ᑲᑎᒪᔨᕋᓛᑦ ᖃᓄᐃᓕᕐᓂᖏᓐᓄᑦ
ᓄᖑᓕᒑᑐᐃᓐᓇᓇᐊᖃᕐᓂᖏᓐᓂ ᐆᒪᔪᐃᑦ ᑲᓇᑕᒥ
ᑳᓐᖓᒃᑯᑦ ᑲᑎᒪᔨᕋᓛᖏᑦ
ᖃᐅᔨᓴᖅᓯᒪᔭᖏᓐᓄᑦ ᐊᒻᒪᓗ ᖃᓄᐃᓕᖕᒐᓂᖏᓐᓄᑦ
ᐅᓂᒃᑳᓕᐊᖏᑦ

ᐱᔾᔪᑎᒋᓪᓗᒋᑦ

ᐊᑦᓛᓐᑎᒃᒥᑦ ᐆᒐᐃᑦ

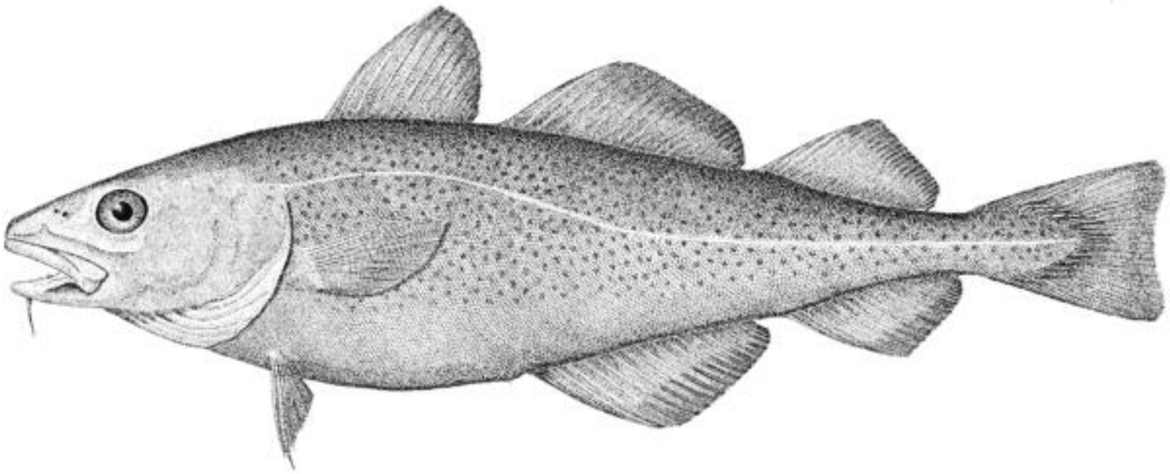
ᓛᑎᓐᑎᑐᑦ

Gadus morhua

ᓗᐊᕆᐊᓐᓴᓐ ᑕᓯᕐᔻᑉ ᐅᐊᖕᓇᖕᒐᓂ ᐆᒐᐃᑦ
ᓗᐊᕆᐊᓐᓴᓐ ᑕᓯᕐᔻᑉ ᓂᒋᐊᓂ ᐆᒐᐃᑦ
ᓂᐅᕗᓐᓛᓐᒥ ᐸᓚᑐᐊᕆᒥᓗ ᐆᒐᐃᑦ
ᓂᒋᖅᐸᓯᖕᒦᑦᑐᑦ ᐆᒐᐃᑦ
ᐅᑭᐅᖅᑕᖅᒥ ᑕᓯᕐᓂᓲᑦ ᐆᒐᐃᑦ
ᐅᑭᐅᖅᑕᖅᑐᒥ ᑕᓇᐅᕐᒦᓲᑦ ᐆᒐᐃᑦ

ᑲᓇᑕᒥ

ᑳᓐᖓᒃᑯᑦ ᑲᑎᒪᔨᕋᓛᖏᑦ
ᑲᑎᒪᔨᕋᓛᑦ ᑲᓇᑕᒥ ᖃᓄᐃᓕᖕᒐᓂᖏᓐᓄᑦ
ᓄᖑᓕᒑᔪᓐᓇᖅᑐᒦᓕᕐᓂᖏᓐᓄᑦ ᐆᒪᔪᐃᑦ ᑲᓇᑕᒥ



ᐅᑭᐅᖅᑕᖅᑐᒥ ᑕᓯᕐᓃᓰᑦ ᐆᒐᐃᑦ - ᐊᔾᔨᐅᖕᒋᑦᑐᒥᒃ ᐃᓱᒪᒎᑕᐅᔪᑦ

ᑳᔅᑲᒃᑯᑦ ᑲᑎᒪᔨᖏᓐᓂᒃ
ᖃᐅᔨᓴᖅᑕᐅᓯᒪᓂᖏᓐᓄᑦ ᓇᐃᓈᖅᑕᐅᓯᒪᔪᑦ ᐅᓂᒃᑳᓕᐊᑦ

ᖃᐅᔨᓴᖅᑕᐅᓯᒪᓂᖏᓐᓄᑦ ᓇᐃᓈᖅᑕᐅᓯᒪᓪᓗᑎᒃ ᐅᓂᒃᑳᓕᐊᑦ – ᐄᐳ 2010

ᑕᐃᔭᐅᓂᖓ ᐆᒪᔫᑉ

ᐊᑦᓛᓐᑎᒃᒥ ᐆᑲᐃᑦ – ᐅᑭᐅᖅᑕᖅᑐᒥ ᑕᓯᕐᓃᓰᑦ ᐆᑲᐃᑦ

ᖃᐅᔨᓴᖅᑎᓄᑦ ᑕᐃᔭᐅᓂᖏᑦ ᓚᑎᓐᑎᑐᑦ

Gadus morhua

ᖃᓄᐃᓕᖓᓂᖏᑦ

ᐊᔾᔨᖏᑦᑐᒥᒃ ᐃᓱᒫᓗᑕᐅᔪᑦ

ᐱᔾᔪᑕᐅᔪᑦ ᑕᐃᒫᒃ ᑎᒃᑯᐊᖅᑕᐅᓂᖏᑦ

ᐱᔾᔪᑕᐅᔪᑦ ᖃᓄᐃᓕᖓᓂᖏᓐᓂᒃ ᑎᒃᑯᐊᖅᓯᓂᖅ ᑐᓂᔭᐅᓯᒪᔪᑦ ᑲᑎᒪᕋᓛᓂᒃ ᖃᓄᐃᓕᖓᓂᖏᓐᓄᑦ ᐅᓗᕆᐊᓇᖅᑐᒦᓕᕈᓐᓇᕐᓂᖏᓐᓄᑦ ᐆᒫᔪᐃᑦ ᑲᓇᑕᒥ ᑳᔅᑲᒃᑯᑦ ᑲᑎᒪᔨᖏᓐᓄᑦ: ᑖᒃᑯᐊ ᓇᑐᓇᐃᖅᑕᐅᓯᒪᔪᓐᓇᖅᑐᑦ ᐆᒫᔪᐃᑦ ᐱᑕᕐᑲᖅᐳᑦ ᐱᖓᓱᓂᒃ ᑕᓯᕐᓂ, ᕿᑭᖅᑖᓘᖕᒥ, ᓄᓇᕗᒻᒥ. ᑲᑎᒻᒧᒋᑦ ᐊᖏᓂᖏᑦ ᖄᖏᑦ ᐃᒪᐃᑦ ᐱᖓᓱᓂᒃ ᑕᓰᑦ ᒥᑭᓐᓂᖅᓴᐅᕗᑦ 20 km2-ᓂᒃ. ᐊᓯᖏᓐᓄᑦ ᐃᑲᔪᖅᑕᐅᔪᓐᓇᕐᓂᖏᑦ ᑕᓯᕐᓂᒃ ᑎᒃᑯᐊᖅᑕᐅᓯᒪᕐᑲᑕᐅᔪᓐᓇᖅᑐᓂᒃ ᐱᑕᕐᑲᖏᓪᓚᑦ. ᐃᓚᖓᑦ ᑕᓯᖅ, ᐆᑲᖅ ᑕᓯᖅ-ᖁᓂᕋᖅᑕᐅᔪᖅ, ᐃᕐᑲᓪᓚᐊᕐᕕᐅᓯᒪᕚᒃᑐᖅ ᐊᒥᓱᐊᓗᐃᓪᓗ ᐄᔭᖅᑕᐅᓯᒪᔪᓐᓇᖅᑐᑦ ᑕᐅᕙᓂ ᐃᕐᑲᓪᓚᐊᕈᓐᓇᖅᑎᑕᐅᖏᓐᓇᖅᐸᑕ.

ᓇᓃᓐᓂᖏᑦ

ᓄᓇᕗᑦ

ᖃᓄᐃᓕᖓᓂᖏᓐᓄᑦ ᐅᓂᒃᑳᑦ ᐱᒋᐊᖓᓚᐅᖅᓯᒪᔪᓂᒃ

ᑖᒃᑯᐊ ᐆᒪᔪᐃᑦ ᐃᓱᒪᒋᔭᐅᓚᐅᖅᓯᒪᔪᑦ ᐊᑕᐅᓯᕐᒦᑐᕐᑲᑐᐃᓐᓇᕋᓱᒋᔭᐅᓪᓗᑎᒃ, ᑎᒃᑯᐊᖅᑕᐅᓚᐅᖅᓯᒪᔪᑦ ᐊᔾᔨᐅᖏᑦᑐᒥᒃ ᐃᓱᒫᓗᑕᐅᓂᖅ ᐄᐳ 1998-ᒥ. ᐆᒪᔪᐃᑦ ᑖᒃᑯᐊ ᐊᕙᒃᑕᐅᖕᒪᑕ ᐊᑕᐅᓯᕐᒦᑦᑐᓐᓃᖅᓯᑎᒃ ᒪᐃ 2003-ᒥ, ᐅᑭᐅᖅᑕᖅᑐᒥ ᐱᑕᕐᑲᕐᓂᖏᑦ ᑎᒃᑯᐊᖅᑕᐅᓚᐅᖅᓯᒪᔪᑦ ᐊᔾᔨᐊᖏᑦᑐᒥᒃ ᐃᓱᒫᓗᑕᐅᓂᖅ. ᐅᑭᐅᖅᑕᖅᑐᒦᑦᑐᑦ ᐱᑕᕐᑲᕐᓂᖏᑦ ᓱᓕᒃᑲᓐᓂᖅ ᐊᕙᒃᑐᖅᑕᐅᒐᒥᒃ ᒪᕐᕈᖕᓄᑦ ᐆᒪᔪᕐᑲᕐᕖᖕᓄᑦ (ᐅᑭᐅᖅᑕᖅᑐᒥ ᑕᓯᕐᓂᒃ ᐆᑲᐃᑦ ᐊᒻᒪᓗ ᐅᑭᐅᖅᑕᖅᑐᒥ ᑕᓇᐅᕐᒥ ᐆᑲᐃᕐ) ᐄᐳ 2010-ᒥ, ᑕᐃᒃᑯᐊ ᐅᑭᐅᖅᑕᖅᑐᒥ ᑕᓯᕐᓃᓐᓂᖏᑦ ᑎᒃᑯᐊᖅᑕᐅᓚᐅᖅᓯᒪᔪᑦ ᐊᔾᔨᐅᖏᑦᑐᒥᒃ ᐃᓱᒫᓗᑕᐅᓂᖅ, ᐊᒻᒪᓗ ᓯᕗᓪᓕᖅᐹᑦ ᐅᑭᐅᖅᑕᖅᑐᒥ ᐆᑲᕐᑲᕐᕕᐅᓯᒪᔪᑐᕐᑲᐃᑦ ᐃᓕᑕᕆᔭᐅᒪᓂᖏᑦ ᐊᑐᕈᓐᓃᖅᑎᑕᐅᓪᓗᑎᒃ.

