IMPHAL, MONDAY, FEBRUARY 06, 2017 egiFyskq, WkTjlExg 10 eg wkEq, akmg\k sbAKgi 3414 obT\lE mkEwkB HUEIYEN LANPAO

2 ꯂꯧꯎꯁꯤꯡꯎꯒꯤ ꯀꯥꯈꯜ
ꯍꯨꯏꯌꯦꯟ ꯂꯥꯟꯄꯥꯎꯇꯤꯜꯍꯧ ꯄꯥꯝꯕꯤꯗ ꯇꯥꯕ ꯂꯥꯏꯅꯥ
ꯇꯤꯜꯍꯧ ꯄꯥꯝꯕꯤꯅ ꯍꯧꯔꯤꯉꯩ ꯑꯃꯁꯨꯡ ꯈꯥꯎꯔꯕ ꯃꯇꯨꯡꯗ ꯅꯥꯒꯟꯕ
ꯂꯥꯏꯅꯥꯁꯤꯡꯒꯤ ꯃꯅꯨꯡꯗ ꯗꯥꯎꯅꯤ ꯃꯤꯜꯗꯤꯎ, ꯄꯔꯄꯜ ꯕ꯭ꯂꯣꯇꯆ,
ꯁ꯭ꯇꯦꯝꯐꯥꯏꯂꯤꯌꯝ ꯕ꯭ꯂꯥꯏꯠ, ꯑꯣꯅꯤꯌꯟ ꯁ꯭ꯃꯥꯔꯠ, ꯕ꯭ꯂꯦꯛ ꯃꯣꯜꯗ, ꯕꯦꯁꯦꯜ
ꯔꯣꯠ, ꯍ꯭ꯋꯥꯏꯠ ꯔꯣꯠ ꯁ꯭ꯇꯣꯛ ꯔꯣꯠ ꯑꯃꯁꯨꯡ KOW ꯔꯣꯠ ꯃꯃꯤꯡ ꯄꯟꯕ
ꯌꯥꯏ꯫

ꯗꯥꯎꯅꯤ ꯃꯤꯜꯇꯤꯎ: ꯂꯥꯏꯅꯥ ꯑꯁꯤꯅ ꯅꯥꯔꯕ ꯇꯤꯜꯍꯧ ꯄꯥꯝꯕꯤ ꯃꯊꯤꯛ
ꯅꯦꯝꯃꯤ, ꯃꯆꯨ ꯁꯪꯖꯔꯕꯁꯨ ꯇꯥꯏꯐꯦꯠ ꯇꯥꯏꯅ ꯂꯩꯒꯅꯤ꯫ ꯂꯥꯏꯅꯥ ꯑꯁꯤ
ꯄꯥꯝꯕꯤꯒꯤ ꯃꯐꯝ ꯁꯤꯟ ꯊꯨꯡꯅ ꯁꯟꯗꯣꯛꯏ꯫ ꯅꯨꯡꯁꯤꯠꯇ ꯏꯁꯤꯡ ꯃꯅꯤꯜ
ꯋꯥꯡꯕ, ꯂꯩꯆꯤꯜ ꯅꯣꯡꯐꯥꯏ ꯊꯥꯡꯕ ꯃꯇꯝꯗ ꯇꯜꯍꯧ ꯃꯅꯥ ꯄꯨꯝꯕ ꯃꯪꯒ꯭ꯔꯥ ꯃꯆꯨ
ꯆꯪꯂꯞ ꯇꯧꯕ ꯀꯣꯛꯐꯥꯏ ꯑꯃꯁꯨꯡ ꯀꯣꯛꯐꯥꯏ ꯃꯔꯨꯁꯤꯡ ꯅꯞ ꯅꯞꯇꯨꯅ ꯂꯩ꯫

ꯑꯗꯨꯕꯨ ꯅꯨꯡꯁꯥ ꯂꯥꯡꯕ ꯈꯔ ꯍꯦꯟꯅ ꯀꯪꯂꯞ ꯇꯧꯕ ꯃꯇꯝꯗꯗꯤ ꯃꯆꯨ ꯇꯥꯏꯐꯦꯠ
ꯇꯥꯏꯕ ꯉꯧꯔꯨꯅꯕ ꯃꯆꯨ ꯃꯄꯥꯛ ꯃꯄꯥꯛ ꯑꯣꯏꯅ ꯂꯩꯕ ꯊꯦꯡꯅꯒꯅꯤ꯫ ꯃꯅꯥꯒꯤ
ꯃꯁꯥ ꯈꯔ ꯍꯦꯟꯅ ꯁꯣꯛꯂꯕ ꯃꯐꯝꯗ ꯇꯦꯛꯇꯨꯅ ꯍꯥꯏꯊꯕ ꯑꯃꯁꯨꯡ ꯃꯇꯣꯟ
ꯊꯪꯕ ꯁꯔꯨꯛꯇꯨ ꯀꯪꯁꯤꯜꯂꯛꯄ ꯊꯦꯡꯅꯒꯅꯤ꯫

ꯉꯥꯛꯊꯣꯛꯅꯕ ꯄꯥꯝꯕꯩ: Mancozeb 75 WP ꯒ꯭ꯔꯥꯝ 25 ꯏꯁꯤꯡ
ꯂꯤꯇꯔ 10 ꯈꯨꯗꯤꯡꯗ ꯌꯥꯟꯕꯤꯔꯒ ꯀꯥꯞꯊꯣꯛꯄꯤꯌꯨ꯫ ꯀꯥꯞꯈ꯭ꯔꯕ ꯃꯇꯨꯡ
ꯅꯨꯃꯤꯠ 15 ꯅꯤ ꯂꯩꯔꯒ ꯑꯃꯨꯛ ꯀꯥꯞꯊꯣꯛꯄꯤꯌꯨ꯫ ꯅꯠꯇ꯭ꯔꯒ Zeneb 75

WP ꯑꯣꯏꯅ ꯆꯞ ꯃꯥꯟꯅꯕ ꯃꯑꯣꯡꯗ ꯁꯤꯖꯤꯟꯅꯕꯤꯕꯁꯨ ꯌꯥꯏ꯫

ꯄꯔꯄꯜ ꯕ꯭ꯂꯣꯠꯁ: ꯃꯅꯥ ꯑꯃꯁꯨꯡ ꯃꯄꯥꯟ ꯁꯥꯔꯤꯕ ꯃꯈꯣꯛꯇ
ꯏꯁꯤꯡ ꯑꯁꯥꯕ ꯆꯣꯡꯈꯤꯕ ꯃꯥꯟꯕ ꯗꯥꯒꯁꯤꯡ ꯂꯩꯔꯝꯕꯗꯒꯤ ꯀꯣꯅꯥ ꯃꯆꯨ
ꯆꯪꯂꯛꯏ꯫ ꯃꯇꯨꯡꯗ ꯃꯪꯒ꯭ꯔꯥ ꯃꯆꯨ ꯃꯥꯟꯅ ꯃꯄꯥꯛ ꯃꯄꯥꯛ ꯄꯣꯛꯊꯣꯛꯄ
ꯊꯦꯡꯅꯒꯅꯤ꯫ ꯃꯄꯥꯜ ꯁꯥꯔꯤꯕ ꯃꯈꯣꯛ ꯑꯗꯨ ꯂꯥꯏꯅꯥ ꯑꯁꯤꯅ ꯁꯣꯛꯍꯜꯂꯕ
ꯃꯐꯝꯗ ꯇꯦꯛꯊꯔꯛꯀꯅꯤ꯫

ꯉꯥꯛꯊꯣꯛꯅꯕ ꯄꯥꯝꯕꯩ: Mancozeb 75 WP ꯒ꯭ꯔꯥꯝ 25 ꯏꯁꯤꯡ
ꯂꯤꯇꯔ 10 ꯈꯨꯗꯤꯡꯗ ꯌꯥꯟꯕꯤꯔꯒ ꯀꯥꯞꯊꯣꯛꯄꯤꯌꯨ ꯀꯥꯞꯈ꯭ꯔꯕ ꯃꯇꯨꯡ
ꯅꯨꯃꯤꯠ 15 ꯅꯤ ꯂꯩꯔꯒ ꯑꯃꯨꯛ ꯀꯥꯞꯊꯣꯛꯄꯤꯌꯨ꯫

ꯁ꯭ꯇꯦꯝꯐꯥꯏꯜꯃꯌꯤꯝ ꯕ꯭ꯂꯥꯏꯠ: ꯃꯅꯥ ꯀꯥꯊꯦꯛꯄꯤ ꯂꯥꯏꯅꯥ ꯑꯁꯤ
ꯍꯧꯔꯛꯄꯗ ꯃꯅꯥꯒꯤ ꯁꯔꯨꯛꯁꯤꯡꯗ ꯁꯪꯂꯤ ꯁꯪꯂꯤ ꯇꯧꯅ ꯇꯤꯝꯕꯨꯜ ꯅꯥꯄꯨꯜ
ꯃꯆꯨ ꯆꯪꯕ ꯑꯁꯪꯕ (ꯃꯌꯨꯡꯂꯣꯝꯗ) ꯗꯥꯒꯁꯤꯡ ꯂꯩꯔꯝꯕꯗꯒꯤ ꯗꯥꯒꯁꯤꯡꯗꯨ
ꯀꯪꯁꯤꯜꯂꯛꯄ ꯊꯦꯡꯒꯅꯤ꯫

ZkdFOdeq wkAqp: Mancozeb 75 WP xDjkA 25
ꯅꯠꯇ꯭ꯔꯒ ꯀꯥꯞꯇꯥꯟ ꯒ꯭ꯔꯥꯝ 20 ꯏꯁꯤꯡ ꯂꯤꯇꯔ 10 ꯈꯨꯗꯤꯡꯗ ꯌꯥꯟꯕꯤꯔꯒ
ꯀꯥꯞꯊꯣꯛꯄꯤꯒꯅꯤ꯫ ꯅꯨꯃꯤꯠ 15 ꯀꯥꯟꯅꯔꯒ ꯑꯃꯨꯛ ꯍꯟꯅ ꯀꯥꯞꯂꯕꯗꯤ
ꯂꯥꯏꯅꯥ ꯑꯁꯤꯗꯤ ꯏꯔꯥꯏ ꯂꯥꯏꯅ ꯀꯟꯕ ꯉꯝꯒꯅꯤ꯫

ꯑꯣꯅꯤꯌꯟ ꯁ꯭ꯃꯠ: ꯅꯧꯅ ꯍꯨꯟꯕ, ꯄꯣꯛꯈꯥꯏꯔꯕ ꯃꯇꯨꯡ ꯅꯨꯃꯤꯠ
7/8 ꯃꯨꯛ ꯁꯨꯔꯕ ꯃꯅꯥ ꯊꯤꯟꯒꯠꯂꯛꯄ ꯄꯪꯀꯨꯏ ꯀꯨꯏꯗ꯭ꯔꯤꯕ ꯇꯤꯜꯍꯧ
ꯃꯔꯨꯁꯤꯡꯗ ꯂꯥꯏꯅꯥ ꯑꯁꯤ ꯇꯥꯒꯜꯂꯤ꯫ ꯃꯅꯥꯁꯤꯡꯗ ꯑꯃꯨꯕ ꯊꯥꯒꯠꯂꯞ
ꯇꯧꯕ ꯗꯥꯒꯁꯤꯡ ꯂꯩꯒꯅꯤ꯫ ꯃꯁꯤꯅ ꯃꯔꯝ ꯑꯣꯏꯗꯨꯅ ꯃꯅꯥꯁꯤꯡꯗꯨ ꯀꯣꯟꯊ
ꯀꯣꯟꯊꯅ ꯂꯩꯕ ꯊꯦꯡꯅꯒꯅꯤ꯫ ꯐꯨꯒ꯭ꯔꯤꯗꯧꯅ ꯇꯣꯡꯊꯣꯛꯄ ꯗꯥꯒ ꯀꯌꯥ
ꯇꯤꯜꯍꯧ ꯃꯔꯨꯒꯤ ꯃꯈꯥ ꯊꯪꯕ ꯁꯔꯨꯛꯇ ꯂꯩꯕ ꯊꯦꯡꯅꯒꯅꯤ꯫ ꯍꯥꯏꯔꯕꯤ
ꯗꯥꯒꯥꯤꯡ ꯑꯁꯤ ꯀꯥꯏꯔꯛꯄꯗ ꯑꯀꯨꯞꯄ ꯑꯃꯨꯕ ꯂꯥꯏꯅꯥ ꯑꯁꯤꯕꯨ
ꯃꯈꯥ ꯇꯥꯅ ꯁꯟꯗꯣꯛꯆꯕ ꯉꯝꯖꯕ ꯀꯣꯛꯥꯏ ꯃꯔꯨ ꯀꯌꯥ ꯊꯥꯗꯣꯔꯛꯄ
ꯊꯦꯡꯅꯒꯅꯤ꯫ ꯂꯥꯏꯅꯥ ꯑꯁꯤꯅ ꯅꯥꯔꯕ ꯇꯤꯜꯍꯧ ꯄꯥꯝꯕꯤꯁꯤꯡꯅ ꯆꯌꯣꯜ
3/4 ꯒꯤ ꯃꯅꯨꯡꯗ ꯁꯤꯒꯜꯂꯤ꯫

ꯉꯥꯛꯊꯣꯛꯅꯕ ꯄꯥꯝꯕꯩ: ꯂꯥꯏꯅꯥ ꯑꯁꯤꯒꯤꯗꯃꯛꯇꯗꯤ ꯃꯔꯨꯑꯣꯏꯅ
ꯂꯩꯔꯤꯉꯩꯗ ꯍꯤꯗꯥꯛ ꯇꯣꯠꯍꯧꯒꯗꯕꯅꯤ꯫ ꯃꯔꯨ ꯀꯤꯂꯣꯒ꯭ꯔꯥꯝ ꯑꯃꯗ ꯀꯥꯞꯇꯥꯟ
ꯅꯠꯇ꯭ꯔꯒ ꯊꯤꯔꯥꯝ ꯒ꯭ꯔꯥꯝ ꯑꯅꯤꯒꯤ ꯆꯥꯡꯗ ꯇꯣꯠꯄꯤꯔꯒ ꯍꯨꯟꯕꯤꯒꯅꯤ꯫

