ ÁÇÁ.Ñé§ºØªªÁ.ÕèÊ¹ã¨à.ª¹Òª áÁÐËÁÑj;ÖÁj;ÖÁà¼ÒÐàÁÕéÁ§

ÈÒËÄèÒÁËä»ÄÙÁÔ¹èÒ (ÍÒÃiã,ÄËä»ÄèÒ)

Ë¹Ñ§Ë×íËÈÒËÄèÒÁËä»ÄÙÁÔ¹èÒ (ÍÒÃiã,ÄËä»ÄèÒ) ÁÔà¹×éíËÒ´éÒ¹ªÇÒÁÁÙé.ÑèÇä»àj;ÕèÁÇj;ÑºËÈÒËÄèÒÁËä»ÄÙÁÔ¹èÒ áÁ ÌÒËÖÁËÑµÇj áÁÐËÈè§áÇ´ÁéíÁ ÁÇÁ.Ñé§àj;±iÁÔµÁºÒ¹ªÇÒÁ»Áí´ÁÑÁçí§ËÈÒËÄèÒÁËä»ÄÙÁÔ¹èÒ

á»ÁáÁÐàÁÔÁºàÁÔÁ§á´Á ÁÑµ¹Ò ºÑÁj;ÁéÒÈÒ-, ºÑºÁÒÁÁ³i ºÔÁÐËÈÇÇÁ³ áÁÐËÈ.ºØÉÁÒ ºØ¹¹Òª

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ÁÒªÒ 130 ºÒ.

jÒÁËÑè§«×éí ÁÒÁÐàíÔÁ´

¼Á§Ò¹

jÒÁ¨¨ËÒ, ÔºÑµÃ

ª×éí¼Á§Ò¹: jÒÁ¼Ñ²¹ÖjÁÐºÇj;ÖÁËÄèÒ§jÁ´áçÁÑ¹.ÕèÁÔ¼Ñ¹, ÐªÙèËÈÒÁ¼Ñ¹, Ðã¹áÁáÁj;ØÁ, gamma-linolenic acid ËÄ×í GLA áÁ ¹ÔÇªÁÔáíã. íáÁÐÁÓ´ÑºjÁ´ÍÐÁÔá¹çí§ÁÔ¹à´ÁµéÒ 6-´ÔáË..ÙàÁË (delta 6- desaturase) áÁÐÁÔ¹ à´ÁµéÒ 12-´ÔáË..ÙàÁË (delta 12- desaturase) (Spirulina platensis) á¹à«ÁÁiÁÔËµi Saccharomyces cerevisiae

¼Ùé»ÁÐ´ÔÉºi: ¹Ë. ¼ÔÁ´Ò ¼ÁËÁÁÔà¹µÃ, ¹Ë. ÍÀÔÁ´Ô Ë§Ëi.Í§, ¹Ë. ÀÒÇÒ³Ò àj;Ô´Á.Ôi, Ms. Sanjukta Subudhi, ¹Ò§ ËØÀÒÁÁ³i

Á×è¹¨¨á¹»ÁÐà.Ëä.Á àÁ×èíµØÁÒªÁ 2549

¼Á§Ò¹ÇÔ¨ÑÁ.ÕèµÖ¼ÔÁ¼iã¹ÇÒÁËÈÒÁá¹»ÁÐà.Ë

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1/4ÅŞÒ¹ÇÔÑÁ·ÕèµÕ¼ÔÁ¼iã¹ÇÒÃÊÒÃµèÒŞ»ÃĐà·È

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°ØππÁÒ;ÃçÍ§;ÁØèÁ

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Dr. Sanjukta Sabudhi

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