ᑳᓐᖓᒃᑯᑦ ᑲᑎᒪᔨᖏᓐᓂᒃ
ᐊᐅᓚᑎᔨᓅᖓᔪᑦ ᓇᐃᓈᖅᑕᐅᓯᒪᔪᑦ ᐅᓂᒃᑳᓕᐊᑦ
ᐊᑦᓛᓐᑎᒃᒥ ᐆᒐᐃᑦ
Gadus morhua

ᐅᑭᐅᖅᑕᖅᑐᒥ ᑕᓯᕐᓂ ᐆᒐᐃᑦ

ᐆᒫᔪᐃᑦ ᒥᒃᓵᓄᑦ ᖃᐅᔨᒪᔭᐅᔪᒃᓴᐃᑦ

ᖃᓄᐃᑦᑑᓂᖏᑦ: ᓴᐅᓂᓖᑦ ᐃᖃᓗᐃᑦ
ᓱᓇᐅᓂᖏᑦ: ᐆᒐᐅᑏᑦ
ᐃᓚᖅᑲᕐᓂᖏᑦ ᑕᕆᐅᒦᓲᑦ ᖃᐅᓪᓗᖅᑐᓂᒃ ᓂᕿᓖᑦ ᐃᒪᕐᒥᐅᑕᐃᑦ
ᓖᑎᓐᒥᐅᑎᑐᑦ ᑕᐅᔭᐅᓕᓚᐅᖅᓯᒪᓂᖓ: *Gadus morhua* Linnaeus 1758
ᑕᐃᔭᐅᖃᑦᑕᑐᐃᓐᓇᕐᓂᖏᑦ: ᖃᓗᓈᑎᑐᑦ – ᐊᑦᓛᓐᑎᒃ ᐆᒐᐃᑦ
ᐅᐃᕖᖅᑎᑐᑦ – morue franche
ᐃᓄᒃᑎᑐᑦ – ᐆᒐᖅ (ᓄᓇᕗᑦ) ᐆᕙᒃ, ᐆᒐᒃ (ᐅᖓᕙᒥᐅᓂ) ᐆᒐᒃ, ᐅᒐᒃ (ᐃᓄᒥᐅᓄᑦ, ᓚᐸᑐᐊᕆᒥᐅᓄᑦ) (ᒪᒃᐋᓕᔅᑕᒃᑯᑦ ᖃᐅᔨᓴᖅᓯᒪᔭᖏᑦ ᐃᓚᖏᓪᓗ 1987)

ᓇᓃᖕᓂᖏᑦ

ᐊᑦᓚᓐᑎᒃᒥᒃ ᐆᒐᐃᑦ ᐱᑕᖅᑲᕐᒪᑕ ᑕᒪᐃᓐᓂ ᐃᒪᕐᓂ ᓄᓇᓗᐊᓂ ᐊᑕᔪᒥ ᐅᐊᖕᓇᖅᐸᓯᐊᑕ ᐱᖕᒐᖕᓇᖕᒐᓂᒃ ᐊᒻᒪᓗ ᐅᐊᖕᓇᖅᐸᓯᐊᑕ ᑲᓇᖕᓇᖕᒐᓂ ᐊᑦᓛᓐᑎᒥᒃ ᑕᕆᐅᕐᒥ. ᓯᓚᕐᔪᐊᓕᒫᖅ ᑕᑯᓪᓗᒍ, ᑕᐃᔅᓯᒪᓂᓕᒫᖅ ᓇᓃᖅᑲᑦᑕᕐᓂᖏᑦ ᐆᒐᐃᑦ ᐊᔾᔨᑐᐃᓐᓇᓇᒐᓚᒃᐸ ᓱᓕ ᑕᐃᒃᑯᓇᖕᒐᑦ

ᒫᓇᐅᓕᖅᑐᖅ ᐱᑕᕐᑲᕐᓂᖏᓐᓂᒃ. ᑲᓇᑕᒥ, ᐊᑦᑖᓐᑎᒃ ᐆᒪᐃᑦ ᐱᑕᕐᑲᓖᑦ ᑕᐅᕘᓇᓕᒫᖅ ᕿᓚᓕᐊᒧᑦ ᓯᒡᔭᖏᓐᓄᑦ ᑲᓇᖕᓇᕐᒥᐅᑦ ᔾᔪᐊᔾᔨᑉ ᐹᖕᒃᖕᓴᓂᒃ, ᑕᐅᕗᖓ ᐲ ᐊᕝ ᕙᓐᑎᐅᑉ ᓂᕆᐊᓂ, ᑕᒃᐸᐅᖓ ᐅᐊᖕᓇᖅᐸᓯᐊᓄᑦ ᓯᑰᓯᐊᒥᐅᑦ ᓄᓅᔪᐊᑕ ᕿᓚᓕᐊᒧᑦ, ᑕᐅᕘᓇᓕᒫᖅ ᐃᒪᕐᑲᕐᓂᐊᒧᑦ ᒐᓪᕝ ᐊᕝ ᓴᐃᓐᑦ ᓗᐊᕆᓐᔅ, ᐊᕙᓗᐊᒧᑦ ᕿᑭᖅᑕᖕᒐᑕ ᓂᐅᕙᓐᓚᓐ, ᐊᒻᒪᓗ ᑲᓇᖕᓇᖅᐸᓯᐊᒧᑦ ᓯᒡᔭᖏᓐᓄᑦ ᓚᐸᑐᐊᕆᑉ ᐊᒻᒪᓗ ᕿᑭᖅᑖᓘᑉ, ᓄᓇᕗᑦ. ᐱᖓᓯᓂᒃ ᐱᑕᑲᕐᒥᔪᖅ ᑕᓯᕐᒥᐅᑕᓂᒃ ᑕᑎᐅᖑᖏᑐᒥ ᕿᑭᖅᑖᓘᖕᒥ. ᓯᓚᑖᓂ ᑲᓇᑕᐅᑉ ᐃᒪᖏᓐᓂ ᐅᐊᖕᓇᖓᑕ ᐱᖓᖕᓇᖅᐸᓯᐊᓂ, ᐆᒐᕐᑲᕐᒥᔪᖅ ᐅᐊᖕᓇᖓᑕ ᑲᓇᖕᓇᖅᐸᓯᐊᓂ ᐊᒻᒪᓗ ᓂᕆᐊᑕ ᑲᓇᖕᓇᖅᐸᓯᐊᓂ ᓄᕗᐊᓂ ᒍᕌᓐᑦ ᐹᖕᒃ, ᐊᒻᒪᓗ ᕙᓚᒥᔅ ᑳᑉᒥ, ᐊᑭᑦᑎᐊᖕᒐ ᐅᐊᖕᓇᖅᐸᓯᐊᖕᒐᑕ ᑲᓇᖕᓇᖕᒐᓂᒃ ᒍᕋᓐᑦ ᐸᖕᒃᒥᒃ, ᐊᒻᒪᓗ ᐃᒪᕐᓂ ᑲᓇᖕᓇᖅᐸᓯᐊᓂᒃ ᕿᑭᖅᑖᓘᑉ, ᑎᑭᐅᒪᓪᓗᑎᒃ ᐱᖓᖕᓇᖅᐸᓯᐊᓄᑦ ᐊᑯᑭᑦᑑᑉ.

ᓇᔪᖅᐸᒃᑕᖏᑦ

ᓯᕗᓪᓕᖅᐹᓂᒃ ᐱᓇᓱᐊᕈᓯᕐᓂᒃ ᐅᒻᒪᓵᖅᑎᓪᓗᒋᑦ ᒪᓂᐅᓕᖅᐸᒃᑐᑦ ᐊᒻᒪᓗ ᐃᖅᑲᓗᒑᓐᔫᒧᓕᖅᓯᑎᒃ, ᐃᒪᕐᒥᒃ 50 ᒦᑕᓕᖕᒥᒃ ᑕᑎᐅᑉ ᐃᑎᓂᖓᓂ. ᓅᔪᕈᓇᕈᑎᕐᑲᖅᐳᑦ ᐆᒪᐃᑦ ᑕᒪᒃᑯᓂᖕᒐ ᐃᒪᕐᓂᒃ ᐆᒻᒪᓵᖅᓯᒪᓂᖏᓐᓂ ᐃᔾᔪᑎᕐᑲᖅᑐᓂᒃ ᒪᓂᐅᓂᖏᓐᓂᒃ, ᐃᖅᑲᓗᒑᕐᔫᓂᖏᓐᓂᒃ, ᓂᕐᑭᒃᓴᕐᑲᑦᑎᐊᕐᓂᖏᓐᓂᒃ ᐊᒻᒪᓗ ᓂᓪᓚᓯᖕᓂᖕᒐᓂᒃ. ᓇᔪᕈᓐᓇᖅᑕᖏᓐᓄᑦ ᐱᒻᒪᕆᐅᓂᖅᐹᖑᔪᑦ ᓱᓕ ᐱᕈᐊᓂᒃᓯᒪᖏᑦᑐᒧᑦ ᐆᒪᐃᑦ ᐃᒪᐅᑉ ᓇᑎᐊᓃᓕᕐᑲᑦᑕᕐᓂᖏᑦ ᓯᕗᓪᓕᖅᐹᒥᒃ ᐊᑕᓯᐅᒥᖅ ᐅᑭᐅᕐᒥᒃ ᓯᑕᒪᓄᑦ ᐅᑭᐊᕐᓄᑦ. ᑐᑭᓯᔭᐅᓯᒪᔪᔮᖅᑐᑦ ᐊᒥᓲᓂᖏᑦ ᐊᔾᔨᐅᖏᑦᑐᐃᑦ ᐆᒪᔪᐃᑦ ᐱᑕᕐᑲᕐᓂᖏᑦ, ᐱᓗᐊᖅᑐᒥᒃ ᓱᓂᒧᑦ ᐱᕈᖅᓯᒪᔪᑦ, ᓲᕐᓗ ᐱᕈᖅᑐᑦ (eelgrass-ᖑᓂᖁᖅᑕᐅᔪᑦ *Zostera marina*) ᓯᒡᔭᒧᑦ ᖃᓄᑦᑐᒦᓲᑦ, ᓂᕆᔭᐅᓕᔪᖕᒪᑕ ᐱᕈᐊᓂᒃᓯᒪᒻᒪᕆᖕᒋᑦᑐᑦ ᓱᓕ ᐆᒐᕐᓄᑦ, ᓂᕆᔭᐅᖕᒑᕈᓇᖕᒋᓂᖏᓐᓄᑦ ᑕᒪᒃᑯᓄᖕᒐ ᐊᒻᒪᓗ ᐃᒻᒪᕐᑳ ᐱᕈᕈᑎᒋᕙᖕᓂᕐᒧᑦ. ᐱᕈᐊᓂᒃᓯᒪᓕᖅᑎᓪᓗᒋᑦ, ᓇᔪᕈᓐᓇᖅᑕᖏᑦ ᐆᒪᐃᑦ ᐊᒥᓲᓂᖅᓴᓂᒃ ᓱᓇᕐᑲᕐᓂᖅᓴᐅᔭᕆᐊᕐᑲᓕᓲᖑᔪᑦ ᓂᕐᑭᒃᓴᕐᑲᖅᑐᓂᒃ. ᓲᕐᑲᐃᒻᒪᓗᓐᓃᑦ- ᓇᓗᓇᖅᑐᖅ ᓱᓕ ᑕᐃᒃᑯᐊ ᐱᑐᕐᑲᐅᓂᖅᓴᐃᑦ ᐆᒐᑐᕐᑲᐅᓂᖅᓴᐃᑦ ᐃᑎᓂᖅᓴᒦᕐᑲᑦᑕᓇᐊᕐᑲᕐᒪᖔᑕ ᐅᕝᕙᓗᓐᓃᑦ ᐊᔾᔨᐅᖏᑦᑐᓕᒃ ᓂᕐᑭᒃᓴᕐᑲᕐᓂᖅᓴᐅᔨᒦᕆᐊᕐᑲᕐᒪᖔᑕ. ᐱᓗᐊᖅᑐᒥᒃ ᐱᔾᔪᑕᐅᕙᒃᐳᑦ ᐱᑕᕐᑲᕈᓇᕐᓂᖕᓂᑦ ᐃᓱᒪᕆᔭᐅᓯᒪᔪᑦ ᐱᑐᕐᑲᐅᓂᖅᓴᐃᑦ ᐆᒪᐃᑦ ᓂᓪᓚᓯᖕᓂᖕᒐ ᐃᒪᖅ ᐊᒻᒪᓗ ᓂᕐᑭᒃᓴᕐᑲᕐᓂᖅ. ᒪᓐᓃᔭᕐᓂᐊᓕᖄᖕᒐᑕ, ᖃᐅᔨᒪᔭᐅᖏᑦᑐᑦ ᐆᒪᐃᑦ ᐊᔾᔨᒋᒃᑐᐃᓐᓇᕐᓂᒃ ᓇᔪᒐᕐᑲᐃᓐᓇᑎᐊᕐᑲᕐᒪᖔᑕ ᒫᓃᔭᕐᓂᐊᓕᖁᖕᒐᒥᒃ. ᐆᒪᐃᑦ ᒪᓃᔭᕐᓂᖏᑦ ᐃᒪᕐᓂᒃ ᐃᑎᓂᕐᒦᕐᑲᑦᑕᖅᓯᒪᕗᑦ 10–ᖏᓐᓂᒃ 100–ᖏᓐᓄᑦ ᒦᑕᓕᖕᓂᒃ ᐃᑎᓂᕐᒥᒃ ᐃᒪᕐᒥ. ᐃᒻᒪᖄ ᒪᓂᖏᑦ ᐆᒻᒪᕈᓇᕐᑲᑦᑕᕐᓂᖏᓐᓄᑦ ᐱᐅᓂᖅᐹᖑᔾᔪᑕᐅᔪᖅ ᑕᑎᐅᕐᒦᓐᓂᖏᑦ, ᐳᑦᑐᕈᓇᕐᓂᖅᓴᐅᕐᑲᑦᑕᕐᒪᑕ ᒪᓂᖏᑦ ᑕᑎᐅᕐᒥ, ᐊᓯᖏᓐᓄᓪᓗ ᐊᐅᓚᐅᔾᔭᐅᔪᒥᓇᖏᓐᓂᖅᓴᐅᓪᓗᑎᒃ ᓇᒻᒪᖏᓗᐊᖅᑐᓂᒃ ᒪᓂᕐᑲᕐᕕᖕᓄᑦ, ᓲᕐᓗ ᓄᓇᒥᒃ ᐊᑖᓃᑦᑐᒥᒃ ᐅᖓᓯᓗᐊᖅᑐᒥᒃ. ᒫᓇᐅᔪᖅ, ᒫᓅᔭᕐᓂᓇᕈᒃᑕᖏᑦ ᐊᒥᑯᕆᓇᖏᑦᑐ ᓇᔪᕈᓇᖅᑕᖏᑦ.