ꯅꯥꯔꯕ ꯄꯥꯝꯕꯤꯁꯤꯡꯗ Anumill ꯜ 72 ꯅꯠꯇ꯭ꯔꯒ Master ꯒ꯭ꯔꯥꯝ
ꯑꯃ ꯏꯁꯤꯡ ꯂꯤꯇꯔ ꯈꯨꯗꯤꯡꯗ ꯌꯥꯟꯕꯤꯔꯒ ꯀꯥꯞꯊꯣꯛꯄꯤꯕ ꯌꯥꯏ꯫

ꯕ꯭ꯂꯦꯛ ꯃꯣꯜꯗ: ꯈꯥꯎꯔꯕ ꯇꯤꯜꯍꯧ ꯃꯔꯨꯁꯤꯡꯗ ꯑꯃꯨꯕ ꯀꯣꯛꯐꯥꯏ
ꯍꯥꯏꯒꯠꯇꯨꯅ ꯇꯤꯜꯍꯧ ꯃꯔꯨꯁꯤꯡꯕꯨ ꯃꯁꯛ ꯊꯤꯍꯜꯂꯤ꯫ ꯇꯛꯊꯣꯛ
ꯅꯥꯟꯊꯣꯛꯄꯗ ꯃꯁꯥ ꯅꯥꯟꯅ ꯂꯩ, ꯇꯤꯜꯍꯧ ꯃꯔꯨꯗꯨꯗ ꯀꯔꯤꯁꯨ ꯑꯀꯥꯏꯕ ꯄꯤꯗꯕ
ꯃꯥꯜꯂꯤ꯫ ꯑꯗꯨꯕꯨ ꯑꯁꯨꯝꯅ ꯑꯃꯨꯛ ꯀꯣꯛꯐꯥꯏ ꯍꯥꯏꯒꯠꯇꯨꯅ ꯂꯩꯔꯕ ꯇꯤꯜꯍꯧ
ꯃꯨꯀꯁꯤꯡ ꯃꯊꯪ ꯃꯊꯪ ꯄꯠꯁꯤꯜꯂꯛꯇꯨꯅ ꯃꯅꯨꯡ ꯌꯧꯔꯛꯏ꯫ ꯍꯥꯏꯔꯤꯕ
ꯊꯕꯛ ꯑꯁꯤ ꯏꯁꯤꯡ ꯃꯅꯤꯜ ꯋꯥꯡꯕ ꯑꯃꯁꯨꯡ ꯈꯔ ꯁꯥꯒꯠꯄ ꯃꯐꯝꯗ
ꯇꯧꯒꯜꯂꯤ꯫

ꯉꯥꯛꯊꯣꯛꯅꯕ ꯄꯥꯝꯕꯩ: ꯅꯨꯡꯁꯤꯠ ꯅꯨꯡꯁꯥ ꯃꯔꯥꯡ ꯀꯥꯏꯅ ꯐꯪꯕ, ꯑꯀꯪꯕ
ꯑꯏꯪꯕ ꯃꯐꯝꯗ ꯇꯤꯜꯍꯧ ꯃꯔꯨꯁꯤꯡ ꯊꯥꯕꯤꯒꯅꯤ꯫ ꯂꯤꯔꯝꯗꯥꯏꯗ ꯆꯥꯗ 0.2 ꯒꯤ
ꯃꯄꯥꯡꯒꯜ ꯂꯩꯕ Difolatan ꯀꯣꯞꯊꯣꯛꯄꯤꯒꯅꯤ꯫

ꯕꯦꯁꯦꯜ ꯔꯣꯠ: ꯀꯣꯛꯐꯥꯏ ꯃꯈꯜ ꯑꯁꯤ ꯇꯤꯜꯍꯧꯅ ꯍꯧꯔꯤꯉꯩꯗ
ꯑꯃꯁꯨꯡ ꯂꯤꯗꯨ ꯊꯝꯂꯤꯉꯩ ꯃꯇꯝ ꯑꯅꯤꯃꯛꯇ ꯇꯥꯁꯤꯟꯕ ꯉꯝꯃꯤ꯫

ꯂꯥꯏꯅꯥ ꯑꯁꯤꯅ ꯅꯥꯔꯕ ꯇꯤꯜꯍꯧ ꯄꯥꯝꯕꯤꯒꯤ ꯃꯅꯥꯗ ꯅꯥꯄꯨ ꯆꯪꯂꯛꯏ,
ꯈꯨꯏꯊꯔꯛꯏ ꯑꯃꯁꯨꯡ ꯁꯤ꯫ ꯇꯤꯜꯍꯧ ꯄꯥꯝꯕꯤꯅ ꯃꯄꯨꯡ ꯐꯥꯔꯛꯄꯒ
ꯂꯣꯏꯅꯅ ꯃꯔꯥꯁꯤꯡꯒꯤ ꯃꯆꯨ ꯉꯥꯡꯂꯩꯅꯔꯛꯏ꯫ ꯃꯃꯩꯊꯪꯗ ꯃꯔꯥꯁꯤꯡꯗꯨ
ꯄꯠꯂꯛꯏ꯫ ꯇꯤꯜꯍꯧ ꯃꯔꯨꯗꯨ ꯊꯣꯛꯇꯣꯔꯛꯏ, ꯃꯔꯨꯒꯤ ꯃꯈꯥ ꯊꯪꯕ
ꯁꯔꯨꯛꯇ ꯃꯍꯤ ꯊꯣꯛꯅ ꯄꯠꯂꯛꯏ꯫

ꯉꯥꯛꯊꯣꯛꯅꯕ ꯄꯥꯝꯕꯩ: (1) ꯃꯔꯨ ꯍꯨꯟꯗ꯭ꯔꯤꯉꯩꯗ ꯃꯔꯨꯗ ꯍꯤꯗꯥꯛ
ꯇꯣꯠꯍꯧꯒꯅꯤ, ꯃꯁꯤꯒꯤꯗꯃꯛ ꯀꯥꯞꯇꯥꯟ ꯅꯠꯇ꯭ꯔꯒ ꯊꯤꯔꯥꯝ ꯒ꯭ꯔꯥꯝ ꯑꯅꯤ
ꯃꯔꯨ ꯀꯤꯂꯣꯒ꯭ꯔꯥꯝ ꯈꯨꯗꯤꯡꯗ ꯇꯣꯠꯄꯤꯍꯧꯒꯅꯤ꯫ (2) Carbendazim

50% WP ꯒ꯭ꯔꯥꯝ ꯑꯅꯤ ꯏꯁꯤꯡ ꯂꯤꯇꯔ ꯈꯨꯗꯤꯡꯗ ꯇꯨꯝꯍꯟꯕꯤꯔꯒ
ꯀꯥꯞꯊꯣꯛꯄꯤꯒꯅꯤ꯫ ꯈꯥꯎꯒꯗꯕ ꯆꯌꯣꯜ ꯑꯃ ꯋꯥꯠꯂꯤꯉꯩꯗ ꯑꯃꯨꯛ ꯍꯟꯅ
ꯀꯥꯞꯊꯣꯛꯄꯤꯔꯕꯗꯤ ꯂꯤꯗꯨ ꯊꯝꯕ ꯃꯇꯝꯗ ꯂꯥꯏꯅꯥ ꯑꯁꯤ ꯇꯥꯕꯒꯤ ꯆꯥꯡ
ꯍꯟꯊꯒꯅꯤ꯫

ꯍ꯭ꯋꯥꯏꯠ ꯔꯣꯠ: ꯀꯣꯛꯐꯥꯏꯅ ꯊꯣꯛꯍꯟꯕ ꯂꯥꯏꯅꯥ ꯑꯁꯤꯁꯨ ꯂꯩꯕꯥꯛꯇꯒꯤ
ꯁꯟꯗꯣꯔꯛꯄꯅꯤ꯫ ꯂꯥꯏꯅꯥ ꯑꯁꯤꯅ ꯇꯤꯜꯍꯧ ꯃꯔꯨꯒꯤ ꯁꯔꯨꯛꯁꯤꯡ ꯃꯔꯥ,
ꯃꯎ ꯑꯃꯁꯨꯡ ꯂꯤꯐ ꯁꯤꯊꯅꯆꯤꯡꯕ ꯀꯌꯥꯕꯨ ꯄꯠꯍꯜꯂꯤ꯫ ꯂꯥꯏꯅꯥ ꯆꯦꯜꯂꯕ
ꯃꯅꯥꯁꯤꯡ ꯅꯅꯥꯄꯨ ꯆꯪꯂꯛꯏ, ꯏꯍꯥꯟ ꯍꯥꯝꯅ ꯂꯩ ꯃꯇꯨꯡꯗ ꯄꯥꯝꯕꯤ ꯄꯨꯝꯕ ꯁꯤ꯫

ꯁ꯭ꯇꯣꯛ ꯔꯣꯠ: ꯀꯣꯛꯐꯥꯏꯅ ꯊꯣꯛꯍꯟꯕ ꯇꯤꯜꯍꯧꯒꯤ ꯃꯈꯣꯛ ꯄꯨꯝꯕꯤ
ꯂꯥꯏꯅꯥ ꯑꯁꯤꯅ ꯇꯤꯜꯍꯧꯒꯤ ꯃꯄꯥꯜ ꯌꯥꯎꯕ ꯃꯈꯣꯛꯀꯤ ꯃꯈꯥ TFI ꯊꯪꯕ
ꯁꯔꯨꯛꯁꯤꯡꯗ ꯄꯠꯁꯤꯜꯂꯛꯏ꯫ ꯃꯁꯤꯅ ꯃꯔꯝ ꯑꯣꯏꯗꯨꯅ ꯃꯄꯥꯜꯁꯤꯡꯅ
ꯃꯔꯨ ꯆꯪꯗ꯭ꯔꯤꯉꯩꯗ ꯄꯠꯂꯛꯏ, ꯃꯔꯨ ꯆꯪꯕ ꯉꯝꯍꯟꯗꯦ꯫ ꯕꯦꯛꯇꯣꯔꯤꯌꯥ
ꯑꯁꯤꯅ ꯇꯤꯜꯍꯧ ꯃꯔꯨꯒꯤ ꯃꯄꯥꯟꯊꯪꯕ ꯁꯔꯨꯛꯁꯤꯡꯗ ꯂꯩꯔꯝꯕꯗꯒꯤ ꯃꯔꯨꯒꯤ
ꯑꯁꯍꯛꯄ ꯃꯐꯝꯁꯤꯡꯗ ꯆꯪꯈꯤꯗꯨꯅ ꯃꯈꯥ ꯇꯥꯅ ꯄꯠꯍꯜꯂꯤ꯫ ꯅꯝꯊꯤꯕ
ꯃꯅꯝ ꯊꯥꯗꯣꯔꯛꯏ꯫

ꯉꯥꯛꯊꯣꯛꯅꯕ ꯄꯥꯝꯕꯩ: ꯍꯨꯟꯒꯗꯕ ꯃꯔꯨ ꯑꯃꯁꯨꯡ ꯂꯤꯡꯒꯗꯕ
ꯃꯔꯨꯁꯤꯡ Streptocyclene ꯒ꯭ꯔꯥꯝ ꯑꯃ ꯏꯁꯤꯡ ꯂꯤꯇꯔ 10ꯒꯤ
ꯆꯥꯡꯗ ꯌꯥꯟꯕꯤꯔꯒ ꯄꯨꯡ ꯑꯅꯤ ꯇꯤꯡꯕꯤꯒꯅꯤ꯫ Streptocyclene

ꯒ Captan ꯅꯠꯇ꯭ꯔꯒ Carbendazim ꯅꯠꯇ꯭ꯔꯒ ꯊꯤꯔꯥꯝꯒ
ꯄꯨꯟꯕꯤꯔꯒ ꯁꯤꯖꯤꯟꯅꯕꯤꯕ ꯌꯥꯏ꯫

KOWG ꯔꯣꯜ: ꯇꯤꯜꯍꯧ ꯄꯥꯝꯕꯤ ꯄꯠꯄꯤ, ꯔꯦꯛꯇꯣꯔꯤꯌꯥꯒꯤ ꯂꯥꯏꯅꯥ
ꯑꯁꯤ ꯇꯤꯜꯍꯧꯒꯤ ꯃꯉꯛꯇꯒꯤ ꯍꯧꯔꯛꯏ꯫ ꯃꯊꯪ ꯃꯊꯡ ꯐꯥꯎꯖꯤꯟꯈꯤꯗꯨꯅ
ꯇꯤꯜꯍꯧ ꯃꯔꯨꯒꯤ ꯃꯅꯨꯡ ꯌꯧꯁꯤꯟꯈꯤ ꯃꯇꯨꯡꯗ ꯆꯣꯠ ꯆꯣꯠ ꯂꯥꯎꯅ
ꯄꯠꯂꯛꯏ꯫ ꯃꯉꯛꯇ ꯊꯦꯛꯇꯨꯅ ꯌꯦꯡꯕꯗ ꯅꯝꯊꯤꯕ ꯃꯅꯝ ꯌꯥꯎꯕ
ꯀꯣꯡꯒꯣꯜ ꯑꯃꯁꯨꯡ ꯃꯍꯤ ꯊꯣꯔꯛꯀꯅꯤ꯫