ᐆᒪᔫᓂᖏᑦ

ᐊᔾᔨᒌᖅᑲᑦᑕᖏᓪᓚᑕ ᐆᒪᕐᑲᑦᑕᕐᓂᖏᑦ ᐆᒪᐃᑦ ᓇᓂᑐᐃᓐᓇᖅ ᐊᕕᒃᑐᖅᓯᒪᔪᓂ. ᐆᓇᕐᓂᖅᓴᓂ

ᐃᒪᕐᓂ ᓂᒋᐊᑕ ᐃᓱᖅᐸᓯᐊᓂ ᑲᓇᑕᒥᐅᑦ ᔪᓈᓗᐊᓐᓂ (ᔾᔪᐊᔨᑉ ᐹᖅᑲᓂ ᐃᒪᕐᓂ, ᒪᐃᓐᒥᖕᖔᖅᓯᒪᔪᒥ), ᐊᒻᒪᓗ ᐲ ᐊᕝ ᕙᓐᑎᒥ, ᐆᕙᐃᑦ ᐱᕈᐊᓂᒃᓯᒪᓕᓲᑦ ᒪᕿᙱᒃ ᐱᖕᖓᓱᓂᒡᓗᓐᓃᑦ ᐅᑭᐅᖅᑕᓕᖅᓱᑎᒃ. ᓴᓂᐊᓂᓕ, ᑕᐃᒃᑯᐊ ᐅᐊᖕᓇᖕᖓᑕ ᑲᓇᖕᓇᖅᐸᓯᐊᓃᑦᑐᑦ ᓂᐅᕙᓛᓐ ᔪᓇᓗᐊᑕ ᐃᒪᖏᓐᓂ, ᓚᐸᑐᐊᕆᑉ ᑲᓇᖕᓇᖕᖓᓂ, ᐊᒻᒪᓗ ᐱᐅᕆᓐᑦ ᑕᕆᐅᖕᖓᓃᑦᑐᑦ ᐱᑕᐊᓂᓕᓴᓲᑦ ᑕᓛᓂ ᐅᑭᐅᖅᑕᓖᖕᖓᒥᒃ ᑕᑦᑕᒪᓂᒃ 7−ᓄᑦ. ᐊᖏᓂᖅᑲᕈᓐᓇᖅᑐᑦ ᐱᐅᓂᒃᓯᒪᓕᖅᓱᑎᒃ ᐊᑯᓐᖏᓐᓂᒃ 35−ᓂᒃ 85-ᓄᑦ ᓴᓐᑎᒦᑕᓂᒃ. ᒪᓂᒃᑖᖅᓯᒪᓲᑦ ᐊᕐᕋᒍᑕᒦᖅ ᐃᒪᐃᓐᓇᕙᔪᒃᑐᓂᒃ ᐊᑯᓐᓂᖏᓐᓂᒃ 300,000 ᐊᒻᒪᓗ 500,000, ᐱᕈᐊᓂᒃᓯᒪᓕᖅᑎᓪᓗᒋᑦ, ᐊᒥᓱᒐᓴᖕᓂᒃ ᒥᓕᔭᓐᖏᓐᓃᑦᑐᓐᓇᒻᒪᕆᒃᑐᑦ ᒪᓂᖏᑦ ᐊᕐᓇᑦᓗᐃᑦ, ᑕᑭᓂᖅᓴᐅᔪᑦ 75 ᓯᓐᑕᒦᑕᓂᒃ. ᒪᓐᓂᖏᑦ, ᓱᖅᑎᖅᓴᕋᐃᑦᑐᑦ, ᑎᒥᐊᑕ ᐊᖏᓂᖓᓂᒃ ᒪᓂᒃᑖᖅᑐᑉ ᒪᓕᒃᓱᑎᒃ, ᐊᖏᓂᖅᑲᕈᓐᓇᖅᐳᑦ 1.25 ᒥᓕᒦᑕᓂᒃ 1.75 ᒥᓕᒦᑕᓄᑦ.

ᐊᑦᓛᓐᑎᒃ ᐆᕙᐃᑦ ᑖᒃᑯᐊ ᒪᓐᓃᔭᐃᕙᑦᑕᐊᓂᖅᑲᓲᑦ ᐅᖕᖓᑖᓂᐅᖕᖏᑦᑐᖅ ᐱᖕᖓᓱᑦ ᑕᕿᑦ, ᐃᒪᕐᓂ ᐃᑎᓂᖅᑲᖅᑐᓂ ᐊᔾᔨᒌᖕᒋᑦᑑᑎᓂᒃ, 10−ᖏᓐᓃᑦᑐᓂᒃ 100−ᖏᓐᓃᑦᑐᓄᑦ ᒦᑕᓄᑦ. ᐆᕙᐃᑦ ᐅᖅᑲᐅᓯᐅᓯᒪᔪᑦ ᐊᑕᐅᑎᒃᑯᑦ ᑲᑎᙵᔪᓂᒃ ᒫᓂᔭᖅᓂᕋᖅᑕᐅᕙᖕᓂᖅ ᑕᑯᔭᐅᖅᑲᑦᑕᖅᓯᒪᒐᒥᒃ ᑕᑦᑕᒪᐃᓇᓂᒃ 25 ᐳᓴᓐᑎᓄᑦ ᐊᕐᓇᑦᓗᐃᑦ ᒪᓐᓂᖏᑦ ᐊᓂᐊᑎᑕᐅᓲᖑᖕᒪᑕ ᖃᖕᒐᑐᐃᓐᓇᖅ (ᐊᑯᓂᐅᓂᖅᑲᕋᔪᒃᑐᒥᒃ ᒪᕿᙱᒃ 6-ᓄᑦ ᐅᑦᑐᓄᑦ) ᒫᓃᔭᕐᓂᖏᓐᓂ ᐱᖕᖓᓱᓂᒃ 6-ᓄᑦ ᐱᓇᓱᐊᕈᓯᐅᓚᔪᒃᑐᓂ. ᐃᖅᑲᓗᓚᐅᓂᖏᓐᓂ, ᒥᑭᔫᑎᕈᓗᐃᑦ ᓂᕆᓲᑦ ᐃᒪᕐᒥᐅᑕᓂᒃ ᐱᕈᖅᑐᓂᒃ ᐊᒻᒪᓗ ᒥᑭᔪᑎᒻᒪᕆᖕᓂᒃ ᖁᑉᐱᕈᕐᓂᒃ, ᖁᑦᑎᖕᓂᖅᓴᐅᓂᕐᒥᒃ ᐃᒪᕐᒥ 10-50 ᒦᑕᓂᒃ ᐃᒪᕐᒥ. ᒪᓐᓂᐅᔪᓐᓃᖅᓯᒪᑦᓗᑎᒃ, ᐃᖅᑲᓗᓚᐃᑦ, ᐊᖅᑲᖅᐸᒃᑐᑦ, ᓇᑎᐊᓄᑦ ᐃᒪᐅᑉ, ᑕᐃᑲᓃᑯᑖᒃᑐᔫᖅᑲᑦᑕᖅᓱᑎᒃ ᐊᑕᐅᓯᖅᒥᒃ ᓯᑕᒪᓄᑦ ᐊᖅᑯᓄᑦ. ᑕᒪᓐᓇ ᑐᖕᖓᕕᕆᕙᒃᑕᖏᑦ ᐃᑲᑦᑐᒻᒪᕆᐊᕙᒃᑐᑦ (< 10 ᒦᑕᓂᒃ 30 ᒦᑕᓄᑦ) ᓯᑉᔭᒥᐅᖅᐸᓯᖕᓂ ᐊᒻᒪᓗ ᐃᑎᓂᖅᓴᐅᔪᓂ 50−ᓂᒃ 150 ᒦᑕᓄᑦ) ᐃᒪᕐᓂ ᐃᑎᓂᖅᓴᓂᒃ ᐃᒪᐅᓂᕐᓂᒃ. ᓄᖅᑲᖓᑯᑖᓚᐅᖅᓱᑎᒃ, ᐅᒃᐱᕆᔭᐅᕗᖅ ᑕᒪᒃᑯᐊ ᐆᕙᐃᑦ ᐊᐅᓚᕙᑦᓕᐊᓕᖅᑲᑦᑕᕐᓂᖏᑦ, (ᓇᒨᖕᖓᐅᓂᐊᕐᓂᖏᑦ ᓇᓗᓇᖅᓱᑎᒃ ᓯᒡᔭᑎᒍᑦ ᐃᖏᕋᓂᖏᓐᓂ) ᐊᒻᒪᓗ ᓄᒃᑎᖅᐸᑦᓕᐊᕙᒃᓱᑎᒃ (ᓇᔪᕋᔪᒃᑕᒥᓄᑦ ᑕᐃᑲᖓᑦ ᑕᐃᑯᖓᓗ) ᓇᔪᕋᔪᒃᑕᒻᒪᕆᖏᓐᓄᖓᐅᓯᒪᔪᑦ, ᐱᕈᐊᓂᒃᓯᒪᓕᖅᑎᓪᓗᒋᑦ.