ꯉꯥꯛꯊꯣꯛꯅꯕ ꯄꯥꯝꯕꯩ: (1) ꯇꯤꯜꯍꯧ ꯇꯥꯟꯊꯣꯛꯄꯗ ꯈꯨꯠꯁꯨ ꯈꯨꯠꯂꯥꯏꯅ
ꯇꯤꯜꯍꯧꯁꯤꯡꯕꯨ ꯁꯣꯛꯄ ꯈꯣꯠꯄ ꯇꯧꯍꯜꯂꯣꯏꯗꯕꯅꯤ꯫ (2) ꯂꯥꯏꯅꯥ
ꯆꯦꯟꯗ꯭ꯔꯕ ꯃꯉꯛ ꯆꯦꯠꯂꯕ, ꯃꯄꯥꯟꯒꯤ ꯀꯨꯌꯣꯝ ꯀꯪꯂꯕ ꯃꯅꯥ ꯃꯄꯨꯡ ꯐꯥꯅ
ꯀꯪꯂꯕ ꯇꯤꯜꯍꯧꯇꯃꯛ ꯂꯤꯕꯤꯒꯅꯤ꯫ (3) ꯇꯤꯜꯍꯧꯁꯤꯡ ꯂꯤꯅꯅꯕꯒꯤꯗꯃꯛ
ꯈꯥꯎꯒꯗꯕ ꯆꯌꯣꯜ ꯑꯃ ꯋꯥꯠꯂꯤꯉꯩꯗ Carbendazim 50% WP ꯒ

Plantomycin ꯒ ꯒ꯭ꯔꯥꯝ 5/5 ꯂꯧꯕꯤꯔꯒ ꯏꯁꯤꯡ ꯂꯤꯇꯔ 10 ꯒ \

ꯥꯟꯕꯤꯗꯨꯅ ꯀꯥꯞꯊꯣꯛꯄꯤꯍꯧꯕ ꯐꯩ꯫

ꯄꯟꯖꯈ꯭ꯔꯤꯕ ꯂꯥꯏꯅꯥꯁꯤꯡ ꯑꯁꯤꯒꯤ ꯃꯅꯨꯡꯗꯒꯤ ꯈꯔꯗꯤ ꯇꯤꯜꯍꯧ
ꯊꯥꯕꯤꯔꯤꯕ ꯃꯤꯑꯣꯏꯁꯤꯡꯅ ꯁꯣꯏꯗꯅ ꯊꯦꯡꯅꯕꯤꯔꯕ ꯉꯥꯛꯇꯅꯤ꯫

ꯍꯤꯗꯥꯛ ꯑꯃ ꯍꯦꯛꯇ ꯂꯩꯁꯤꯜꯂꯒ ꯄꯪꯀꯥꯞ ꯀꯥꯞꯄ ꯇꯧꯕꯤꯗꯅ ꯀꯔꯤ
ꯂꯥꯏꯅꯥꯅꯣ? ꯀꯔꯤꯅ ꯊꯣꯛꯍꯟꯕꯅꯣ? ꯍꯥꯏꯕꯅꯆꯤꯡꯕ ꯈꯪꯗꯣꯛꯄꯤꯔꯒ
ꯆꯞ ꯆꯥꯕ ꯍꯤꯗꯥꯛ ꯁꯤꯖꯤꯟꯅꯁꯤ꯫ ꯄꯥꯝꯕꯤꯗ ꯀꯨꯏꯅ ꯇꯨꯡꯗꯨꯅ ꯂꯩꯒꯗꯕ;

ꯃꯤꯑꯣꯏꯕꯒꯤ ꯍꯛꯆꯥꯡ ꯌꯧꯔꯛꯀꯗꯕ ꯍꯤꯗꯥꯛ ꯁꯤꯖꯤꯟꯅꯔꯣꯏꯁꯤ ꯍꯥꯏꯕ
ꯋꯥꯐꯝꯁꯤ ꯊꯝꯖꯔꯤ꯫

ꯗꯥ: ꯑꯦꯝ FOTFOT ꯁꯤꯡꯍ

...ꯑꯦꯗꯤꯇꯔꯗ ꯊꯥꯔꯛꯄ ꯆꯤꯊꯤ...

ꯏꯀꯥꯏꯈꯨꯝꯅꯖꯔꯤꯕ ꯑꯦꯗꯤꯇꯔ,
ꯏꯟꯗꯤꯌꯥꯒꯤ ꯂꯥꯏ ꯃꯌꯥꯝꯒꯤ ꯃꯃꯥꯡꯗ
ꯍꯟꯗꯛ ꯃꯅꯤꯄꯨꯔꯒꯤ ꯎꯃꯪꯂꯥꯏꯁꯤꯡ ꯏꯀꯥꯏꯕ
ꯆꯣꯞꯄ ꯅꯪꯍꯟꯈꯤꯕꯁꯤ ꯑꯩꯈꯣꯏ ꯄꯨꯝꯕ
ꯑꯁꯨꯝ ꯇꯨꯃꯤꯟꯅ ꯂꯩꯁꯤꯜꯂꯒꯗ꯭ꯔ? ꯀꯔꯤ
ꯂꯥꯏꯅꯣ, ꯀꯔꯤ ꯂꯥꯏꯆꯠꯅꯣ ꯍꯥꯏꯕꯁꯨ ꯑꯃꯠꯇ
ꯈꯪꯍꯟꯗꯅ, ꯂꯥꯏꯒꯤ ꯄꯣꯃꯤꯠ ꯄꯣꯂꯥꯡꯁꯨ ꯑꯃꯗꯤ
ꯂꯥꯏ ꯀꯣꯃꯥꯏꯅꯆꯤꯡꯕꯁꯨ ꯑꯃꯠꯇ ꯌꯥꯎꯗꯅ
ꯀꯅꯥꯗ ꯈꯜꯂꯤꯕ ꯊꯛꯈꯟꯅꯣ ꯈꯪꯗꯅ ꯎꯃꯪꯂꯥꯏꯒꯤ
ꯀꯥꯡꯂꯣꯟꯕꯨ ꯇꯔꯥꯏ ꯇꯔꯥꯏꯅ ꯗꯤꯜꯂꯤꯒꯤ
ꯂꯝꯖꯥꯎ ꯁꯔꯛꯇ ꯄꯪꯄꯨꯗ ꯄꯨꯕ ꯌꯥꯕ꯭ꯔ?

ꯃꯁꯤꯕꯨ ꯍꯧꯅꯕ꯭ꯔ? ꯏꯅꯥꯛꯈꯨꯜꯂꯕ ꯃꯅꯤꯄꯨꯔꯒꯤ
ꯀꯜꯆꯔꯕꯨ ꯃꯁꯛ ꯇꯥꯛꯅꯤꯡꯂꯤꯕ꯭ꯔ ꯅꯠꯇ꯭ꯔꯒ
ꯑꯩꯈꯣꯏꯒꯤ ꯅꯥꯠ ꯆꯠꯅꯕꯤꯕꯨ ꯃꯤꯌꯥꯝ ꯃꯃꯥꯡꯗ
ꯈꯣꯡꯒꯣꯏꯅꯔꯤꯕ꯭ꯔ? ꯀꯜꯆꯔꯁꯨ ꯈꯪꯗꯕ ꯑꯍꯩ
ꯑꯄꯥ ꯁꯥꯕꯁꯤꯡꯅ ꯂꯩꯕꯥꯛ ꯑꯁꯤ ꯄꯥꯜꯂꯕ꯭ꯔ?

ꯃꯄꯥꯅꯥꯠ, ꯃꯄꯨꯅꯥꯠꯄꯨ ꯇꯁꯦꯡꯅ ꯃꯁꯛ
ꯇꯥꯛꯅꯤꯡꯗꯕ ꯐꯨꯔꯨꯞ ꯑꯃꯠꯇ ꯃꯥꯂꯦꯝꯗ
ꯂꯩꯔꯝꯃꯔꯣꯏ ꯍꯥꯏꯅ ꯈꯜꯂꯨꯕꯅꯤ ꯑꯗꯨꯕꯨ...꯫

ꯑꯁꯤꯒꯨꯝꯕ ꯌꯥꯝꯅ ꯇꯧꯍꯩꯗꯕ ꯑꯃꯗꯤ ꯅꯥꯃꯨꯡꯕ
ꯊꯕꯛꯁꯤꯡ ꯑꯁꯤꯕꯨ ꯁꯤꯜꯂꯤ ꯂꯥꯡꯂꯤꯕꯁꯤꯡ
ꯑꯁꯤ ꯂꯩꯕꯥꯛ ꯃꯤꯌꯥꯝꯅ ꯇꯔꯥꯏ ꯇꯔꯥꯏꯅ
ꯍꯦꯛꯇ ꯊꯥꯗꯣꯛꯂꯗ꯭ꯔ? ꯂꯥꯏꯒꯤ ꯆꯠꯅꯕꯤ
ꯀꯥꯡꯂꯣꯟꯁꯤꯡ ꯑꯁꯤꯕꯨ ꯊꯨꯒꯥꯏꯗꯨꯅ ꯃꯥꯅ ꯃꯥꯅ
ꯅꯤꯡꯕ ꯄꯪꯇꯧꯗ ꯇꯧꯁꯤꯟꯅꯕ ꯑꯁꯤꯕꯨꯔꯕ
ꯆꯥꯎꯈꯠꯄ ꯍꯥꯏꯔꯤꯕꯁꯦ? ꯅꯥꯠꯄꯨꯁꯨ ꯇꯥꯗꯕ
ꯃꯊꯣꯡ ꯍꯨꯛꯇꯕ ꯁꯥꯒꯩꯒꯤ ꯃꯩꯇꯥꯟ ꯑꯁꯤꯕ
ꯑꯣꯏꯔꯕ ꯃꯤꯑꯣꯏꯁꯤꯡ ꯑꯁꯤꯕꯨ ꯈꯨꯟꯅꯥꯏꯁꯤꯅ
ꯀꯔꯝꯕ ꯃꯤꯠꯌꯦꯡꯗ ꯌꯦꯡꯐꯝ ꯊꯣꯛꯄꯒꯦ?

ꯂꯥꯏ ꯍꯔꯥꯎꯕ ꯍꯥꯏꯕꯁꯤꯕꯨ ꯂꯥꯏꯒꯤ ꯃꯈꯩꯗꯨ ꯁꯛ
ꯁꯣꯟꯕꯗꯨꯔ ꯅꯠꯇ꯭ꯔꯒ ꯑꯩꯈꯣꯏ ꯑꯩꯈꯣꯏꯅ ꯍꯩꯖꯕ
ꯑꯃꯗꯤ ꯄꯥꯝꯖꯕꯁꯤꯡ ꯑꯗꯨ ꯑꯣꯏꯅ ꯎꯠꯄꯗꯨꯔ?

ꯐꯨꯔꯨꯞꯀꯤ ꯁꯛꯇꯝꯗ ꯁꯤꯡꯅꯔꯤꯕ ꯑꯃꯗꯤ
ꯆꯠꯅꯕꯤꯕꯨ ꯂꯩꯈꯥ ꯇꯥꯅꯅꯕ ꯊꯧꯑꯣꯏꯅ ꯁꯤꯜꯂꯤꯕ
ꯃꯤꯑꯣꯏꯁꯤꯡꯁꯤꯡ ꯃꯅꯤꯄꯨꯔ ꯂꯩꯉꯥꯛꯅ
ꯃꯇꯝ ꯆꯥꯅ ꯋꯥꯔꯛꯄꯤꯍꯧꯗ꯭ꯔꯕꯗꯤ ꯃꯥꯂꯦꯝꯒꯤ
ꯃꯤꯌꯥꯝꯅ ꯑꯩꯈꯣꯏꯁꯤ ꯃꯊꯣꯡ ꯃꯔꯝ ꯈꯪꯗꯕ
ꯏꯌꯥꯗ ꯌꯥꯕ ꯀꯥꯡꯕꯨ ꯑꯣꯏꯅ ꯎꯈꯤꯔꯣꯏꯗ꯭ꯔ?