ᐊᒥᓲᓂᖏᓪᓗ ᓇᓃᖅᑲᑦᑕᕐᓂᖏᓪᓗ

ᓇᓚᐅᑦᑕᖅᑕᐅᓯᒪᔪᑦ ᐊᖏᓂᖏᑦ ᒫᓂᔭᖅᐸᒃᑐᑦ ᐆᕙᐃᑦ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᓂᖕᖔᖅᐳᑦ ᒪᕿᙱᒃ: (1) ᐊᒥᓲᒻᒪᕆᐅᓂᕋᖅᑕᐅᓯᒪᔪᑦ ᐱᕈᐊᓂᒃᓯᒪᔪᑦ ᐆᕙᐃᑦ, ᐃᖅᑲᓗᒃᓯᐅᖅᑎᓄᑦ ᐃᖕᒥᒃᑯᖅᑐᓄᑦ ᐃᔾᔪᐊᖅᑕᐅᓯᒪᔪᓂᒃ ᑕᐃᔭᐅᔪᓂᒃ ᐱᑦᓚᑦᑖᖅᑐᔫᖅᑐᓂᒃ ᑕᕐᓇᔭᐅᑏᑦ ᐊᒥᓲᓂᖏᓐᓂᒃ ᑐᑭᑖᕈᑏᓂᒃ, ᖃᓗᓈᑎᑐᑦ ᑕᐃᔭᐅᕙᒃᑐᑦ (VPA−ᓂᒃ), ᐊᒻᒪᓗ (2) catch ᐆᕙᖅᑕᐅᓯᒪᖅᑲᑦᑕᕐᓂᖏᓐᓂᒃ ᒫᓃᔭᕈᓐᓇᖅᓯᓯᒪᔪᑦ ᐱᕈᐊᓂᒃᓯᒪᓪᓗᑎᒃ ᑐᑭᓕᐅᖅᑕᐅᓯᒪᓗᑎᒃ ᐃᖅᑲᓗᒃᓯᐅᖅᑎᓂᒃ−ᐃᖕᒥᒃᑰᖅᑐᓂᒃ ᖃᐅᔨᓴᖅᑎᓂᒃ. ᖃᐅᔨᓴᖅᑕᐅᓂᖏᓐᓂ ᐊᑐᖅᑲᑦᑕᖅᒪᑕ ᓇᓗᓇᐃᒃᑯᑕᖅᒥᒃ ᐆᒃᑐᕋᐃᔭᕆᐊᖅᑲᖅᑲᑦᑕᖅᑐᓂᒃ, ᑐᑭᓯᔭᐅᔭᕆᐊᖅᑲᖅᓂᖏᓐᓄᑦ ᓱᓕᔪᑦ ᐊᒥᓲᓂᖏᑦ. ᐆᒃᑐᕋᐅᑏᑦ ᓲᖅᓗ ᐱᑦᓚᑦᑖᖅᑐᔫᖅᑐᓂᒃ ᑕᕐᓇᔭᐅᑏᑦ ᐊᒥᓲᓂᖏᓐᓂᒃ ᑐᑭᑖᕈᑎᑦ, ᖃᓗᓈᑎᑐᑦ ᑕᐃᔭᐅᔪᑦ VPA−ᓂᒃ, ᐅᖓᕙᓇᐊᕈᓐᓇᖅᒥᔪᑦ ᖃᖕᖓᓴᐅᓂᖅᓴᒍᑦ ᑕᐃᔅᓯᒪᓂᒃᑲᓐᓂᖅ, ᐊᒻᒪᓗ ᐱᔪᓐᓇᖅᓂᖅᑲᕈᓐᓇᖅᑐᒃᓴᐅᑦᓗᑎᒃ ᑐᑭᓯᔪᓐᓇᖅᓂᖅ ᖃᓄᐃᓕᐅᖅᐸᑦᓕᐊᓚᐅᖅᓯᒪᓂᖏᓐᓂᒃ

(ᐊᕐᕋᒍᑕᒫᖅ), ᐊᒻᒪᓗ ᐆᒃᑐᕋᖅᑕᐅᔪᓐᓇᖅᓱᑎᒃ ᓈᓴᐅᑎᑦ ᓴᕿᑦᑐᑦ ᒪᓕᒃᓱᑎᑦ ᐆᒐᖅᑕᐅᓯᒪᕐᑲᑦᑕᕐᓂᖏᑦ. ᐃᖅᑲᓪᓕᕆᔾᕐᔪᐊᒃᑯᑦ ᑕᕆᐅᕐᓄᑦᓗ ᑲᓇᑕᒥᐅᑦ ᓯᕗᑦᓕᖅᐸᖑᕗᑦ ᑐᑭᓯᓂᐊᖅᑎᑦᑎᓯᒪᔪᑦ ᑕᒪᒃᑯᐊ ᐊᒥᓲᓂᖏᓐᓂᒃ ᓈᓴᐅᓯᕆᓂᕐᒥᒃ.

ᒪᓕᒃᑕᐅᓪᓗᑎᒃ ᑳᔅᕕᒃᑯᑦ ᑲᑎᒪᔨᑦ ᓇᓗᓇᐃᒃᑯᑕᖏᑦ ᑎᒃᑯᐊᖅᑕᐅᔪᓐᓇᕐᓂᕐᒧᑦ ᖃᓄᐃᓕᖓᓂᕋᐃᓂᖅ ᐊᑕᓃᑦᑐᓂᒃ, ᐆᒪᔪᐃᑦ ᖃᓄᐃᑦᑐᑐᐃᓇᐃᑦ ᐊᒥᓲᖏᓐᓄᑦ, 6−ᖑᕐᑲᑦᑕᖅᐳᑦ ᗪᑌ−ᖑᓂᕋᖅᑕᐅᔪᑦ ᓇᓃᓐᓂᖏᓐᓂᒃ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᕐᑲᑦᑕᖅᐳᑦ, ᑖᒃᑯᐊ ᐅᓂᒃᑲᓕᐊᓃᔅᓱᑎᒃ ᑖᒃᑯᓇᓂ, ᐊᒻᒪᓗ ᓈᓴᖅᑕᐅᓯᒪᔪᑦ ᐊᑐᐃᓐᓇᐅᔭᕌᖓᑕ, ᖃᓄᐃᓕᕙᓪᓕᐊᓯᒪᓂᖏᑦ ᐊᒥᓲᓂᖏᑦ ᒪᓐᓃᔭᕈᓐᓇᖅᑐᑦ ᐊᑐᓂ ᐆᒪᐃᑦ ᐅᖅᑲᐅᓯᕐᑲᑦᑕᕆᕗᑦ ᑕᒪᐃᓐᓂ ᓇᔪᖅᐸᒃᑕᖏᓐᓂ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᓂ. ᐊᑐᓂ ᓇᔪᖅᑕᐅᓂᕋᖅᑕᐅᓯᒪᔪᓂ, ᐃᓚᕐᑲᕐᑲᑦᑕᖅᐳᑦ ᐆᒐᕐᒥᒃ ᐊᑕᐅᓯᕐᒥᒃ ᐅᖓᑖᓃᓗᓐᓃᑦ ᐊᐅᓚᑦᑕᐅᓂᐅᔪᒥᒃ ᓴᓂᕐᕙᖅᑕᐅᓯᒪᔪᒥᒃ, ᒪᓕᒃᑕᐅᓪᓗᑎᒃ ᓄᓇᐃᑦ ᐊᕕᒃᑐᖅᑕᐅᓯᒪᕐᑲᑦᑕᕐᓂᖏᑦ ᑭᒡᓕᓕᐊᖑᓯᒪᓪᓗᑎᒃ ᐅᐊᖕᓇᕐᒥ ᐱᖕᒐᖕᓇᖅᐸᓯᖕᒥ ᐊᑦᓚᓐᑎᒃᒥᐅᓂ ᐃᖅᑲᓗᓕᕆᔾᑦ ᑲᑐᔾᔾᕐᑲᑎᒌᓪᔪᐊᖏᑦ (ᓇᐃᕘᒃᑯᑦ ᑲᑎᒪᔾᖏᑦ). ᑖᒃᑯᐊ ᐊᕕᒃᑐᖅᑕᐅᓯᒪᓂᖏᑦ ᓄᓇᐃᑦ ᐊᑐᖅᑕᐅᕙᒃᐳᑦ ᓇᓗᓇᐃᖅᑕᐅᔾᔪᑎᓄᑦ ᐆᒐᕐᑲᖅᑐᑦ ᐊᐅᓚᑕᐅᔪᓐᓇᕐᓂᖏᓐᓄᑦ ᐃᖅᑲᓪᓕᕆᔾᒃᑯᓐᓄᑦ ᑕᕆᐅᕐᓄᑦᓗ ᑲᓇᑕᒥ.

<u>ᐅᑭᐅᖅᑕᖅᑐᒥ ᑕᓲᑦ ᐆᒐᓖᑦ</u>

ᐆᒐᐃᑦ ᑕᒫᓃ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᓃᑦᑐᑦ ᐆᒐᓕᖕᓂ ᐊᒥᓲᓗᐊᖏᓚᑦ ᓯᒃᔭᖅᐸᓯᐊᓂ ᑕᓯᕐᓃᓱᑦ, ᑕᐅᕙᓂ ᑲᓇᖕᓇᖕᒐᓂ ᕿᑭᖅᑖᓘᑉ, ᓄᓇᕗᑦ (ᐱᖕᒐᓱᑦ ᖃᐅᔾᔭᐅᓯᒪᔪᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᓪᓗᑎᒃᓱ ᐃᓖᓐᓂᒃᑯᑦ ᐃᒪᕐᓄᑦ ᑎᑭᑕᐅᓯᒪᓱᖑᔪᓂ ᑕᕆᐅᕐᒧᑦ ᐃᒪᕐᓄᑦ. ᑕᐃᒃᑯᐊ ᑕᓲ ᐃᒪᐃᓕᖕᒐᔪᑦ: ᐆᒐᖅ ᑕᓯᖅ, ᖃᓯᑭᐊᓕᒥᓂᖅ ᑕᓯᖅ ᐊᒻᒪᓗ ᑕᕆᐅᔭᕿᓯᖅ ᑕᓯᖅ.