ꯑꯗꯨꯕꯨ ꯅꯥꯠ ꯆꯠꯅꯕꯤꯕꯨ ꯂꯥꯏꯒꯨꯝꯅ ꯂꯨꯝꯅ
ꯂꯧꯖꯔꯤꯕ ꯃꯤꯑꯣꯏꯁꯤꯡꯗꯗꯤ ꯑꯁꯣꯛꯄꯗ
ꯊꯨꯝ ꯑꯃꯨꯛ ꯊꯥꯛꯆꯤꯜꯂꯛꯄꯅꯤ ꯍꯥꯏꯅ ꯂꯧꯏ꯫

ꯃꯩꯔꯤꯛꯄꯤꯗꯒꯤ ꯃꯩꯖꯥꯎ ꯑꯣꯟꯗ꯭ꯔꯤꯉꯩꯗ ꯃꯇꯝ
ꯆꯥꯅ ꯐꯖꯅ ꯂꯥꯌꯦꯡꯕꯤꯍꯧꯅꯕ ꯑꯔꯣꯏꯕ ꯑꯣꯏꯅ
ꯃꯔꯤ ꯂꯩꯅꯕꯁꯤꯡꯗ ꯅꯣꯜꯂꯨꯛꯆꯔꯤ꯫ ꯏꯌ
ꯥꯗ ꯌꯥꯕ ꯃꯤꯇꯩ ꯐꯨꯔꯨꯞ ꯅꯠꯇꯦ꯫ ꯌꯨꯝꯕꯥꯜꯂꯣꯟ,
ꯄꯨꯟꯁꯤꯔꯣꯜ ꯑꯃꯗꯤ ꯈꯨꯟꯅꯥꯏꯂꯣꯟꯁꯤ
ꯇꯨꯔꯦꯜꯒꯤ ꯂꯩꯉꯣꯏꯗꯒꯤꯁꯨ ꯍꯦꯟꯟ ꯀꯨꯞꯄꯤ
ꯍꯥꯏꯅ ꯈꯟꯖꯔꯤꯕ ꯃꯤꯇꯩꯅꯤ꯫

ꯑꯃꯔꯣꯝꯗ ꯂꯝꯗꯝꯁꯤꯗ
ꯉꯜꯂꯤꯉꯩꯗꯒꯤ ꯍꯧꯅ ꯄꯨꯟꯅ ꯍꯧꯃꯤꯟ
ꯀꯥꯃꯤꯟꯅꯔꯛꯄ ꯑꯃꯗꯤ ꯈꯨꯟꯗꯥ
ꯂꯩꯇꯥꯃꯤꯟꯔꯛꯂꯕ ꯆꯤꯡꯃꯤ ꯇꯝꯃꯤꯒꯤ
ꯃꯔꯛꯇ ꯂꯩꯔꯤꯕ ꯑꯆꯦꯠꯄ ꯏꯒꯤ ꯃꯔꯤꯗ
ꯆꯠꯁꯤꯜꯍꯟꯅꯕ ꯊꯕꯛꯁꯨ ꯑꯃꯠꯇ
ꯂꯧꯈꯠꯇꯕꯤꯗ ꯂꯩꯂꯉꯥꯛ ꯃꯄꯨ ꯑꯁꯤꯅ
ꯏꯟꯗꯤꯌꯥꯒꯤ ꯔꯤꯄꯕ꯭ꯂꯤꯛ ꯗꯦ ꯑꯃꯗꯤ
ꯏꯟꯗꯤꯄꯦꯟꯗꯦꯟꯁ ꯗꯦꯅꯆꯤꯡꯕ ꯑꯆꯧ
ꯑꯆꯧꯕ ꯐꯪꯛꯁꯟꯁꯤꯡꯗ ꯃꯤꯇꯩꯁꯤꯡꯒꯤ
ꯑꯣꯏꯕ ꯄ꯭ꯔꯣꯒ꯭ꯔꯥꯝꯈꯛꯇ ꯎꯠꯅꯅꯕ
ꯍꯣꯠꯅꯔꯤꯕꯁꯤꯁꯨ ꯃꯤꯌꯥꯝꯅ ꯀꯨꯞꯅ ꯅꯩꯅꯐꯝ
ꯊꯣꯛꯏ꯫ ꯃꯤꯔꯝꯒꯤ ꯑꯆꯧ ꯑꯁꯥꯡꯁꯤꯡ
ꯂꯥꯛꯄꯗ ꯆꯤꯡꯃꯤꯁꯤꯡꯒꯤ ꯑꯣꯏꯕ ꯅꯥꯠꯀꯤ
ꯄꯣꯠ ꯆꯩ ꯑꯃꯠꯇꯕꯨ ꯅꯣꯡꯃꯇ ꯈꯨꯗꯣꯜꯄꯣꯠ
ꯑꯣꯏꯅ ꯄꯤꯅꯕ ꯁꯤꯟꯈꯤꯗ꯭ꯔꯕ ꯂꯩꯉꯥꯛ
ꯃꯄꯨꯁꯤꯡ ꯑꯁꯤꯅ ꯀꯥꯡꯂꯨꯞ ꯃꯁꯦꯜ
ꯈꯠꯅꯍꯟꯅꯕ ꯏꯀꯅꯃꯤꯛ ꯕ꯭ꯂꯣꯀꯦꯗꯒꯨꯝꯕ
ꯈꯨꯗꯣꯜ ꯈꯔ ꯇꯝꯕ ꯅꯠꯇꯅ ꯀꯔꯤ ꯀꯔꯤ
ꯆꯥꯎꯈꯠ ꯊꯧꯔꯥꯡꯕꯨ ꯄꯥꯏꯈꯠꯂꯤꯕꯒꯦ?

ꯃꯤꯈꯜꯒꯤ ꯃꯇꯝ ꯅꯛꯁꯤꯜꯂꯛꯄꯁꯤꯗ
ꯃꯇꯨꯡꯗ ꯇꯧꯕ ꯇꯧꯗꯕ ꯏꯅꯥꯠꯀꯤꯗꯃꯛ ꯆꯥꯎꯈꯠ
ꯊꯧꯔꯥꯡ ꯀꯌꯥ ꯂꯧꯈꯠꯀꯅꯤ, ꯐꯨꯔꯨꯞ ꯀꯥꯡꯂꯨꯞꯁꯤꯡ
ꯄꯨꯟꯅ ꯅꯨꯡꯁꯤ ꯆꯥꯟꯅ, ꯇꯪꯗꯨ ꯂꯩꯇꯥꯅ ꯂꯩꯃꯤꯟꯅꯕ
ꯑꯃꯗꯤ ꯊꯣꯡ ꯃꯥꯟꯅ ꯆꯥꯎꯈꯠꯃꯤꯟꯅꯕ
ꯍꯣꯠꯅꯕꯗꯁꯨ ꯄꯨꯛꯅꯤꯡ ꯆꯪꯒꯅꯤ ꯍꯥꯏꯅꯒ
ꯂꯥꯎꯊꯣꯛꯄ ꯃꯤꯔꯦꯞ ꯑꯃꯗꯤ ꯄꯣꯂꯤꯇꯤꯀꯦꯜ
ꯄꯥꯔꯇꯤ ꯑꯃꯇꯪꯒ ꯊꯣꯔꯛꯂꯕꯗꯤ ꯊꯃꯣꯏꯁꯤ
ꯑꯃꯨꯛꯇꯪ ꯄꯦꯟꯒꯦ ꯍꯥꯏꯕꯕꯨ...꯫ ꯏꯅꯥꯠ
ꯂꯥꯏꯅꯤꯡꯒꯤ ꯂꯨꯔ ꯂꯨꯔꯕ ꯃꯆꯥꯛꯁꯤꯡꯕꯨ ꯑꯉꯝ
ꯑꯊꯧꯁꯤꯡ ꯑꯁꯤꯅ ꯃꯈꯣꯏꯒꯤ ꯃꯤꯠꯀꯤ ꯀꯨꯝꯃꯩ
ꯑꯣꯏꯅ ꯈꯟꯗꯨꯅ ꯃꯅꯤꯡ ꯃꯈꯥ ꯇꯧꯅ ꯃꯐꯝ
ꯃꯇꯝ ꯑꯃꯗꯤ ꯆꯠꯅ ꯀꯥꯡꯂꯣꯟ ꯑꯃꯠꯇ \

ꯦꯡꯗꯅ ꯄꯪꯇꯧꯗ ꯇꯧꯁꯤꯜꯂꯤꯕꯁꯤ ꯀꯅꯥꯅ ꯑꯌ
ꯥꯕ ꯄꯤꯕꯅꯅꯣ? ꯂꯩꯕꯥꯛ ꯃꯤꯌꯥꯝ ꯑꯃꯗꯤ ꯑꯩꯈꯣꯏꯒꯤ
ꯆꯠꯅꯕꯤꯁꯤꯡ ꯑꯁꯤꯒꯤ ꯃꯊꯛꯇ ꯃꯈꯣꯏꯅ ꯂꯩꯕ꯭ꯔ?

ꯏꯥ ꯃꯥꯏꯕꯤꯁꯤꯡ ꯃꯈꯣꯏꯒꯤ ꯖꯒꯣꯏ ꯁꯥꯕꯤꯔ?

ꯑꯗꯣꯝꯒꯤ- ꯊꯧꯅꯥꯎꯉꯥꯟꯕ, ꯎꯠꯂꯧ
ꯍꯟꯗꯛꯀꯤ ꯔꯤꯄꯕ꯭ꯂꯤꯛ ꯗꯦꯒꯤ ꯇꯦꯕ꯭ꯂꯣꯗꯨ
ꯀꯅꯥꯅ ꯁꯥꯕꯅꯣ?

ꯌꯦꯜꯍꯧꯃꯤ ꯀꯟꯅꯕ ꯏꯍꯧ
ꯃꯤꯈꯜ ꯃꯌꯥꯗ ꯃꯤꯇꯣꯞ ꯃꯤꯌꯥꯟꯆꯥꯒꯤ ꯏꯁꯨ ꯃꯥꯡꯈ꯭ꯔꯦ ꯍꯧꯈꯤꯕ ꯆꯍꯤ ꯑꯁꯤ ꯌꯦꯜꯍꯧꯃꯤ ꯀꯟꯅꯕ ꯆꯪꯁꯤꯟꯈꯤꯕ ꯇꯣꯉꯥꯟ ꯇꯣꯉꯥꯟꯕ ꯈꯣꯡꯖꯪꯁꯤꯡꯅ ꯃꯅꯤꯄꯨꯔꯗ ꯂꯩꯇꯥꯍꯟꯗꯕ ꯊꯧꯗꯣꯛ ꯀꯌꯥꯃꯔꯨꯝ ꯊꯣꯛꯈꯤ꯫ ꯃꯍꯩꯔꯣꯏ ꯌꯥꯎꯅ ꯇꯣꯉꯥꯟ
ꯇꯣꯉꯥꯟꯕ ꯂꯨꯞꯁꯤꯡꯅ ꯂꯩꯀꯥꯏ ꯂꯩꯀꯥꯏꯗ ꯌꯦꯜꯍꯧꯃꯤ ꯀꯟꯅꯕ ꯕꯤꯜ ꯄꯨꯊꯣꯛꯎ ꯑꯃꯁꯨꯡ ꯄꯥꯁ
ꯇꯧꯗꯨꯅ ꯆꯠꯅꯍꯜꯂꯨ ꯍꯥꯏꯕ ꯗꯤꯃꯥꯟꯗ ꯋꯥꯀꯠ ꯃꯤꯐꯝ ꯐꯝꯅꯈꯤ꯫ ꯃꯐꯝ ꯀꯌꯥꯗ ꯂꯝꯕꯤ ꯊꯤꯡꯗꯨꯅ
ꯄ꯭ꯔꯔꯣꯇꯦꯁꯠ ꯇꯧꯈꯤ꯫ ꯏꯆꯝ ꯆꯝꯖꯅ ꯍꯤꯡꯖꯕ ꯃꯍꯩꯔꯣꯏ ꯐꯥꯎꯕ ꯄ꯭ꯔꯣꯇꯦꯁꯠ ꯆꯠꯊꯕꯗ
ꯄꯨꯂꯤꯁꯅ ꯇꯤꯌꯥꯒ ꯒ꯭ꯌꯥꯁ ꯀꯥꯞꯄꯗ ꯂꯩꯈꯤꯗꯦ꯫ ꯂꯩꯉꯥꯛꯅ ꯃꯨꯛꯅꯔꯤꯉꯩ ꯃꯇꯝꯗ ꯅꯦꯁꯅꯦꯜ
ꯍꯥꯏꯋꯦꯁꯤꯡꯗ ꯆꯪꯂꯛꯄ ꯃꯤꯇꯣꯞꯁꯤꯡ ꯐꯥꯔꯒ ꯄꯨꯂꯤꯁꯇ ꯁꯤꯟꯅꯕ, ꯅꯨꯃꯤꯗꯥꯡꯒꯤ ꯃꯇꯝꯗ
ꯃꯩꯔꯥꯒꯤ ꯔꯦꯜꯂꯤ ꯆꯠꯄ, ꯂꯩꯉꯥꯛꯀꯤ ꯂꯣꯏꯁꯪꯁꯤꯡꯗ ꯊꯣꯝꯖꯤꯟꯕ ꯑꯃꯁꯨꯡ ꯑꯦꯝ ꯑꯦꯜ ꯑꯦ,
ꯃꯤꯅꯤꯁꯇꯔꯁꯤꯡꯒꯤ ꯀꯣꯟꯊꯣꯡꯗ ꯄ꯭ꯔꯣꯇꯦꯁꯠ ꯇꯧꯈꯤꯕ, ꯑꯌꯨꯛ ꯅꯨꯡꯊꯤꯜ ꯅꯨꯃꯤꯗꯥꯡꯗ ꯇꯤꯌꯥꯔ
ꯒ꯭ꯌꯥꯁ ꯀꯥꯞꯄꯒꯤ ꯃꯈꯣꯜꯅ ꯅꯤꯜꯈꯤꯕ ꯄꯨꯝꯅꯃꯛ ꯍꯧꯖꯤꯛꯇꯤ ꯇꯞꯅ ꯇꯞꯅ ꯀꯥꯎꯁꯤꯜꯂꯛꯂꯦ꯫

ꯃꯅꯤꯄꯨꯔꯒꯤ ꯂꯩꯉꯥꯛ ꯆꯨꯞꯂꯤ ꯃꯤꯇꯣꯞꯄ ꯅꯣꯡꯃꯗꯤ ꯁꯣꯏꯗꯅ ꯄꯥꯏꯈ꯭ꯔꯒꯅꯤ ꯍꯥꯏꯕ ꯑꯈꯪ
ꯑꯍꯩꯁꯤꯡꯒꯤ ꯂꯥꯏꯐꯥꯎ ꯉꯁꯤꯒꯤ ꯃꯤꯔꯣꯜꯅ ꯇꯔꯥꯏꯅ ꯂꯧꯈ꯭ꯔꯦ꯫ ꯃꯤꯈꯜꯒꯤ ꯃꯇꯝꯗ ꯃꯄꯨꯡ ꯐꯥꯕ
ꯑꯦꯖꯦꯟꯗꯥ ꯑꯣꯏꯍꯟꯗꯨꯅ ꯌꯦꯜꯍꯧꯃꯤ ꯀꯟꯅꯕ ꯕꯤꯜ ꯄꯨꯊꯣꯛꯄ ꯑꯃꯁꯨꯡ ꯆꯠꯅꯍꯟꯕ ꯊꯧꯗꯥꯡ
ꯂꯧꯒꯅꯤ ꯍꯥꯏꯕ ꯋꯥꯁꯛꯍꯟꯕꯒꯤ ꯈꯣꯡꯊꯥꯡ ꯉꯝꯅꯃꯛ ꯀꯥꯎꯈ꯭ꯔꯦ꯫ ꯃꯁꯤꯡ ꯌꯥꯝꯂꯕ ꯃꯤꯌꯥꯝꯅ
ꯆꯪꯁꯤꯟꯈꯤꯕ ꯏꯍꯧꯅ ꯃꯅꯤꯄꯨꯔ ꯂꯦꯖꯤꯁꯂꯦꯇꯤꯕ ꯑꯦꯁꯦꯝꯕ꯭ꯂꯤꯗ ꯅꯝꯗꯨꯅ ꯄꯨꯊꯣꯛꯍꯟꯈꯤꯕ
ꯑꯃꯁꯨꯡ ꯄꯥꯁ ꯇꯧꯍꯟꯈꯤꯕ ꯌꯦꯜꯍꯧꯃꯤ ꯀꯟꯅꯕ ꯕꯤꯜꯁꯤꯡ ꯀꯅꯥꯅꯁꯨ ꯅꯤꯡꯁꯤꯡꯕꯤꯗ꯭ꯔꯦ꯫

ꯕꯤꯜꯁꯤꯡ ꯑꯗꯨ ꯑꯌꯥꯕ ꯂꯧꯅꯅꯕꯒꯤꯗꯃꯛ ꯂꯩꯕꯥꯛ ꯑꯁꯤꯒꯤ ꯄ꯭ꯔꯁꯤꯗꯦꯟꯠꯗ ꯊꯥꯈ꯭ꯔꯕ ꯇꯨꯡꯗꯒꯤ
ꯑꯃꯅ ꯋꯤꯊꯍꯣꯜꯗ ꯇꯧꯔꯛꯈꯤꯕ ꯑꯗꯨꯒ ꯑꯇꯣꯞꯄ ꯑꯅꯤꯅ ꯐꯥꯖꯤꯜꯂꯒ ꯊꯝꯈꯤꯕꯗꯨ ꯀꯅꯥꯒꯨꯝꯕ
ꯑꯃꯠꯇꯅ ꯈꯣꯡꯒꯨꯜ ꯂꯤꯕꯤꯅꯕ ꯆꯣꯡꯊꯣꯔꯛꯇ꯭ꯔꯦ꯫ ꯁꯝꯅ ꯍꯥꯏꯔꯕꯗ ꯏꯁꯨ ꯑꯁꯤꯒ ꯃꯔꯤ
ꯂꯩꯅꯅ ꯃꯤꯌꯥꯝꯅ ꯍꯧꯈꯤꯕ ꯑꯆꯧꯕ ꯏꯍꯧ ꯑꯗꯨ ꯍꯧꯖꯤꯛꯇꯤ ꯍꯥꯃꯦꯡ ꯋꯥꯏꯅꯕꯒꯤ ꯐꯤꯚꯝ ꯇꯥꯔꯛꯂꯦ꯫

ꯑꯃꯨꯛ ꯍꯟꯅ ꯃꯤꯌꯥꯝꯒꯤ ꯏꯍꯧ ꯂꯥꯛꯂꯔꯣꯏꯗ꯭ꯔ ꯈꯜꯂꯨꯕꯗ ꯅꯨꯡꯉꯥꯏꯇꯕ ꯄꯣꯛꯏ꯫ ꯃꯤꯈꯜ
ꯍꯥꯏꯕꯁꯤ ꯗꯤꯃꯣꯀ꯭ꯔꯦꯁꯤꯒꯤ ꯐꯤꯕꯥꯟꯅꯨꯡꯗ ꯇꯉꯥꯏꯃꯛ ꯐꯗꯅ ꯇꯧꯗꯕ ꯌꯥꯗ꯭ꯔꯕ ꯃꯆꯥꯛ ꯑꯃꯅꯤ꯫

ꯗꯤꯃꯣꯀ꯭ꯔꯦꯁꯤ ꯍꯥꯏꯕꯁꯤꯗ ꯃꯤꯌꯥꯝ ꯌꯥꯎꯗꯕ ꯌꯥꯗꯦ꯫ ꯃꯤꯌꯥꯝꯒꯤ ꯃꯤꯍꯨꯠꯅ ꯂꯩꯉꯥꯛꯄꯗꯨꯕꯨ
ꯗꯤꯃꯣꯀ꯭ꯔꯦꯁꯤꯅꯤ ꯍꯥꯏꯔꯒ ꯑꯩꯈꯣꯏꯅ ꯀꯔꯝꯕ ꯃꯤꯑꯣꯏ ꯅꯠꯇ꯭ꯔꯒ ꯀꯔꯝꯕ ꯃꯤꯍꯨꯠ ꯈꯟꯒꯗꯒꯦ
ꯍꯥꯏꯕꯗꯨ ꯍꯧꯖꯤꯛ ꯅꯩꯅꯕ ꯌꯥꯕ ꯃꯇꯥꯡ ꯆꯞ ꯆꯥꯔꯦ꯫ ꯄꯣꯂꯤꯇꯤꯀꯦꯜ ꯄꯥꯔꯇꯤ ꯅꯠꯇ꯭ꯔꯒ ꯄꯥꯔꯇꯤ
ꯑꯗꯨꯒ ꯂꯨꯆꯤꯡꯕꯁꯤꯡꯅ ꯂꯩꯕꯥꯛꯀꯤ ꯑꯔꯨꯕ ꯏꯁꯨꯗ ꯌꯨꯝꯐꯝ ꯑꯣꯏꯔꯒ ꯃꯤꯈꯜ ꯊꯦꯡꯅꯕꯒꯤ
ꯃꯍꯨꯠꯇ ꯀꯥꯡꯂꯨꯞꯀꯤ ꯅꯠꯇ꯭ꯔꯒ ꯐꯨꯔꯨꯞꯀꯤ ꯑꯣꯏꯕ ꯑꯄꯤꯛꯄ ꯋꯥꯈꯜꯂꯣꯟ ꯁꯥꯒꯠꯂꯒ ꯂꯩꯉꯥꯛ
ꯄꯥꯏꯕ ꯌꯥꯕ ꯃꯁꯤꯡ ꯁꯨꯅꯅꯕ ꯍꯣꯠꯅꯔꯛꯄꯗꯒꯤ ꯃꯅꯤꯄꯨꯔꯗ ꯗꯤꯃꯣꯀ꯭ꯔꯦꯁꯤꯒꯤ ꯃꯍꯥꯎ ꯑꯁꯤ
ꯑꯃꯨꯛꯅ ꯈꯌꯥꯛꯅꯕ ꯑꯗꯨꯒ ꯑꯃꯨꯛꯅ ꯑꯁꯤꯟꯕ ꯑꯣꯏꯔꯛꯂꯦ꯫ ꯄꯣꯂꯤꯇꯤꯀꯦꯜ ꯄꯥꯔꯇꯤ ꯑꯃꯅ
ꯃꯤꯈꯜꯒꯤ ꯃꯇꯝꯗ ꯃꯤꯌꯥꯝꯒꯤ ꯏꯍꯨꯜ ꯀꯔꯤ ꯂꯩꯕꯒꯦ ꯍꯥꯏꯕ ꯌꯥꯝꯅ ꯀꯨꯞꯅ ꯌꯦꯡꯂꯒ ꯃꯤꯔꯦꯞ
ꯊꯥꯗꯣꯛꯀꯗꯕꯅꯤ꯫ ꯏꯟꯗꯤꯌꯥꯟ ꯀꯟꯁꯇꯤꯇ꯭ꯌꯨꯁꯟꯅ ꯂꯩꯕꯥꯛ ꯑꯁꯤꯒꯤ ꯁꯤꯇꯤꯖꯦꯟ ꯈꯨꯗꯤꯡꯃꯛ
ꯃꯤꯔꯦꯞ ꯑꯣꯏꯕ ꯌꯥꯍꯜꯂꯤ꯫ ꯑꯗꯨꯕꯨ ꯃꯤꯔꯦꯞ ꯑꯣꯏꯅ ꯌꯥꯍꯜꯂꯤ ꯍꯥꯏꯔꯕꯁꯨ ꯉꯔꯥꯡ ꯅꯍꯥꯟꯇ
ꯁ꯭ꯇꯦꯠ ꯑꯁꯤꯗ ꯃꯤꯁꯤ ꯃꯤꯅꯥ ꯊꯣꯛꯄꯝꯩ ꯌꯦꯜꯍꯧꯃꯤ ꯀꯟꯅꯅꯕ ꯆꯪꯁꯤꯟꯈꯤꯕ ꯈꯣꯡꯖꯪꯁꯤꯡ ꯑꯗꯨ
ꯍꯧꯖꯤꯇꯤ ꯀꯥꯎꯊꯣꯛꯈꯤꯕꯒꯨꯝ ꯇꯧꯔꯦ꯫ ꯂꯩꯉꯥꯛꯗ ꯃꯤꯇꯣꯞ ꯌꯥꯎꯍꯟꯒꯨꯝꯁꯤ ꯍꯥꯏꯔꯒ ꯃꯤꯇꯣꯞ
ꯌꯥꯎꯍꯟꯅꯕ ꯁꯔꯧ ꯇꯧꯕ ꯍꯥꯏꯕꯁꯤ ꯂꯩꯕꯥꯛ ꯑꯁꯤꯒꯤ ꯑꯣꯏꯅ ꯃꯥꯡꯖꯕꯅꯤ꯫ ꯄꯨꯝꯅꯃꯛ ꯑꯁꯤꯒꯤ
ꯃꯊꯛꯇ ꯅꯨꯄꯤꯒꯤ ꯁꯤꯠ ꯃꯁꯤꯡ ꯍꯦꯟꯒꯠꯍꯟꯅꯕ ꯄꯣꯂꯤꯇꯤꯀꯦꯜ ꯄꯥꯔꯇꯤꯁꯤꯡꯅ ꯅꯨꯄꯤ
ꯃꯤꯔꯦꯞ ꯍꯦꯟꯅ ꯄꯨꯊꯣꯛꯅꯕ ꯍꯣꯠꯅꯒꯗꯕꯗꯨ ꯄꯨꯛꯅꯤꯡ ꯊꯧꯒꯠꯄꯒꯤ ꯃꯃꯤ ꯇꯥꯗ꯭ꯔꯦ꯫ ꯃꯊꯪ
ꯆꯍꯤ 5 ꯗ ꯅꯨꯄꯤꯁꯤꯡꯒꯤ ꯋꯥꯀꯠ ꯑꯦꯁꯦꯝꯕ꯭ꯂꯤꯗ ꯂꯥꯛꯅꯕꯒꯤ ꯃꯔꯝꯁꯨ ꯃꯃꯤ ꯁꯥꯝꯖꯤꯜꯂꯛꯂꯤ꯫

ꯃꯇꯥꯡ ꯑꯁꯤꯗ ꯄꯟꯖꯅꯤꯡꯕ ꯋꯥꯐꯝꯗꯤ ꯃꯤꯇꯣꯞꯅ ꯂꯝꯒꯤ ꯃꯄꯨ ꯑꯣꯏꯍꯟꯕ ꯌꯥꯔꯣꯏ, ꯀꯥꯡꯂꯣꯟ
ꯃꯑꯒꯤ ꯃꯈꯥꯗ ꯃꯤꯇꯣꯞ ꯆꯪꯍꯟꯁꯤ ꯍꯥꯏꯅ ꯍꯧꯈꯤꯕ ꯏꯍꯧꯗ ꯁꯔꯨꯛ ꯌꯥꯈꯤꯕ ꯂꯨꯆꯤꯡꯕꯁꯤꯡ
ꯃꯤꯈꯜ ꯃꯌꯥꯗ ꯀꯔꯤꯒꯤ ꯄꯪꯊꯔꯤꯕꯅꯣ? ꯄꯥꯡꯒꯜ ꯊꯣꯛꯅ ꯊꯕꯛ ꯇꯧꯕ ꯉꯝꯗ꯭ꯔꯕꯁꯨ ꯄꯦꯟꯗꯕꯒꯤ
ꯈꯣꯜꯂꯥꯎ ꯑꯃꯈꯛꯇꯤ ꯂꯥꯎꯐꯝ ꯊꯣꯛꯇꯕꯔ? ꯂꯩꯉꯥꯛꯁꯨ ꯑꯗꯨꯃꯉꯥꯏ ꯃꯤꯌꯥꯝꯒꯤ ꯏꯍꯨꯜ ꯈꯪꯅ ꯊꯕ
ꯛꯇꯧꯔꯤꯕꯅꯤ ꯍꯥꯏꯗꯨꯅ ꯌꯦꯜꯍꯧꯃꯤ ꯀꯟꯅꯕ ꯕꯤꯜ ꯑꯍꯨꯝ ꯁꯦꯝꯂꯒ ꯃꯅꯤꯄꯨꯔ ꯂꯦꯖꯤꯁꯂꯦꯇꯤꯕ
ꯑꯦꯁꯦꯝꯕ꯭ꯂꯤꯗ ꯄꯨꯊꯣꯛꯈꯤꯕ ꯑꯃꯁꯨꯡ ꯄꯥꯁ ꯇꯧꯈꯤꯕꯗꯨ ꯀꯔꯝꯕ ꯋꯥꯈꯜꯂꯣꯟꯗꯣ ꯍꯥꯏꯕ ꯋꯥꯍꯪ ꯍꯪꯕ
ꯌꯥꯔꯛꯂꯦ꯫ ꯇꯔꯥꯃꯥꯊꯣꯏꯁꯨꯕ ꯃꯅꯤꯄꯨꯔ ꯂꯦꯖꯤꯁꯂꯦꯇꯤꯕ ꯑꯦꯁꯦꯝꯕ꯭ꯂꯤꯒꯤ ꯃꯤꯈꯜꯒꯤ ꯑꯦꯖꯦꯟꯗꯥ
ꯃꯤꯌꯥꯝꯅ ꯀꯔꯤꯗ ꯑꯣꯏꯍꯟꯅꯤꯡꯕꯒꯤ ꯍꯥꯏꯕꯗꯨ ꯂꯩꯉꯥꯛꯇ ꯇꯥꯛꯄꯤ ꯇꯝꯕꯤꯕ ꯃꯇꯝ ꯌꯧꯔꯦ꯫