ᐱᔾᔪᑕᐅᔪᑦ ᐊᒥᓲᖏᔾᔪᑕᐅᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐅᓗᕆᐊᓇᕈᑕᐅᔪᑦ

ᐱᔾᔪᑕᐅᓗᐊᖅᑐᑦ ᑕᐃᒪᖕᒐᓂᒃ ᐊᒥᓲᔪᓐᓃᖅᓯᒪᓂᖏᓐᓄᑦ ᐊᑦᓖᓐᑎᒥᒃ ᐅᒐᐃᑦ ᐱᔭᐅᓗᐊᕐᑲᑦᑕᖅᓯᒪᓂᖏᓐᓄᑦ. ᐊᒥᓲᔪᓐᓃᖅᐸᓪᓕᐊᓗᐊᓚᐅᖅᓯᒪᔪᑦ ᖄᖓᒍᑦ ᐊᓯᔾᔨᖅᓯᒪᓚᐅᕐᓂᖏᓐᓄᑦ ᐊᑐᓂ ᐱᕈᕆᓐᓇᕐᓂᖏᑦ ᐊᒻᒪᓗ ᐊᑯᓂᐅᓂᖅᑳᑎᒋᓂᖏᑦ ᐱᕈᐊᓂᒍᓐᓇᕐᓂᖏᓐᓂᒃ. ᒫᓐᓇᒥᒃ ᐅᓗᕆᐊᓇᕈᑕᐅᓕᖅᑐᑦᓕ ᐊᒥᓲᕈᕈᓐᓇᕐᓂᖏᓐᓄᑦ ᐊᒥᓱᕈᖅᓯᐊᕆᔭᐅᔪᓐᓇᕐᓂᖏᓪᓗ ᐆᒐᐃᑦ ᐱᔭᐅᓗᐊᕐᑲᓚᐅᕐᓂᖏᓐᓂᒃ ᐃᓚᕐᑲᒥᔪᑦ ᐹᓇᐅᔭᓕᐅᕈᑎᒃᓴᓄᑦ ᐆᒐᕐᓂᐊᖅᑕᐅᓯᒪᔪᓐᓇᓚᐅᕐᓂᖏᑦ (ᑰᑕᖅᑎᑕᐅᓪᓗᑎᒃ ᐆᒐᕐᓂᐊᖅᑕᐅᓯᒪᔪᓐᓇᕐᓂᖏᑦ), ᑲᔾᔭᕈᓯᒋᓪᓗᒋᑦ ᐃᖅᑲᓪᓕᐊᖅᑕᐅᕐᑲᑦᑕᕐᓂᖏᑦ ᐅᖊᕙᓗᓐᓃᑦ "ᓂᕿᓕᕆᔾᑦ" ᐱᔾᔪᑕᐅᓂᖏᓐᓄᑦ ᐃᖅᑲᓪᓕᐊᖅᑕᐅᕐᑲᑦᑕᖅᓯᒪᓂᖏᑦ," ᑕᒡᕙᖓᑲᐅᑎᒋᐅᖏᑦᑐᖅ ᐃᖅᑲᓪᓕᐊᖅᑕᐅᕐᑲᑦᑕᕐᓂᖏᑦ (ᒪᓕᒐᕐᓂᒃ ᓱᕋᐃᓯᒪᓪᓗᑎᒃ ᐃᖅᑲᓪᓕᐊᖅᑕᐅᓯᒪᕐᑲᑦᑕᕐᓂᖏᑦ, ᐆᒐᖅᑕᐅᓯᒪᔪᑦ ᐊᒥᓲᓂᖏᑦ ᐅᖅᑲᐅᓯᐅᕐᑲᑦᑕᖏᓐᓂᖏᑦ, ᐃᒋᑕᐅᑐᐃᓐᓇᖅᑲᑦᑕᕐᓂᖏᓂᒡᓗ) ᐊᒻᒪᓗ ᐊᓯᖏᓐᓂᒃ ᐃᖅᑲᓗᒃᓯᐅᖅᓱᑎᒃ ᓄᓗᐊᖅᑕᐅᖃᓯᐅᔭᐅᓯᒪᕙᖏᓐᓂᖏᑦ, ᓇᒃᑎᖃᓯᐅᔭᐅᓯᒪᕐᑲᑦᑕᕐᓂᖏᑦ (ᓂᒃᓯᖃᓯᐅᔭᐅᓯᒪᕐᑲᑦᑕᕐᓂᖏᑦ) ᓲᕐᓗ ᐃᖅᑲᓗᒃᓯᐅᕐᓂᖏᓐᓂᒃ ᐊᑯᑭᑦᑐᕐᒥᐅᓂᒃ ᖃᓕᕋᓕᖕᓂᒃ, ᓇᑦᑖᕐᓇᓂᒃ, ᐅᑭᐅᖅᑕᖅᑐᒥᒃ ᑭᖑᐊᓗᖕᓂᒃ, ᐳᔿᑎᓕᖕᓂᒃ, ᖃᐅᑦᓗᖅᑐᓂᓪᓗ ᐃᖅᑲᓗᒃᓯᐅᖅᑕᐅᕙᒃᑐᓂᒃ). ᑭᓯᐊᓂ, ᐃᖕᒥᓂᒃ ᑐᕐᑯᕋᑐᐃᓐᓇᖅᑲᑦᑕᕐᓂᖏᑦ ᐱᑐᖅᑲᐅᓂᖅᓴᐃᑦ ᐅᒐᐃᑦ ᖄᖏᐅᑎᓯᒪᓕᖅᐳᑦ ᐃᓄᖕᓄᑦ ᐃᖅᑲᓪᓕᐊᖅᑕᐅᕐᑲᑦᑕᕐᓂᖏᓐᓂᒃ ᐅᓗᕆᐊᓇᕈᑕᐅᓂᖅᐹᖑᓕᖅᑐᓂᒃ,

ᐊᒻᒪᓗ ᑐᖁᕋᑐᐃᓐᓇᖃᑦᑕᕐᓂᖏᑦ ᓂᒋᐊᓂᒃ ᓗᐊᕆᐊᓐᓴᓐ ᑰᕌᓗᐊᓂ, ᐱᓗᐊᖅᑐᒥᒃ ᑐᖁᕋᖃᑦᑕᖅᓯᒪᓂᖏᑦ ᓗᐊᕆᓐᓴᓐ ᐃᒪᖓᓂ ᐆᒐᖃᕐᓂᖏᑦ ᓂᒋᖅᐸᓯᐊᓂ. ᐱᔾᔪᑕᐅᔪᑦ ᓃᖅ ᑐᖁᕋᓗᐊᖃᑦᑕᕐᒪᖔᑕ ᓯᓚ ᖃᐅᔨᒪᔭᐅᖏᑦᑐᑦ ᑭᓯᐊᓂ ᐱᔾᔪᑎᖃᕈᓐᓇᕋᓱᒋᔭᐅᔪᑦ ᐊᖏᓂᖏᓐᓄᑦ ᐊᒻᒪᓗ ᖃᓄᐃᑦᑐᓂᒃ ᐊᓯᖃᕐᓂᖏᓐᓂᒃ ᐃᒪᕐᒥᐅᑕᓂᒃ, ᐊᒻᒪᓗ ᐱᐅᔪᓐᓃᖅᓯᒪᓂᖏᓐᓄᑦ ᐊᕙᑎᖏᑦ ᐃᒪᐃᑦ. ᐃᓚᖏᑦ ᐱᕈᐊᓂᖃᑦᑕᖏᓐᓂᖏᑦ, ᐊᒻᒪᓗ ᓱᒃᑲᓕᐊᒥᒃ ᐱᕈᖅᐸᓪᓕᐊᖃᑦᑕᓕᕐᓂᖏᑦ, ᐊᒻᒪᓗ ᓯᕗᓂᒃᑲᓐᓂᐊᒍᑦ ᐆᒐᕐᓂᐊᖅᑕᐅᓗᐊᓚᐅᖅᓯᑎᒃ, ᐱᔾᔪᑕᐅᓇᓯᒋᔭᐅᒋᕗᑦ ᐊᒥᓱᒻᒪᓇᐅᓂᖏᓐᓄᑦ ᑐᖁᕋᑐᐃᓐᓇᖃᑦᑕᖅᑐᑦ ᐊᒻᒪᓗ ᓱᒃᑲᐃᓐᓂᖅᓂᓴᒥᒃ ᐱᕈᖃᑦᑕᕐᓂᖏᓐᓄᑦ ᖃᐅᔾᔭᐅᓯᒪᓕᖅᑐᓂᒃ ᐅᓪᓗᒥᐅᓕᖅᑐᖅ. ᑕᓇᐅᑉ ᓂᒡᓚᓱᖕᓂᖏᓐᓂ ᐊᔾᔨᒌᒎᓐᓃᕐᓂᖏᑦ ᐆᒐᖃᖅᑐᓂ ᐊᒥᓱᕈᖅᐸᓪᓕᐊᔪᓐᓇᕐᓂᖏᑦ ᑐᑭᓯᐅᒪᔭᐅᑦᑎᐊᖏᑦᑐᒻᒪᑎᐅᖕᒪᑕ, ᑭᓯᐊᓂ ᐃᒪᐃᓕᖓᔫᔭᕆᔭᐅᕗᑦ, ᓂᒡᓚᓱᖕᓂᖏᓐᓂ ᐃᒪᕐᓂ ᐊᒻᒪᓗ ᐃᒪᐅᑉ ᐊᐅᓚᕙᓪᓕᐊᖏᓐᓇᕐᓂᖓ ᐊᓯᔾᔨᐅᔭᓐᓃᖅᐸᓪᓕᐊᓯᒪᓂᖓ ᐱᔾᔪᑕᐅᖃᑕᐅᓇᓯᒋᔭᐅᕗᖅ ᐊᒥᓲᔪᓐᓃᖅᐸᓪᓕᐊᓯᒪᓂᖏᓐᓄᑦ ᐃᓚᖏᑦ ᐆᒐᖃᖅᑐᑦ ᐃᒪᐃᑦ.

ᐆᒐᖃᕐᓂᖏᑦ ᐃᒪᐃᑦ ᖃᓄᐃᓕᖓᓂᖏᑦ ᐊᒻᒪᓗ ᖃᓄᐃᓕᕙᓪᓕᐊᓂᖏᑦ

ᐅᓂᒃᑳᖅᑕᐅᓯᒪᔪᓂ ᐃᓯᒪᓇᖅᑐᖅ ᐃᒫᒃ, ᑎᒃᑯᐊᖅᑕᐅᓂᐊᕐᓂᖏᑦ ᐱᔾᔪᑎᒋᓪᓗᒋᑦ, ᐊᑦᑖᓐᑎᒃ ᐆᒐᐃᑦ ᑲᓇᑕᒥ ᐱᑕᖃᕐᓂᖏᑦ ᐃᓕᑕᕆᔭᐅᓯᒪᔪᓐᓇᖅᑐᑦ 6–ᖑᓂᖅ, ᒪᓕᒃᑕᐅᓪᓗᑎᒃ ᖃᐅᔨᒪᔭᐅᔪᑦ ᐆᒫᔪᐃᑦ, ᐃᒪᐃᑦ, ᐊᕙᑎᖏᑦ, ᐱᕈᖅᑐᑦ ᐊᒻᒪᓗ ᓇᓃᓐᓂᖏᓐᓂ ᐊᒥᓲᓂᖏᑦ, ᐊᒻᒪᓗ ᒪᓕᒃᑕᐅᓂᖏᓐᓄᑦ ᓇᓗᓇᐃᒃᑯᑕᓕᐊᕆᓯᒪᔭᖏᑦ ᑲᑎᒪᔨᕋᓛᑦ ᑳᔅᕕᒃᑯᑦ (ᓄᕕᐱᕆ 2008–ᒥ). ᐱᔾᔪᑎᒋᓪᓗᒋᑦ, ᑎᒃᑯᐊᖅᑕᐅᓯᒪᓂᖏᑦ ᐅᓗᕆᐊᓇᖅᑐᒦᓕᕈᓇᕐᓂᖏᑦ (ᓄᖑᓕᓖᓂᕐᒧᑦ), ᐱᔾᔪᑕᐅᓂᐊᖅᐹᖑᓯᒪᕗᑦ ᐊᒥᓲᔪᓐᓃᖅᓯᒪᓂᖏᑦ ᐆᒐᐃᑦ (ᐃᖃᓪᓕᐊᖅᑕᐅᓯᒪᓗᐊᕐᓂᖏᓐᓄᑦ) ᓄᖃᖓᖅᑎᑕᐅᓯᒪᖏᑦᑐᖅ ᓱᓕ ᐃᓚᖏᓐᓂ ᐆᒐᓕᖕᓂ (ᐃᓚᖏᓐᓂᒃ ᐊᔪᕐᓇᕐᓂᖅᑎᑕᐅᓕᕋᓗᐊᖅᓯᑎᒃ ᐊᕕᒃᑐᖅᓯᒪᔪᓂ). ᓗᐊᕆᐊᓐᓴᓐ ᐃᒫᓂ ᐅᐊᖕᓇᖓᓂ ᐆᒐᖃᕐᓂᖏᑦ ᐆᒐᕐᓂᐊᖅᑕᐅᓗᐊᖅᓯᒪᓂᑯᒐᒥᒃ ᐊᒥᓲᔪᓐᓃᖅᐹᓕᕈᑕᐅᓯᒪᔪᑦ ᒪᓐᓃᔭᕈᓐᓇᕐᓂᖏᓐᓂᒃ ᐆᒐᐃᑦ, ᐱᓗᐊᖅᑐᒥᒃ ᐅᐊᖕᓇᖅᐸᓯᐊᓂᒃ ᓄᕗᐊᓗᐊᓂ ᐆᒐᖃᕐᓂᖓᓂ. ᓗᐊᕆᐊᓐᓴᓐ ᐃᒪᖓᑕ ᓂᒋᐊᓂ ᐆᒐᖃᕐᓂᕐᒥ ᐊᒻᒪᓗ ᓂᒋᖅᐸᓯᐊᓂᓗ ᐆᒐᖃᕐᓂᕐᒥ, ᐊᒥᓲᒻᒪᓇᐊᓗᐃᑦ ᑐᖁᕋᖅᓯᒪᔪᑦ, ᐆᒐᕐᓂᐊᖅᑕᐅᓯᒪᓕᖃᑦᑕᖏᒃᑲᓗᐊᕋᒥᒃ ᑕᐅᕙᓂ ᐅᓗᕆᐊᓇᕈᑕᐅᓇᓂ, ᐊᒻᒪᓗ ᓇᓚᐅᑦᑖᖅᑕᐅᓯᒪᔪᑦ ᐊᔾᔨᒋᔭᐅᖏᑦᑐᒥᒃ ᐊᒥᓲᓐᓂᖅᐸᓪᓕᐊᓂᐊᖅᑐᑦ, ᓄᖓᑲᓴᑦᑎᐊᖅᓯᒪᓂᐊᕋᓱᒋᔭᐅᓪᓗᑎᒃ ᖁᓕᖏᓃᓐᓂᐊᖅᑐᓂ ᐊᕋᒍᓂ. ᓂᐅᕚᓛᓐᒥᐅᓂ ᓚᐸᑐᐊᕆᒥᓗ, ᐆᒐᖃᕐᓂᖏᓐᓂ, ᓇᓗᓇᖏᑦᑐᖅ, ᒪᓕᒃᑕᐅᓂᖏᓐᓄᑦ ᐆᒐᕐᓂᐊᖅᑕᐅᓯᒪᖃᑦᑕᕐᓂᕕᖏᑦ ᓈᓴᖅᑕᐅᓯᒪᓪᓗᑎᒃ ᐃᖃᓗᓕᕆᔩᕐᔪᐊᒃᑯᓐᓄᑦ ᑕᕆᐅᕐᓄᓪᓗ ᑲᓇᑕᒥ, ᐆᒐᕐᓂᐊᖅᑕᐅᖃᑦᑕᕐᓂᖏᑦ ᐊᔪᕐᓇᕈᑕᐅᔪᑦ ᐊᒥᓱᕈᖅᓯᐊᕆᔭᐅᔪᓐᓇᕐᓂᖏᓐᓄᑦ ᑖᒃᑯᓇᓂ ᐆᒐᖃᕐᓂᖏᓐᓂ, ᐊᓯᖏᓐᓂᓗᑕᐅᖅ ᐊᒥᓲᔪᓐᓃᖅᓯᒪᓂᖏᓐᓂ. ᐊᒥᓲᓂᖏᑦ, ᐱᖓᓱᐃᖅᑕᖅᓯᒪᔭᒥᓗ ᒪᓐᓂᒃᑕᖅᑐᖅᐸᓪᓕᐊᓯᒫᓂᖕᓂᖏᓐᓂ ᐃᓐᓇᕈᖅᓯᒪᓪᓗᑎᒃ ᑭᖑᕚᕇᑦ ᐊᒥᓲᔪᓐᓃᖅᐸᓪᓕᐊᓯᒪᓂᖏᓐᓂᒃ, ᐊᒻᒪᓗ ᐅᓗᕆᐊᓇᕈᑕᐅᔪᑦ ᐊᒥᓲᔪᓐᓃᖅᐸᓪᓕᐊᓯᒪᓂᖏᓐᓄᑦ ᐊᑖᓃ ᓇᐃᓈᖅᑕᐅᓯᒪᓪᓗᑎᒃ ᐅᓂᒃᑲᖅᑕᐅᓯᒪᔪᑦ ᑕᑯᑎᑦᑎᔾᔪᑎᓂ.

ᓇᓂ ᐆᒐᖃᕐᓂᖅ	**ᓇᕘᒃᑯᑦ ᑲᑎᒪᔨᕐᔪᐊᑦ ᐊᕕᒃᑐᖅᓯᒪᓂᖏᑦ**	**ᐱᖓᓱᓂᒃ ᒪᓐᓃᔭᖅᓯᒪᑎᒋᓪᓗᑎᒃ ᑭᖑᕚᕇᑦ ᐊᑯᓂᐅᓂᖓᑦ ᐊᒥᓲᔪᓐᓃᖅᓯᒪᓂᖏᑦ (VPA/RV)**	**ᐅᓗᕆᐊᓇᕈᑎᑦ**
1.ᐅᑭᐅᖅᑕᖅᑐᒥ ᑕᓯᕐᓂ	ᖃᐅᔨᒪᔭᐅᖏᑦᑐᑦ	ᐊᐅᓚᓴᖅᑕᐅᕕᐅᓕᖅᐸᓪᓕᐊᑐᐃᓐᓇᕐᓂᖏᑦ ᐃᓚᖏᑦ ᑕᓯᑦ	

ᐊᔾᔨᒋᔭᐅᖏᑦᑐᒥᒃ ᐱᒻᒪᕆᐅᓂᖃᕐᓂᖏᑦ ᐆᒪᔪᐃᑦ

ᐃᓱᒪᒋᑦᑐᒋᑦ ᑕᐃᔅᓱᒪᓂ ᒫᓐᓇᐅᓕᖅᑐᖅ ᐱᒻᒪᕆᐅᓂᖃᕐᓂᖏᑦ ᐃᓄᖕᓄᑦ, ᐊᒥᓲᓯᒪᖏᓚᑦ ᐊᓯᖏᑦ ᐱᒻᒪᕆᐅᓂᖅᓴᐅᓯᒪᔪᑦ ᑲᓇᑕᒥᐅᓂ. ᑕᐃᔅᓱᒪᓂᑕᒻᒪᕆᑦ ᓄᓇᒃᓴᖅᓯᐅᖅᑎᕕᓃᑦ (ᕙᐃᑭᖑᓂᖁᖅᑕᐅᔪᑦ) ᓄᓇᑖᓚᐅᖅᑎᑦᑐᒋᑦ ᓂᐅᕗᓛᓐ ᐅᐊᖕᓇᖅᐸᓯᐊᓂ ᓄᕗᖕᒥ, ᐊᕐᕋᒍᖏᓐᓂ 900-ᓂᒃ 1000-ᒧᑦ, ᐆᒐᐃᑦ ᐱᔾᔪᑕᐅᓚᐅᖅᓯᒪᔪᑦ ᔪᐊᕆᕐᒥᐅᑕᓄᑦ ᑎᑭᓯᒪᐃᓐᓇᕈᑕᐅᒋᐊᓚᐅᖅᓯᒪᔪᑦ ᓂᐅᕗᓛᓐᒥᐅᓄᑦ, ᐃᒪᖏᓐᓄᑦ, 1400–ᖏᓐᓂᖅᑎᑦᑐᒋᑦ, ᑮᓇᐅᔭᓕᐅᕈᑕᐅᑦᑐᑎᒃ ᓄᓇᑖᕈᑕᐅᖃᖅᓯᒪᔪᑦ ᓄᓇᒋᔭᐅᖏᓐᓇᓕᖅᑐᓂᒃ ᑲᓇᑕᐅᓕᕐᒧᑦ (1612–ᖑᑎᑦᑐᒍ; ᑭᐅᐱᑦᔅ, ᓂᐅᕗᓛᓐᒥ). ᑎᑭᑦᑐᒋᑦ ᑭᓯᐊᓂ 1990–ᖏᓐᓄᑦ, ᐊᑦᓛᓐᑎᒃᒥ ᐆᒐᐃᑦ ᑮᓇᐅᔭᓕᐅᕈᑕᐅᓂᖅᐹᖑᓯᒪᔪᑦ ᐃᓅᔾᔪᑕᐅᑦᑐᑎᒃ ᓂᐅᕗᓛᓐᒥᐅᓄᑦ ᐊᒻᒪᓗ ᓚᐸᑐᐊᕆᒥᐅᓄᑦ, ᐱᔾᔪᑎᒋᑦᑐᒍ ᐃᓚᒋᔭᐅᓂᖏᑦ ᐊᖏᓂᖅᓴᓄᑦ ᐆᒐᖅᑲᕐᓂᖏᓐᓄᑦ ᑕᐅᕙᓂ ᑕᕆᐅᕐᒥᐅᑕᓂ ᓄᓇᓕᖕᓂ, ᐊᒻᒪᓗ ᑕᐅᕗᓇ ᑯᐸᐃᑉ ᐅᐊᖕᓇᖕᒐᒍᑦ ᐊᒻᒪᓗ ᒌᔅᐱᐅᒥᐅᑦ ᓄᕗᐊᓂ. ᐆᒪᔫᓂᖏᑦ ᐃᓱᒪᒋᑦᑐᒋᑦ, ᐊᑦᓛᓐᑎᒃ ᐆᒐᐃᑦ, ᐊᒥᓲᓂᖃᓚᐅᖅᓯᒪᔪᑦ ᖃᓂᒋᔭᖏᓐᓂᒃ 2.5 ᐱᓕᔭᓐᓂ, ᒪᓂᔭᕈᓐᓇᕐᓂᖏᑦ, ᒫᓐᓇᓵᒐᓚᒻᒪᕆᒃ, 1960–ᖏᓐᓂ, ᐊᒻᒪᓗ ᓂᕆᖃᑦᑕᐅᕙᓪᓕᐊᕙᖕᓂᖏᓐᓂᒃ ᐆᒪᔪᐃᑦ ᑕᕆᐅᕐᒥ ᖁᑦᑎᖅᐹᖑᖃᑕᐅᓚᐅᖅᓱᑎᒃ ᐅᐊᖕᓇᖓᑕ ᐱᖓᖕᓇᖅᐸᓯᐊᓂ ᐊᑦᓛᓐᑎᒃ ᑕᕆᐅᖓᓂ.