ꯃꯗꯨ ꯅꯠꯇ꯭ꯔꯕꯗꯤ ꯃꯊꯪ ꯆꯍꯤ 5 ꯗꯁꯨ ꯌꯦꯜꯍꯧꯃꯤ ꯀꯟꯅꯕ ꯑꯍꯛꯄ ꯂꯣ ꯁꯦꯝꯕ ꯉꯝꯂꯣꯏ꯫

ꯆꯤꯟꯖꯥꯛꯀꯤ ꯃꯆꯜꯁꯤꯡꯒꯤ ꯑꯣꯟꯊꯥꯡ ꯑꯣꯟꯁꯤꯟꯗ
(ꯅ꯭ꯌꯨꯇ꯭ꯔꯦꯟꯠ ꯔꯤꯁꯥꯏꯀ꯭ꯂꯤꯡ) ꯅꯥꯏꯇ꯭ꯔꯣꯖꯦꯟ
ꯏꯍꯥꯟ ꯍꯥꯟꯕꯗ ꯊꯝꯖꯅꯤꯡꯂꯤꯕ ꯋꯥꯐꯝꯗꯤ ꯑꯩꯈꯣꯏꯅ ꯑꯉꯥꯡ
ꯑꯣꯏꯔꯤꯉꯩꯗꯒꯤ ꯑꯩꯈꯣꯏꯗ ꯇꯝꯕꯤꯔꯛꯂꯤꯕ ꯏꯪꯂꯤꯁꯀꯤ ꯋꯥꯍꯩ

wjli “matter can neither be created nor

destroyed” ꯍꯥꯏꯕꯗꯤ ꯄꯣꯠꯂꯝ ꯑꯃꯠꯇ ꯅꯧꯅ ꯁꯦꯝꯕꯁꯨ ꯂꯩꯇꯦ
ꯃꯥꯡꯍꯟꯈꯤꯕꯁꯨ ꯂꯩꯇꯦ, ꯄꯨꯝꯅꯃꯛ ꯑꯃꯗꯒꯤ ꯑꯃꯗ ꯑꯣꯟꯊꯥꯡ
ꯑꯣꯟꯁꯤꯟ ꯇꯧꯕ ꯉꯥꯛꯇꯅꯤ ꯍꯥꯏꯕ ꯋꯥꯐꯝꯁꯤꯅꯤ꯫ ꯀꯌꯥꯗ ꯃꯔꯧ ꯂꯩꯅ
ꯈꯪꯕꯗ ꯂꯨꯈ꯭ꯔꯕ ꯋꯥꯐꯝꯅꯣ= ꯍꯥꯏꯔꯤꯕ ꯋꯥꯐꯝ ꯑꯁꯤꯃꯛ ꯑꯇꯣꯞꯄ
ꯃꯑꯣꯡꯗ ꯑꯃꯨꯛ ꯊꯝꯖꯕ ꯇꯥꯔꯒꯗꯤ ꯑꯁꯨꯝꯅ ꯊꯝꯕ ꯌꯥꯏ꯫ ꯑꯍꯤꯡꯕ
ꯖꯤꯕꯁꯤꯡꯕꯨ ꯁꯥꯕꯗ ꯆꯪꯂꯤꯕ ꯃꯆꯜ (ꯏꯂꯤꯃꯦꯟꯠ) 30-40 ꯑꯁꯤ
ꯍꯟꯖꯤꯟ ꯍꯟꯖꯤꯟ ꯁꯤꯖꯤꯟꯅꯗꯨꯅ ꯂꯩꯔꯕ ꯉꯥꯛꯇꯅꯤ ꯍꯥꯏꯕꯁꯤꯅꯤ꯫

ꯍꯥꯏꯔꯤꯕ ꯃꯆꯜ ꯈꯨꯗꯤꯡꯃꯛ ꯑꯁꯤ ꯊꯋꯥꯏ ꯄꯥꯟꯗꯕ/ ꯑꯁꯤꯕ
ꯑꯃꯁꯨꯡ ꯑꯍꯤꯡꯕ ꯑꯅꯤꯒꯤ ꯃꯔꯛꯇ ꯑꯣꯟꯊꯥꯡ ꯑꯣꯟꯁꯤꯟ ꯇꯧꯗꯨꯅ
ꯑꯗꯨꯃꯛ ꯃꯍꯧꯁꯥꯅ ꯂꯦꯞꯇꯅ ꯆꯠꯊꯗꯨꯅ ꯂꯩꯔꯤꯕꯅꯤ ꯍꯥꯏꯕ ꯋꯥꯐꯝ
ꯑꯁꯤꯅꯤ ꯑꯩꯈꯣꯏ ꯈꯨꯗꯤꯡꯃꯛꯅ SIWA ꯊꯣꯛꯄꯗꯤ꯫ ꯑꯃꯔꯣꯝꯗ
ꯑꯃꯨꯛ ꯊꯝꯅꯤꯡꯂꯤꯕꯗꯤ ꯃꯍꯧꯁꯥꯅ ꯑꯍꯤꯡꯕ ꯊꯋꯥꯏ ꯄꯥꯟꯕ
ꯖꯤꯕꯁꯤꯡꯒ ꯊꯋꯥꯏ ꯄꯥꯟꯗꯕ ꯄꯣꯠꯂꯝꯁꯤꯡ ꯑꯁꯤꯒ ꯀꯥꯏꯗꯕ

SM ꯑꯃꯗ ꯑꯗꯨꯃꯛ ꯃꯔꯤ ꯂꯩꯅꯗꯨꯅ ꯂꯩ ꯍꯥꯏꯕꯁꯤꯅꯤ꯫ ꯊꯋꯥꯏ
ꯄꯥꯟꯗꯕ ꯄꯣꯠꯁꯤꯡ ꯑꯁꯤꯅ, ꯃꯈꯣꯅ ꯑꯍꯤꯡꯕ ꯖꯤꯕ ꯀꯌꯥ ꯌꯥꯝꯅ
ꯌꯣꯛꯂꯤꯕꯒꯦ ꯍꯥꯏꯕꯁꯤ ꯅꯠꯇꯕꯗ ꯑꯍꯤꯡꯕ ꯖꯤꯕꯁꯤꯡ ꯑꯁꯤꯅ
ꯃꯈꯣꯏꯅ ꯂꯩꯔꯤꯕ ꯊꯋꯥꯏ ꯄꯥꯟꯗꯕ ꯄꯣꯠꯂꯝꯁꯤꯡ ꯑꯁꯤꯕꯨ ꯇꯣꯏꯅ
ꯃꯑꯣꯡ ꯑꯣꯟꯊꯣꯛꯄꯤꯔꯤ꯫ ꯃꯔꯨ ꯑꯣꯏꯈ꯭ꯔꯕ ꯃꯆꯜꯗꯤ ꯀꯌꯥ
ꯑꯃꯅꯤ꯫ ꯃꯈꯣꯏꯒꯤ ꯃꯔꯛꯇꯒꯤ ꯃꯔꯨꯑꯣꯏꯕ ꯃꯆꯜ ꯑꯃꯒꯤ
ꯃꯔꯝꯗ ꯉꯁꯤꯗꯤ ꯑꯩꯈꯣꯏ ꯃꯨꯟꯅ ꯈꯪꯃꯤꯟꯅꯁꯤ꯫ ꯃꯆꯜ ꯑꯗꯨꯗꯤ
ꯑꯇꯩ ꯀꯔꯤꯁꯨ ꯅꯠꯇꯦ, ꯃꯌꯥꯝꯟ ꯌꯥꯝꯅꯃꯛ ꯈꯪꯅꯔꯕ ꯌꯨꯔꯤꯌꯥ ꯍꯥꯔꯗ
ꯌꯥꯎꯔꯤꯕ ꯃꯔꯨꯑꯣꯏꯕ ꯄꯥꯝꯕꯤꯒꯤ ꯃꯆꯤꯟꯖꯥꯛ ꯅꯥꯏꯇ꯭ꯔꯣꯖꯦꯟꯅꯤ꯫

ꯅꯥꯏꯇ꯭ꯔꯣꯖꯦꯟ ꯁꯥꯏꯀꯜ: ꯑꯍꯤꯡꯕ ꯖꯤꯕꯁꯤꯡ ꯁꯥꯕꯗ ꯃꯍꯧꯁꯥꯅ
ꯌꯥꯎꯕ ꯃꯆꯜꯁꯤꯡꯒꯤ ꯃꯅꯨꯡꯗꯒꯤ ꯂꯩꯕꯥꯛ ꯂꯩꯍꯥꯎꯗ ꯈ꯭ꯋꯥꯏꯗꯒꯤ \

ꯥꯝꯗꯅ ꯌꯥꯎꯕ/ ꯐꯪꯕ ꯃꯆꯜ ꯑꯃ ꯍꯥꯏꯕ ꯇꯥꯔꯒꯗꯤ ꯅꯥꯏꯇ꯭ꯔꯣꯖꯦꯟ
ꯑꯁꯤꯅꯤ ꯍꯥꯏꯕ ꯇꯥꯏ꯫ ꯑꯃꯔꯣꯝꯗꯅ ꯑꯃꯨꯛ ꯍꯥꯏꯔꯤꯕ ꯃꯆꯜ
ꯑꯁꯤ ꯅꯨꯡꯁꯤꯠꯇꯗꯤ (ꯑꯦꯠꯃꯣꯁꯐꯦꯌꯔ) ꯑꯄꯨꯟꯕ ꯆꯥꯡꯒꯤ ꯃꯉꯥ
ꯊꯣꯛꯄꯒꯤ ꯃꯔꯤꯗꯤ ꯅꯥꯏꯗ꯭ꯔꯣꯖꯦꯟꯅꯤ ꯍꯥꯏꯕꯁꯤ ꯌꯥꯝꯅ ꯆꯨꯝꯂꯕ
ꯋꯥꯐꯝꯅꯤ ꯑꯗꯨꯕꯨ ꯌꯥꯎꯔꯤꯕ ꯅꯥꯏꯇ꯭ꯔꯣꯖꯦꯟ (ꯞ2) ꯑꯁꯤꯗꯤ ꯑꯌ
ꯥꯝꯕ ꯑꯁꯥꯡꯕ ꯄꯥꯝꯕꯤꯅ ꯁꯤꯖꯤꯟꯅꯕ ꯉꯝꯕ ꯃꯑꯣꯡ ꯑꯣꯏꯗꯦ꯫

ꯄꯥꯝꯕꯤꯅ ꯁꯤꯖꯤꯟꯅꯕ ꯉꯝꯕ ꯃꯑꯣꯡꯗ ꯑꯣꯟꯊꯣꯛꯅꯕꯒꯤꯗꯃꯛ
ꯅꯥꯏꯇ꯭ꯔꯣꯖꯦꯟ ꯑꯁꯤ ꯃꯑꯣꯡ ꯀꯌꯥꯒꯤ ꯑꯍꯣꯡꯕ ꯄꯨꯔꯛꯄ ꯇꯥꯏ꯫

ꯑꯍꯣꯡꯕ ꯑꯁꯤ ꯄꯨꯔꯛꯅꯕꯒꯤꯗꯃꯛ ꯅꯥꯏꯇ꯭ꯔꯣꯖꯦꯟ ꯐꯤꯛꯁꯦꯁꯟ
ꯀꯧꯕ ꯊꯧꯑꯣꯡ ꯑꯃꯗꯤ ꯇꯉꯥꯏꯐꯗꯦ꯫ ꯑꯄꯨꯟꯕ ꯅꯥꯏꯗ꯭ꯔꯣꯖꯦꯟ
ꯐꯤꯛꯁꯦꯁꯟꯒꯤ ꯆꯥꯗ ꯇꯔꯥꯗꯤ ꯅꯨꯡꯁꯤꯠꯇ ꯏꯂꯦꯛꯇ꯭ꯔꯤꯛꯀꯤ
ꯊꯧꯑꯣꯡ (ꯅꯣꯡ ꯈꯥꯛꯄ/ ꯂꯥꯏꯇꯅꯤꯡ) ꯑꯃꯁꯨꯡ ꯅꯨꯃꯤꯠꯀꯤ ꯃꯉꯥꯜꯒ
ꯃꯔꯤ ꯂꯩꯅꯕ ꯊꯧꯑꯣꯡꯁꯤꯡꯅ ꯑꯣꯛꯁꯤꯖꯦꯟꯒ ꯄꯨꯟꯁꯤꯟꯗꯨꯅ NO3 ꯗ
ꯑꯣꯟꯊꯣꯛꯄ ꯑꯁꯤꯅꯤ꯫ ꯂꯦꯝꯍꯧꯔꯤꯕ ꯆꯥꯗ 90 ꯅ ꯍꯤꯡꯀꯨꯞꯁꯤꯡꯅ
ꯅꯨꯡꯁꯤꯠꯇꯒꯤ ꯐꯥꯖꯤꯟꯗꯨꯅ NO3 ꯗ ꯑꯣꯟꯊꯣꯛꯄꯒꯤ ꯊꯕꯛ
ꯑꯁꯤꯅꯤ꯫ ꯃꯌꯥꯝꯅ ꯍꯦꯟꯅ ꯈꯪꯅꯔꯕ ꯃꯁꯤꯒꯤ ꯊꯧꯑꯣꯡꯗꯤ ꯑꯌ
ꯥꯝꯕ ꯍꯋꯥꯏ ꯄꯥꯝꯕꯤꯁꯤꯡꯒ ꯄꯨꯟꯅ ꯍꯤꯡꯃꯤꯟꯅꯕ ꯕꯦꯛꯇꯔꯤꯌꯥ
ꯃꯈꯜ ꯈꯔꯅ ꯄꯥꯝꯕꯤꯁꯤꯡ ꯑꯁꯤꯒꯤ ꯃꯔꯥꯗ ꯂꯩꯁꯤꯟꯗꯨꯅ ꯃꯇꯨꯝ
ꯇꯥꯕ ꯄꯣꯠꯂꯝ (nodule) ꯑꯃꯒꯤ ꯃꯅꯨꯡꯗ ꯅꯨꯡꯁꯤꯠꯇꯒꯤ
ꯅꯥꯏꯇ꯭ꯔꯣꯖꯦꯟ ꯐꯥꯖꯤꯟꯗꯨꯅ ꯄꯥꯝꯕꯤꯁꯤꯡ ꯑꯁꯤꯗ ꯐꯪꯍꯟꯕ ꯑꯁꯤꯅꯤ꯫

ꯃꯔꯝ ꯑꯁꯤꯅ ꯅꯨꯡꯁꯤꯠꯇꯒꯤ ꯅꯥꯏꯇ꯭ꯔꯣꯖꯦꯟꯕꯨ ꯂꯩꯕꯥꯛ ꯂꯩꯍꯥꯎꯗ
ꯇꯤꯟꯁꯤꯟꯅꯕꯒꯤ ꯈ꯭ꯋꯥꯏꯗꯒꯤ ꯃꯔꯨꯑꯣꯏꯕ ꯄꯥꯝꯕꯩꯗꯤ ꯊꯧꯑꯣꯡ
ꯑꯁꯤꯃꯛꯅꯤ ꯍꯥꯏꯕ ꯇꯥꯏ꯫ ꯊꯧꯑꯣꯡ ꯑꯁꯤꯗ ꯍꯋꯥꯏ ꯄꯥꯝꯕꯤ ꯑꯗꯨꯅ
ꯃꯊꯧ ꯇꯥꯔꯤꯕ ꯅꯥꯏꯇ꯭ꯔꯣꯖꯦꯟꯒꯤ ꯁꯔꯨꯛꯇꯒꯤ ꯁꯔꯨꯛ ꯈꯔ ꯍꯦꯟꯅ
ꯍꯤꯡꯀꯨꯞꯁꯤꯡ ꯑꯗꯨꯅ ꯅꯨꯡꯁꯤꯠꯇꯒꯤ ꯅꯥꯏꯇ꯭ꯔꯣꯖꯦꯟ ꯐꯥꯖꯤꯟꯕ
ꯉꯝꯃꯤ꯫ ꯏꯁꯤꯡ ꯃꯊꯛꯇ ꯇꯥꯎꯗꯨꯅ ꯍꯧꯕ ꯃꯚꯍꯦꯦꯃ ꯀꯧꯕ ꯀꯥꯡ
ꯃꯈꯜ ꯑꯃꯒ ꯂꯣꯏꯅꯕ bacteria Anabena ꯍꯥꯏꯔꯤꯕ
ꯑꯁꯤꯅꯁꯨ ꯅꯥꯏꯇ꯭ꯔꯣꯖꯦꯟ ꯐꯥꯖꯤꯟꯕꯒꯤ ꯊꯧꯑꯣꯡ ꯑꯁꯤ ꯄꯥꯡꯊꯣꯛꯏ꯫

ꯑꯇꯣꯞꯄ ꯇꯣꯉꯥꯟꯅ ꯍꯤꯡꯖꯕ ꯍꯤꯡꯀꯨꯞ ꯀꯌꯥ ꯑꯃꯅꯁꯨ
ꯅꯨꯡꯁꯤꯠꯇꯒꯤ ꯅꯥꯏꯇ꯭ꯔꯣꯖꯦꯟ ꯐꯥꯖꯤꯟꯕ ꯉꯝꯃꯤ꯫ ꯈꯨꯗꯝ [OTe-

Blue Green ꯝꯦꯤꯃꯅ, Azospirillum ꯑꯁꯤꯅꯆꯤꯡꯕ
ꯄꯥꯟꯕ ꯌꯥꯏ꯫

ꯑꯁꯨꯝꯅ ꯅꯥꯏꯗ꯭ꯔꯣꯖꯦꯟꯕꯨ ꯐꯥꯖꯤꯜꯂꯕ ꯃꯇꯨꯡꯗ ꯄꯥꯝꯕꯤꯅ
ꯁꯤꯖꯤꯟꯅꯕ ꯉꯝꯕ ꯃꯑꯣꯡꯗ ꯑꯣꯟꯊꯣꯛꯄꯒ ꯂꯣꯏꯅꯅ ꯄꯥꯝꯕꯤꯅ
ꯆꯨꯎꯈꯠꯇꯨꯅ ꯄ꯭ꯔꯣꯇꯤꯟ ꯑꯃꯗꯤ ꯑꯇꯩ ꯄ꯭ꯔꯣꯇꯤꯟ ꯁꯨꯡꯕꯗ
ꯁꯤꯖꯤꯟꯅꯕ amino ꯃꯖꯡꯛ ꯑꯃꯗꯤ ꯅꯥꯏꯗ꯭ꯔꯣꯖꯦꯟ ꯌꯥꯎꯕ ꯑꯇꯩ
ꯄꯣꯠꯂꯝꯁꯤꯡꯗ ꯑꯣꯟꯊꯣꯛꯏ꯫ ꯃꯇꯨꯡꯗ ꯑꯁꯤꯒꯨꯝꯕ ꯁꯨꯡꯗꯣꯛꯂꯒ
ꯄꯣꯠꯂꯝꯁꯤꯡ ꯑꯁꯤ ꯃꯤꯑꯣꯏꯕ ꯌꯥꯎꯅ ꯄꯥꯝꯕꯤꯕꯨ ꯆꯥꯗꯨꯅ ꯍꯤꯡꯂꯤꯕ
ꯑꯇꯩ ꯖꯤꯕꯁꯤꯡ ꯑꯃꯁꯨꯡ ꯃꯈꯣꯏꯕꯨ ꯆꯥꯗꯨꯅ ꯍꯤꯡꯂꯤꯕ ꯖꯤꯕꯁꯤꯡꯗ
ꯃꯊꯪ ꯃꯊꯪ ꯄꯣꯠꯂꯝꯁꯤꯡ ꯑꯁꯤꯒꯤ ꯀꯥꯟꯅꯕ ꯐꯪꯃꯤꯅꯔꯤ꯫ ꯃꯁꯤꯕꯨ
ꯐꯨꯗ ꯋꯦꯚ ꯍꯥꯏꯅ ꯈꯪꯅꯔꯤ꯫ ꯑꯔꯣꯏꯕꯗ ꯍꯤꯡꯂꯤꯕ ꯖꯤꯕꯁꯤꯡꯒꯤ
ꯃꯄꯨꯟꯁꯤ ꯂꯣꯏꯔꯕ ꯃꯇꯨꯡꯗ ꯃꯈꯣꯏꯕꯨ ꯄꯠꯊ ꯄꯨꯝꯊꯍꯟꯕ
ꯉꯝꯕ ꯍꯤꯡꯀꯨꯞꯁꯤꯡꯅ ꯑꯃꯨꯛ ꯊꯨꯒꯥꯏꯗꯨꯅ ꯅꯥꯏꯇ꯭ꯔꯣꯖꯦꯟ ꯌꯥꯎꯕ
ꯑꯦꯃꯣꯅꯤꯌꯥꯗ ꯑꯃꯨꯛ ꯑꯣꯟꯊꯣꯛꯂꯤꯕꯅꯤ꯫

ꯑꯁꯨꯝꯅ ꯐꯪꯂꯛꯄ ꯑꯦꯃꯣꯅꯤꯌꯥꯕꯨ ꯁꯤꯖꯤꯟꯅꯕ ꯉꯝꯕ
ꯄꯥꯝꯃꯤ ꯈꯔꯅ ꯑꯦꯃꯣꯅꯤꯌꯥ ꯑꯣꯏꯅ ꯑꯗꯨꯒ ꯑꯇꯣꯞꯄ ꯑꯌ
ꯥꯝꯕ ꯄꯥꯝꯕꯤꯁꯤꯡꯅ ꯅꯥꯏꯇ꯭ꯔꯦꯠꯀꯤ ꯃꯑꯣꯡꯗ ꯑꯣꯟꯊꯣꯛꯂꯕ
ꯅꯥꯏꯇ꯭ꯔꯣꯖꯦꯟꯕꯨ ꯁꯤꯖꯤꯟꯅꯩ꯫ ꯃꯁꯤꯒꯤ ꯑꯣꯟꯊꯥꯡ ꯑꯣꯟꯁꯤꯟ
ꯇꯧꯕꯒꯤ ꯊꯧꯑ‘ꯣꯡ ꯀꯌꯥ ꯑꯃꯁꯨꯡ ꯂꯩꯔꯤꯕꯅꯤ꯫ ꯍꯥꯏꯕꯗꯤ
ꯅꯥꯏꯇ꯭ꯔꯣꯖꯦꯟ ꯍꯥꯏꯔꯤꯕ ꯅ꯭ꯌꯨꯇ꯭ꯔꯦꯟꯠ ꯑꯁꯤꯗꯤ ꯃꯑꯣꯡ ꯀꯌ
ꯥꯗ ꯑꯣꯟꯊꯥꯡ ꯑꯣꯟꯁꯤꯟ ꯇꯧꯏ ꯍꯥꯡꯏꯕꯅꯤ꯫ ꯅꯥꯏꯇ꯭ꯔꯣꯖꯦꯟꯒꯤ
ꯃꯑꯣꯡ ꯑꯣꯟꯊꯥꯡ ꯑꯣꯟꯁꯤꯟ ꯑꯁꯤꯕꯨ ꯄꯥꯡꯊꯣꯛꯄ ꯉꯝꯕ
ꯍꯤꯡꯀꯨꯞ ꯀꯌꯥ ꯑꯃꯁꯨ ꯂꯩꯕꯥꯛ ꯂꯩꯍꯥꯎꯗ ꯍꯤꯡꯗꯨꯅ ꯃꯈꯣꯏꯒꯤ
ꯊꯧꯗꯥꯡ ꯄꯥꯡꯊꯣꯛꯇꯨꯅ ꯂꯥꯛꯂꯤꯕꯅꯤ꯫ ꯍꯤꯡꯀꯨꯞꯁꯤꯡ ꯑꯁꯤꯒꯤ
ꯃꯔꯨꯑꯣꯏꯕ ꯒ꯭ꯔꯨꯞ ꯑꯅꯤ ꯂꯩ- ꯒ꯭ꯔꯨꯞ ꯑꯃꯅ Nitrite

Bacteria ꯍꯥꯅ ꯈꯪꯅꯩ꯫ ꯃꯈꯣꯏꯅ ꯑꯦꯃꯣꯅꯤꯌꯥꯕꯨ ꯇꯥ ꯑꯣꯟꯊꯣꯛꯏ
ꯑꯗꯨꯒ ꯑꯇꯣꯞꯄ ꯒ꯭ꯔꯥꯝ ꯑꯃꯅ Nitrate Bacteria ꯍꯥꯏꯅ
ꯈꯪꯅꯩ꯫ ꯃꯈꯣꯏꯅ Nitrite ꯄꯨ Nitrate ꯇ ꯑꯣꯟꯊꯣꯛꯏ꯫

ꯑꯁꯨꯝꯅ ꯑꯦꯃꯣꯅꯤꯌꯥꯗꯒꯤ Nitrite ꯑꯃꯁꯨꯡ Nitrate ꯇ
ꯑꯣꯟꯊꯣꯛꯄꯒꯤ ꯊꯧꯑꯣꯡ ꯑꯁꯤꯕꯨ Nitrifi cation ꯍꯥꯏꯅ
ꯈꯪꯅꯔꯤꯕꯁꯤꯅꯤ꯫ ꯑꯁꯤꯒꯨꯝꯕ ꯑꯣꯟꯊꯣꯛꯄꯒꯛꯤ ꯃꯇꯝꯁꯤꯗ
ꯕꯦꯛꯇꯔꯤꯌꯥ ꯒ꯭ꯔꯨꯞ ꯑꯅꯤꯃꯛꯅ ꯃꯈꯣꯏꯒꯤ ꯏꯅꯔꯖꯤ WIT!