ᒫᓇᒥ ᓴᐳᓐᓂᐊᖅᑕᐅᓯᒪᓂᖏᑦ ᐊᓯᖏᑦᑐ ᖃᓄᐃᓕᖓᓂᖏᓐᓄᑦ ᑎᒃᑯᐊᖅᔾᔪᑏᑦ

ᑲᓇᑕᒥ, ᐊᑦᓛᓐᑎᒃ ᐆᒐᐃᑦ ᓴᐳᓐᓂᐊᖅᑕᐅᓯᒪᕗᑦ ᑲᓇᑕᐅᑉ ᒐᕙᒪᒃᑯᖏᓐᓄᑦ *ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᓚᓕᒐᖅᑎᒍᑦ ᐊᒻᒪᓗ ᑕᕆᐅᕐᓄᑦ ᓚᓕᒐᕐᓄᑦ*. ᒫᓇᐅᔪᖅ ᓴᐳᓐᓂᐊᖅᑕᐅᓯᒪᓂᖏᓐᓄᑦ ᐆᒐᕐᓂᐊᖅᑕᐅᔪᓐᓇᕐᓂᖏᓐᓄᑦ ᐸᕐᓇᐅᑎᖅᑲᖅᑎᑕᐅᕗᑦ ᓂᒋᐊᓂ ᐃᒪᕐᒥ ᓴᐃᓐᑦ ᑐᐊᕆᐊᓐᓯᒥ ᐱᒋᐊᖅᑎᑕᐅᓯᒪᓕᖅᑐᑦ ᐊᒻᒪᓗ ᐱᖓᓱᓂᒃ ᑲᓇᑕᒥ/ᐊᕕᒃᑐᖅᓯᒪᓂᖏᓐᓄᑦ ᐆᒐᐃᑦ ᖃᓄᐃᓕᐅᕈᑕᐅᕙᑦᓕᐊᓂᖏᓐᓄᑦ ᐱᓕᕆᐅᑖᖅᓯᒪᓕᖅᓱᑎᒃ (ᓂᐅᕗᓛᓐᒥ, ᓚᐸᑐᐊᕆᒧ, ᑕᕆᐅᕐᒥᐅᑕᓂᒃ ᓄᓇᓕᖕᒥᐅᑕᓂ, ᑯᐸᐃᑉᒧ) ᑎᓕᔭᐅᓯᒪᓵᑦᑐᑎᒃ ᐊᔭᐅᖅᑎᐅᓂᖅ ᐊᒥᓱᕈᖅᓲᓂᕐᒥᒃ. ᐊᒻᒪᑕᐅᖅ, ᐊ ᒥᓱᒐᓴᐃᑦ ᐆᒐᖅᑲᕐᓂᖏᑦ ᑲᓇᑕᒥ ᐃᒪᕐᓂ ᐊᐅᓚᑕᐅᖅᑕᐅᒋᕗᑦ ᐃᓕᒋᔭᐅᑦᑐᑎᒃ ᐊᓯᖏᑦ ᓄᓇᓕᒡᔪᐊᑦ ᑲᓇᑕᐅᑉ ᓯᓚᑖᓂᒃ. ᓲᕐᓗ ᐆᒃᑑᑎᒋᑦᑐᒍ, ᑲᓇᖕᓇᖅᐸᓯᐊᑕ ᔾᔪᐊᔾᔨᑉ ᐹᖕᒐᓂ ᐃᒪᕐᒥ ᐆᒐᖅᑲᕐᓂᖏᑦ ᐊᐅᓚᑕᐅᖅᑕᐅᕗᑦ ᐃᖅᑲᓗᓕᓇᖅᔪᐊᓄᑦ ᑕᕆᐅᕐᒧᑦ ᑲᓇᑕᒥ ᐊᒻᒪᓗ ᓄᓈᓗᐊᓐᓂ ᑕᕆᐅᕐᒥᐅᑕᐃᑦ ᐃᖅᑲᓗᓕᓈᑦᑐ ᐱᔪᑦᑎᖁᖅᑎᖏᓐᓄᑦ ᐊᒥᐊᓕᑲᒥᐅᓂ; ᐊᒻᒪᓗ ᐆᒐᐃᑦ ᓈᕗᒃᑯᑦ ᑲᑎᒪᔩᖅᔭᐊᖏᓐᓄᑦ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᑦ ᐱᖓᓱᓂᒃ ᐃᓕᑮᒃᓱᕐᕙᐅᔪᓄᑦ ᑎᒥᐅᔪᓄᑦ ᑐᐊᕆᓐᓴ ᐅᐊᖕᓇᖕᒐᓂ ᐆᒐᖅᑲᕐᓂᖏᑦ ᐊᐅᓚᑕᐅᕗᑦ ᑕᒪᐃᓐᓂᑲᓴᒃ ᐊᕕᒃᑐᖅᓯᒪᓂᐅᔪᓂ, ᑑᑦᑲᖅᑎᑕᐅᕆᕗᑦ ᐊᕐᕌᒍᑉ ᐃᓛᒍᑦ, ᐊᒻᒪᓗ ᓴᓇᕿᑎᓂᒃ ᐃᓕᖏᓐᓂᒃ ᐊᑐᖅᑕᐃᓕᒪᑎᑕᐅᔪᑦ ᐊᐅᓚᑦᑕᐅᓂᖏᓐᓄᑦ ᑐᖓᕕᐅᓕᖅᑐᓂ (ᐅᐊᓯᐊᔅᑕᒃᑯᑦ ᐃᓚᖏᑦᑐ. 2009-ᒥ). ᐆᒪᔫᓂᖏᑦ ᑐᑭᓯᓂᐊᖅᑕᐅᓯᒪᔪᓐᓇᕐᓂᖏᓐᓄᑦ ᖃᐅᔨᐊᒋᐊᕐᕕᐅᕙᒃᑲᓗᐊᖅᓱᑎᒃ ᐊᒥᓱᒐᓴᐃᑦ ᐆᒐᖅᑲᕐᓂᖏᑦ, ᑕᐃᒃᑯᐊ ᒫᓐᓇᐅᓕᖅᑐᖅ ᐊᑐᖅᑕᐅᔪᓐᓃᖅᑐᑦ ᐊᐅᓚᑕᐅᓂᖏᓐᓄᑦ ᑕᒪᒃᑯᐊ ᐆᒐᖅᑲᕐᓂᖏᑦ, ᐊᒻᒪᓗ ᐆᒐᐃᑦ ᐊᐅᓚᑕᐅᓂᖏᑦ ᑲᒪᒋᔭᐅᕙᓪᓕᖅᑐᑦ ᓴᖅᑭᑉᐸᓪᓕᐊᑐᐃᓐᓇᓕᕚᖓᑕ ᑲᒪᒋᔭᐅᔭᕆᐊᖅᑲᕐᓂᖏᑦ, ᐱᔾᔪᑎᖅᑲᕐᓂᖏᓐᓂᒃ ᐊᕐᕋᒍᑕᒫᖅ ᑕᒪᐃᓐᓂᒃ ᐱᔭᐅᔪᓐᓇᕐᓂᖏᓐᓂᒃ ᐋᖅᑮᓂᕐᒧᑦ. ᒫᓐᓇᐅᓕᖅᑐᖅ, ᐊᒥᓱᒐᓴᐃᑦ ᐆᒐᖅᑲᕐᓂᖏᑦ ᓱᓕ ᓂᐅᖅᕿᑎᒃᓴᖅᑲᕕᐅᔪᓐᓇᕐᓂᕐᒧᑦ ᐱᑕᖅᑕᐅᑕᐃᓕᒪᑎᑕᐅᔪᑦ, ᐊᒻᒥᐊᒃᑯᖏᑦᑐ ᒫᓐᓇᐅᔪᖅ ᑰᑕᖅᑲᖅᑎᑕᐅᓗᑎᒃ ᐊᔪᖅᓇᖅᓂᖅᑲᖅᑎᑕᐅᔪᑦ ᐃᓱᒪᒋᑦᑐᒋᑦ ᑕᐃᔅᓱᒪᓂᐅᕙᓚᐅᖅᑐᒥ ᐊᑐᖅᑕᐅᕙᓚᐅᖅᑐᓂᒃ.

ᐊᓯᖏᑦ ᖃᓄᐃᓕᖓᓂᖏᓐᓄᑦ ᑎᒃᑯᐊᖅᑕᐅᓯᒪᓕᖅᑐᑦ ᓇᓗᓇᐃᒃᑯᑕᐃᑦ ᐊᑦᓛᓐᑎᒃ ᐆᒐᕐᓄᑦ

ᓯᓚᕐᔪᐊᕐᒥᐅᓂ ᑲᑐᔾᔨᕐᑲᑎᒌᒡᔪᐊᑦ ᓄᓇᒥᐅᑕᑐᕐᑲᐃᑦ ᓴᐳᓐᓂᐊᖅᑕᐅᓯᒪᓂᖏᓐᓄᑦ IUCN-ᑯᑦ:
ᖃᓄᐃᓕᑲᐅᑎᑦᔪᓐᓇᖅᑐᒥᓕᖅᑐᑦ:
ᓄᓇᕐᔪᐊᕐᒥ ᐱᑕᕐᑲᐃᓐᓇᖅᑐᑐᕐᑲᐃᑦ ᖃᓄᐃᓕᖓᓂᖏᓐᓄᑦ ᕐᑯᕙᓯᖕᓂᕐᒥᒃ ᓇᓗᓇᐃᒃᑯᑕᖅ: G5

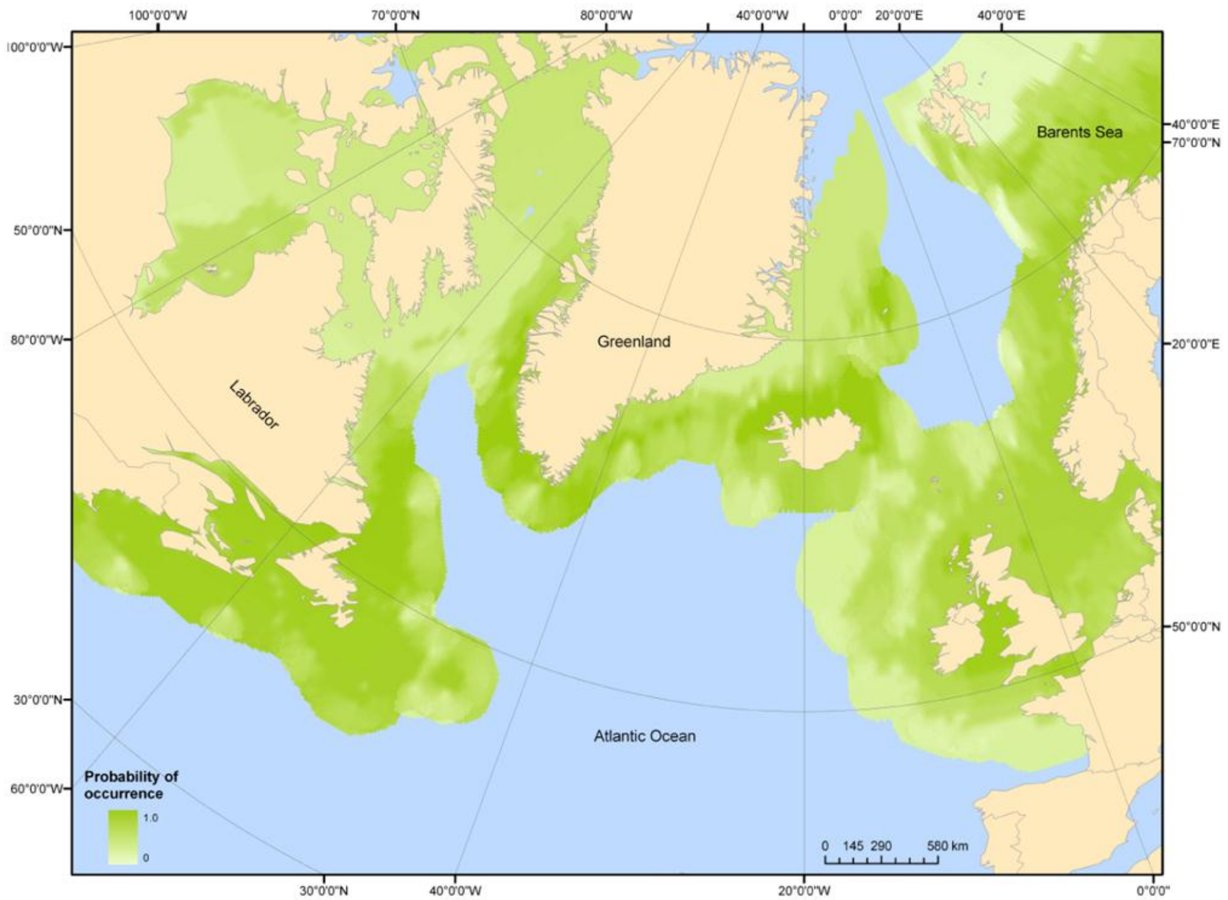
ᐅᒪᔪᐃᑦ ᐱᔾᔪᑕᐅᓂᖏᓐᓂᒃ ᖃᐅᔨᒪᑎᑦᑎᔾᔪᑦ

ᑕᐃᔭᐅᓯᒪᓂᖏᑦ ᐆᒪᔪᐃᑦ ᓇᓗᓇᐃᑯᑕᖏᓪᓗ

ᖃᓄᐃᑦᑑᓂᖏᑦ: ᓴᐅᓂᓖᑦ ᐃᖃᓗᐃᑦ
ᓱᓇᐅᓂᖏᑦ: ᐆᒐᐅᑏᑦ
ᐃᓚᕐᑲᕐᓂᖏᑦ ᑕᕆᐅᒦᓲᑦ ᖃᐅᓪᓗᖅᑐᓂᒃ ᓂᕐᑭᓛᑦ ᐃᒪᕐᒥᐅᑕᐃᑦ
ᓛᑎᓐᒥᐅᑎᑐᑦ ᑕᐅᔭᐅᓕᓚᐅᖅᓯᒪᓂᖓ: *Gadus morhua* Linnaeus 1758
ᑕᐅᔭᐅᕐᑲᑦᑕᑐᐃᓐᓇᕐᓂᖏᑦ: ᖃᓗᓈᑎᑐᑦ – ᐊᑦᓛᓐᑎᒃ ᐆᒐᐃᑦ
ᐅᐃᕖᖅᑎᑐᑦ – morue franche
ᐃᓄᒃᑎᑐᑦ – ᐆᒐᖅ (ᓄᓇᕗᑦ) ᐆᕙᒃ, ᐆᒐᒃ (ᐅᖓᕙᒥᐅᓂ) ᐆᒐᒃ, ᐅᒐᒃ (ᐃᓄᒥᐅᓄᑦ, ᓚᐸᑐᐊᕆᒥᐅᓄᑦ) (ᒪᒃᐋᓕᔅᑕᒃᑯᑦ ᖃᐅᔨᓴᖅᓯᒪᔭᖏᑦ ᐃᓚᖏᓪᓗ 1987)