ꯑꯁꯨꯝꯅ ꯑꯣꯟꯊꯣꯛꯂꯕ ꯅꯥꯏꯇ꯭ꯔꯦꯠ ꯑꯁꯤ
ꯄꯥꯝꯕꯤꯁꯤꯡꯅ ꯅꯠꯇ꯭ꯔꯒ ꯑꯇꯣꯞꯄ ꯖꯤꯕꯁꯤꯡꯅ ꯈꯨꯠꯂꯩ
ꯊꯨꯅ ꯁꯤꯖꯤꯟꯅꯊꯣꯛꯍꯧꯗ꯭ꯔꯕꯗꯤ ꯅꯣꯡꯒꯤ ꯏꯁꯤꯡꯅ ꯃꯈꯣꯏꯕꯨ
ꯆꯦꯟꯊꯈꯤꯗꯨꯅ ꯁꯨꯛꯁꯣꯏ ꯁꯣꯏꯗꯅ ꯏꯇꯨꯡꯐꯝꯁꯤꯡ ꯑꯃꯁꯨꯡ
ꯁꯃꯨꯗ꯭ꯔꯒꯤ ꯏꯁꯤꯡꯗ ꯇꯤꯟꯈꯤ꯫ ꯆꯦꯟꯊꯔꯛꯄ ꯏꯁꯤꯡꯗ \

ꯥꯎꯔꯛꯄ ꯃꯆꯜꯁꯤꯡ ꯃꯔꯥꯡ ꯀꯥꯏꯅ ꯐꯪꯕ ꯃꯔꯝ ꯑꯁꯤꯅꯅꯤ ꯁꯃꯨꯗ꯭ꯔ
ꯈꯣꯡꯕꯥꯟꯁꯤꯡꯗ ꯂꯩꯕ ꯂꯝꯗꯝꯁꯤꯡꯅ ꯂꯩꯍꯥꯎ ꯆꯦꯟꯗꯨꯅ ꯄꯣꯠꯊꯣꯛ
ꯌꯥꯝꯅ ꯄꯨꯊꯣꯛꯂꯤꯕꯁꯤ꯫ ꯁꯃꯨꯗ꯭ꯔ ꯌꯧꯈ꯭ꯔꯕ ꯅꯥꯏꯇ꯭ꯔꯣꯖꯦꯟ
ꯈꯔ ꯑꯃꯅ ꯑꯃꯨꯛ ꯁꯃꯨꯗ꯭ꯔꯗ ꯆꯥꯛꯇꯥꯕ ꯎꯆꯦꯛꯁꯤꯡꯒꯤ
ꯃꯊꯤ ꯃꯌꯨꯡꯗ ꯌꯥꯎꯔꯛꯇꯨꯅ ꯑꯃꯗꯤ ꯁꯃꯨꯗ꯭ꯔꯒꯤ ꯉꯥꯁꯤꯡꯗ \

ꯥꯎꯔꯛꯇꯨꯅ ꯀꯪꯐꯥꯜ ꯑꯃꯨꯛ ꯌꯧꯔꯛꯂꯤꯕꯅꯤ꯫ ꯑꯌꯥꯝꯕ ꯁꯃꯨꯗ꯭ꯔꯒꯤ
ꯏꯔꯣꯜꯅꯨꯡꯗ ꯂꯩꯃꯥꯏ ꯌꯧꯔꯛꯈ꯭ꯔꯕꯁꯤꯡ ꯑꯗꯨꯗꯤ ꯃꯇꯝ ꯀꯨꯏꯅ
ꯆꯍꯤ ꯃꯤꯂꯤꯌꯟ ꯀꯌꯥ ꯇꯨꯝꯗꯨꯅ ꯂꯩꯈ꯭ꯔꯕꯒꯨꯝꯕꯅꯤ꯫ ꯑꯁꯨꯝꯅ
ꯃꯥꯡꯈ꯭ꯔꯕ ꯅꯥꯏꯇ꯭ꯔꯣꯖꯦꯟꯒꯖꯤ ꯁꯔꯨꯛꯁꯤꯡ ꯃꯥꯂꯦꯝꯒꯤ ꯂꯩꯃꯥꯏꯗ
ꯃꯦꯟꯈꯠꯄꯗ ꯑꯆꯧꯕ ꯊꯧꯗꯥꯡ ꯂꯧꯔꯤꯕꯅ ꯃꯩꯒꯤ ꯆꯤꯡꯁꯤꯡ
ꯄꯣꯛꯈꯥꯏꯕꯗ ꯄꯨꯈꯠꯂꯛꯄ ꯅꯥꯏꯇ꯭ꯔꯣꯖꯦꯟꯅꯤ꯫

ꯑꯔꯣꯏꯕꯗꯅ ꯑꯃꯨꯛ Dentrifi cation ꯀꯧꯕ ꯊꯧꯑꯣꯡ
ꯄꯥꯡꯊꯣꯛꯄ ꯉꯝꯕ ꯂꯩꯕꯥꯛ ꯂꯩꯍꯥꯎꯗ ꯍꯤꯡꯗꯨꯅ ꯂꯩꯕ Dentrifying

ꯕꯦꯛꯇꯔꯤꯌꯥꯁꯤꯡꯅ ꯅꯥꯏꯇ꯭ꯔꯣꯖꯦꯟꯕꯨ ꯅꯨꯡꯁꯤꯠꯇ ꯑꯃꯨꯛ
ꯇꯤꯜꯍꯟꯈꯤ꯫ ꯑꯁꯨꯝꯅ ꯀꯥꯟꯅꯔꯕ ꯄꯥꯝꯕꯤꯒꯤ ꯆꯪꯗꯕ ꯌꯥꯗ꯭ꯔꯕ
ꯃꯆꯜ ꯑꯁꯤꯒꯤ ꯏꯆꯦꯜ ꯑꯁꯤ ꯍꯥꯟꯅ ꯍꯥꯟꯅ ꯁꯥꯏꯀꯜ ꯑꯃꯒꯤ
ꯃꯑꯣꯡꯗ ꯆꯠꯊꯗꯨꯅ ꯂꯩꯔꯤꯕꯅꯤ꯫ ꯃꯁꯤꯒꯤ ꯁꯥꯏꯀꯜ ꯑꯁꯤꯒꯤ
ꯀꯥꯟꯅꯕ ꯑꯁꯤ ꯃꯐꯝ ꯑꯃꯗꯤ ꯐꯤꯚꯝꯒꯤ ꯃꯇꯨꯡꯏꯅꯅ ꯃꯥꯟꯅꯗꯕ
ꯀꯌꯥ ꯑꯃꯗꯤ ꯃꯤꯑꯣꯏꯕ ꯑꯩꯈꯣꯏꯅ ꯑꯣꯏꯍꯜꯂꯤ꯫ ꯀꯥꯟꯅꯔꯕ
ꯊꯧꯑꯣꯡ ꯑꯁꯤ ꯀꯥꯡꯂꯣꯟ ꯆꯨꯝꯅ ꯁꯤꯖꯤꯟꯅꯕꯒꯤ ꯐꯤꯚꯝꯁꯤꯡꯕꯨ
ꯃꯃꯨꯠ ꯇꯥꯅ ꯈꯪꯍꯟꯕꯒꯤ ꯃꯊꯧꯗꯇꯤ ꯇꯥꯔꯤ꯫ ꯃꯗꯨꯗꯤ ꯁꯥꯏꯀꯜ
ꯑꯥꯤꯗ ꯑꯆꯧꯕ ꯊꯧꯗꯥꯡ ꯂꯧꯔꯤꯕ ꯍꯤꯡꯀꯨꯞꯁꯤꯡ ꯑꯁꯤ ꯀꯔꯝꯅ
ꯀꯔꯝꯕ ꯐꯤꯚꯝꯗ ꯃꯊꯧ ꯅꯤꯡꯊꯤꯅ ꯄꯥꯡꯇꯣꯛꯍꯟꯒꯗꯒꯦ
ꯍꯥꯏꯕꯗꯨꯗꯤ꯫ ꯃꯁꯤꯕꯨ ꯃꯨꯟꯅ ꯈꯪꯗꯨꯅ ꯍꯤꯡꯀꯨꯞꯁꯤꯡꯗꯨꯕꯨ
ꯃꯊꯧ ꯅꯤꯡꯊꯤꯅ ꯄꯥꯡꯊꯣꯛꯍꯟꯗꯨꯅ ꯑꯩꯒꯤ ꯑꯩꯒꯤ ꯂꯧ TISOM

ꯀꯣꯏꯔꯤꯕ ꯂꯧꯃꯤꯁꯤꯡꯗ ꯀꯥꯟꯅꯕ ꯂꯧꯕ ꯍꯩꯕ ꯆꯪꯏ ꯍꯥꯏꯕꯅꯤ꯫

ꯍꯥꯏꯖꯅꯤꯡꯂꯤꯕꯗꯤ ꯅꯥꯏꯇ꯭ꯔꯣꯖꯦꯟ ꯌꯥꯎꯕ ꯑꯣꯔꯒꯥꯅꯤꯛ
ꯁꯣꯔꯁꯁꯤꯡ ꯑꯁꯤꯕꯨ, ꯃꯈꯣꯏꯗ ꯌꯥꯎꯔꯤꯕ ꯅꯥꯏꯇ꯭ꯔꯣꯖꯦꯟ ꯑꯗꯨ
ꯃꯊꯛꯇ ꯊꯝꯖꯈꯤꯕ ꯀꯥꯟꯅꯕ ꯃꯑꯣꯡꯗ ꯑꯣꯟꯊꯣꯛꯄꯒ ꯂꯣꯏꯅꯅ
ꯊꯥꯔꯤꯕ ꯄꯥꯕꯤꯗ ꯐꯪꯍꯟꯗꯨꯅ ꯅꯨꯡꯁꯤꯇ ꯃꯄꯥꯟ ꯅꯥꯏꯗꯅ ꯌꯥꯎꯔꯤꯕ
ꯅꯥꯏꯇ꯭ꯔꯣꯖꯦꯟꯒꯤ ꯀꯥꯟꯅꯕ ꯂꯧꯕ ꯑꯗꯨꯅꯤ꯫ ꯍꯥꯏꯔꯤꯕ ꯋꯥꯐꯝ
ꯑꯥꯤꯃꯛ ꯃꯈꯜ ꯀꯌꯥꯒꯤ ꯀꯝꯄꯣꯁꯠ ꯁꯦꯝꯕ, ꯁꯟꯇꯤ, KE\

ꯨꯡꯒꯤ ꯍꯥꯔ (ꯑꯦꯐ ꯋꯥꯏ ꯑꯦꯝ) ꯁꯦꯝꯕ ꯃꯈꯣꯏꯕꯨ ꯁꯤꯖꯤꯟꯅꯕꯒꯤ
ꯇꯥꯟꯖꯥ ꯈꯪꯕ ꯑꯁꯤꯅꯆꯡꯤꯕ ꯀꯌꯥ ꯑꯃꯅꯤ꯫ ꯍꯤꯡꯀꯨꯞꯁꯤꯡ
ꯑꯁꯤꯅ ꯃꯥꯅ ꯃꯥꯅ ꯄꯠꯊ ꯄꯨꯝꯊꯗꯨꯅ ꯅꯥꯏꯇ꯭ꯔꯣꯖꯦꯟꯕꯨ ꯄꯥꯝꯕꯤꯅ
ꯁꯤꯖꯤꯟꯅꯕ ꯌꯥꯕ ꯃꯈꯜ ꯑꯃꯗꯤ ꯇꯥꯟꯖꯥ ꯑꯁꯤꯅꯆꯤꯡꯕ ꯃꯨꯟꯅ
ꯈꯪꯂꯕ ꯃꯇꯝꯗꯇ ꯉꯁꯤ ꯊꯝꯖꯔꯤꯕ ꯋꯥꯐꯁꯤꯡ ꯑꯁꯤꯒꯤ
ꯑꯁꯦꯡꯕ ꯀꯥꯟꯅꯕ ꯑꯗꯨ ꯑꯣꯏꯒꯗꯇꯧꯔꯤꯕꯅꯤ꯫

ꯊꯧꯑꯣꯡꯁꯤꯡ ꯑꯁꯤ ꯈꯪꯂꯗꯤ ꯑꯩꯈꯣꯏꯅ ꯏꯁꯥꯒꯤ ꯂꯩꯕꯥꯛ
ꯂꯩꯍꯥꯎꯗ ꯅꯥꯏꯇ꯭ꯔꯣꯖꯦꯟ ꯀꯔꯝꯅ ꯍꯟꯖꯤꯟꯍꯟꯗꯨꯅ ꯃꯁꯤꯒꯤ
ꯀꯥꯟꯅꯕ ꯃꯇꯧ ꯀꯔꯝꯕ ꯃꯇꯝ ꯈꯔ ꯁꯤꯖꯤꯟꯅꯍꯧꯒꯅꯤ
ꯍꯥꯏꯕ ꯈꯪꯕ ꯉꯝꯂꯅꯤ ꯈꯟꯖꯗꯨꯅ ꯉꯁꯤꯒꯤ ꯈꯔꯗꯤ ꯆꯃꯝꯅꯕ
ꯇꯣꯄꯤꯛ ꯑꯁꯤ ꯊꯝꯖꯕꯅꯤ꯫ ꯃꯊꯪꯗ ꯉꯁꯤꯒꯤ ꯈꯨꯏꯗ ꯐꯨꯝꯗꯨꯅ
ꯊꯝꯂꯤꯕ ꯋꯥꯐꯝ ꯈꯔ ꯑꯔꯥꯏꯕ ꯃꯑꯣꯡꯗ ꯑꯃꯨꯛ ꯊꯝꯖꯅꯕꯒꯤ
ꯇꯥꯟꯖꯥ ꯑꯗꯨ ꯂꯧꯖꯒꯦ꯫ ꯍꯥꯏꯕꯗꯤ ꯑꯣꯔꯒꯥꯅꯤꯛ ꯃꯦꯇꯔꯁꯤꯡꯒꯤ
ꯀꯝꯄꯣꯁꯇꯤꯡ, ꯗꯤꯀꯝꯄꯣꯖꯤꯁꯟ, ꯃꯁꯤꯒꯤ ꯊꯧꯑꯣꯡ ꯑꯃꯗꯤ
ꯀꯥꯟꯅꯕ ꯀꯔꯤꯅꯣ, ꯀꯔꯝꯅ ꯀꯥꯟꯅꯕ ꯑꯗꯨ ꯂꯧꯒꯅꯤ ꯍꯥꯏꯕꯗꯨꯒꯤ
ꯃꯔꯝꯗꯅꯤ꯫

ꯑꯦꯁ ꯁꯨꯃꯪꯒꯣꯜ ꯁꯤꯡꯍ

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