ᖃᓄᐃᑦᑑᓃᖏᓐᓂᒃ ᐅᕐᑲᐅᓯᕐᑲᕐᓂᖅ

ᐊᑦᓛᓐᑎᒃ ᐆᒐᐃᑦ ᐊᖏᓗᐊᖏᑦᑑᔪᓐᓇᖅᑐᑦ ᐊᖏᔪᐊᓘᔪᓐᓇᖅᑐᓪᓗ ᑕᕆᐅᕐᒥᐅᑕᐃᑦ ᐃᖃᓗᐃᑦ (ᓇᓴᐅᑎᓕᒃ 1), ᓂᒡᓚᓱᒃᑐᕐᒥᐅᑕᐃᑦ (10° to 15° C) ᐊᒻᒪᓗ ᓂᒡᓚᓱᒃᑐᒻᒪᕆᐊᓗᖏᒦᓲᑦ ᐃᒪᕐᓂ (ᐊᑖᓂ ᓂᒡᓕᓇᕐᓂᖅᓴᓂᒃ 0° to 5° C) ᓯᒡᔭᓂ ᐊᒻᒪᓗ ᑕᕆᐅᕐᒥ ᓄᓈᓗᐊᑕ ᐃᒪᖏᓐᓂ ᐅᐊᖕᓇᖅᐸᓯᐅᑉ ᐱᖓᖕᓇᖓᓂ ᐊᒻᒪᓗ ᐅᐊᖕᓇᖅᐸᓯᐅᑉ ᓂᕆᐊᓂ ᐊᑦᓛᓐᑎᒃ ᑕᕆᐅᕋᓗᐊᓂ. (ᓈᓴᐅᑎᓕᒃ 2). ᑖᒃᑯᐊ ᓴᓇᓯᒪᓂᖏᑦ, ᐊᔾᔨᐅᖏᓐᓂᕐᑲᖅᐳᖅ ᐊᓯᖏᓐᓂᒃ ᐃᖃᓗᖕᓂᒃ ᐃᒪᕐᒥᐅᑕᓂᒃ (ᐊᓯᖏᓐᓄᓪᓗ ᐊᔾᔨᕐᑲᖅᓱᑎᒃ ᐊᒥᓲᖏᓐᓂᒃ) ᐱᑕᕐᑲᕐᒪᑕ ᐱᖓᓱᓂᒃ ᑕᓯᐅᔭᕐᑲᕐᒪᑕ ᑎᒥᐊᓂ, ᐊᒻᒪᓗ ᒪᕐᕈᖕᓂ ᑎᒥᐊᑕ ᐃᓱᐊᓂ. ᐆᒐᐃᑦ, ᑕᑭᔪᑯᑖᖏᒃ, ᑎᒥᕐᑲᖅᐳᑦ, ᑕᐃᒪᐃᒐᒃᑑᓪᓗᑎᒃ ᐃᖃᓗᐃᑦ ᓱᑲᔪᒥᒃ ᐃᖏᕐᕋᔪᓐᓇᖅᑐᑦ ᐊᑯᓂ ᐅᖓᓱᒃᑐᒥ. ᑕᐃᒪ ᑲᓚᖏᑦ ᐊᔾᔩᕐᑲᑦᑕᖏᓚᑦ ᓇᓂᑐᐃᓐᓇᖅ ᑲᓇᑕᒥ ᐃᒪᕐᓂ, ᐃᓚᖏᓐᓄᑦ ᐃᕐᑲᓪᓕᐊᖅᑎᓄᑦ ᐅᕐᑲᐅᓯᐅᓯᒪᔪᑦ ᕿᕐᓂᑲᓴᒃᑑᓂᕐᖁᖅᑕᐅᓪᓗᑎᒃ, ᑲᔫᖅ, ᐊᐅᐸᓗᒃᑐᖅ, ᓇᓂᑐᐃᓇᖅ ᐱᔭᐅᓯᒪᓂᖏᓐᓂᒃ (ᓇᐃᔅᑯᑦ ᐃᓚᖏᓪᓗ. 1991). ᓂᕐᑭᖓ ᐆᒐᐃᑦ ᓯᑎᔪᒐᓚᒃ, ᐅᖅᓱᕐᑲᑦᑎᐊᖏᑦᑐᖅ, ᖃᐅᓪᓗᖅᑐᖅ, ᓱᒃᑲᐃᑦᑐᒥᒃ ᓱᕈᖅᐸᓪᓕᐊᕐᑲᑦᑕᖅᑐᖅ ᑐᕐᑯᖕᒐᓕᖅᑎᓪᓗᒍ, ᐸᐸᑕᐅᔪᓐᓇᑦᑎᐊᖅᑐᖅ ᐸᓂᖅᑎᑕᐅᒍᓂ, ᑕᕆᐅᕐᒦᑎᑕᐅᒍᒥ, ᑕᒪᐃᓂᒡᓗᓐᓃᑦ ᑖᒃᑯᓂᖓ.



ᓇᓃᓐᓂᖅᑎᑦ ᐆᒐᖃᖅᑲᓂᖅᑎᑦ

ᐃᓱᒪᒋᔭᐅᓯᒪᕗᑦ ᑐᑭᓕᐅᖅᑕᐅᓂᖅᑎᓐᓂ ᓇᓃᓐᓂᖅᑎᑦ ᑲᑎᒪᔨᕋᓛᓄᑦ ᖃᓄᐃᓕᖓᓂᖅᑎᓐᓄᑦ ᓄᖓᓕᒫᑐᐃᓐᓇᕆᐊᖃᕐᓂᖅᑎᓐᓂᒃ ᐆᒪᔪᐃᑦ ᑲᓇᑕᒥ ᑳᓐᕚᒃᑯᑦ ᑲᑎᒪᔨᕋᓛᖅᑎᓐᓄᑦ ᐊᑕᐅᓲᓐᓇᐅᓪᓗᓂ ᑎᒃᑯᐊᖅᑕᐅᓂᖅ ᓇᓗᓇᐃᒃᑯᑕᖅ ᑕᒪᐃᓐᓄᑦ ᐆᒐᕐᓄᑦ ᓇᓂᑐᐃᓐᓇᓕᒫᖅ ᑲᓇᑕᒦᑦᑐᓂ. ᐊᑕᐅᓯᕐᓂᒃ ᑕᒪᕐᒥᒃ ᑎᒃᑯᐊᖅᑕᐅᓂᐊᕌᖓᑕ ᐊᑑᑎᖃᑦᑎᐊᕐᓂᐊᕐᓗᓂ, ᐃᓕᑕᕆᔭᐅᓯᒪᕗᑦ ᐊᑦᓛᓐᑎᒃ ᐆᒐᕐᓄᑦ ᐊᓯᔾᔨᖅᓯᒪᓕᖅᑐᑦ ᐊᓂᒍᐊᓂᒃᓯᒪᔪᓂ ᕿᓕᓂᒃ ᐊᕐᕋᒍᓂᒃ. ᒦᓐᓇᐅᓕᖅᑐᖅ, ᑳᕝᕕᒃᑯᑦ ᑲᑎᒪᔨᕋᓛᖅᑎᑦ ᑲᓇᑕᒧᑦ ᓇᓗᓇᐃᖅᓯᒪᕙᖅᑐᑦ ᐆᒐᖃᖅᕕᐅᓂᕋᖅᑕᐅᔪᓂᒃ ᒪᕿᖅᓂᒃ ᒪᓕᒐᖃᖅᓱᑎᒃ: 1) ᐃᖅᒥᓂᒃ ᐱᕈᖅᓯᒪᔭᓇᐊᖃᖅᐳᖅ ᐊᓯᒥᓂᖅᒐᖅᑎᑕᐅᓯᒪᓂᑰᖅᑎᓪᓗᓂ (ᓄᒃᑎᖅᑕᐅᓂᑰᖅᑎᓪᓗᑎᒃ), ᓲᕐᓗ ᐊᔾᔨᐅᖅᑎᓐᓂᖃᒐᓛᖅᓂᖅ ᐊᓯᒥᓂᒃ ᐊᓯᐊᓃᑦᑐᓂᒃ ᐆᒐᕐᓂᒃ, ᐅᕝᕙᓗᓐᓃᑦ ᐊᓯᐊᓂᑦᑎᐊᓪᓚᓇᖅᓂᖅ ᐃᒪᕐᓂ ᐆᒪᔪᖃᖅᑐᓂᒃ, ᐊᒻᒪᓗ 2) ᐱᓪᒪᓇᐅᔪᒥᒃ ᐃᖅᒥᓃᓐᓇᖅ ᐱᑕᖃᓕᖅᓯᒪᓂᑰᔭᓇᐊᖅᑐᖅ ᐆᒦᓂᖅᑎᓂ (ᐅᐃᐸᓪᓴ 1991). ᑕᐃᒪᐃᓐᓂᖅᒐᓄᑦ, ᐆᒐᖃᖅᕕᐅᓂᕋᖅᑕᐅᓯᒪᔪᑦ ᐊᒥᓱᕈᖅᐸᓪᓕᐊᔪᓐᓇᕐᓂᖅᑎᓐᓂᑦ ᐊᑕᐅᓯᕐᒦᖅᑎᓐᓇᕐᓇᐊᖃᖅᐳᑦ ᐊᑯᓂᐅᓂᖅᓴᖅ, ᓴᓂᐊᓂ ᐊᓯᖅᑎᓐᓂᒃ ᑖᒃᑯᓇᖅᒎᖅᓯᒪᓂᑰᔪᓂᒃ ᐃᓗᐊᓂ, ᐊᒻᒪᓗ ᐊᒥᓱᓂᒃ ᐊᔾᔨᒌᖅᑎᑦᑐᖃᕐᓗᑎᒃ ᖃᐅᔨᒪᔭᐅᔪᓂᒃ (ᓲᕐᓗ ᖃᓄᐃᑦᑑᓂᖅᑎᓐᓂᒃ, ᐆᒪᑯᑕᖃᑦᑕᕐᓂᖅᑎᑦ), ᐅᖃᐅᓯᐅᒐᔪᖅᒪᑕ ᑕᒪᒃᑯᐊ ᐃᓱᒪᒋᔭᐅᓂᐊᕈᑎᒃ ᑕᒪᐃᓐᓂᒃ ᐱᓪᒪᓇᐅᓂᖅᑎᑦ ᐊᒻᒪᓗ ᐃᖅᒥᒃᑰᖅᒐᓂᖅᑎᑦ. 1998–ᒥ, ᑲᑎᒪᔨᕋᑦ ᑳᕝᕕᒃᑯᑦ ᑲᓇᑕᒥ ᑎᒃᑯᐊᖅᓯᓚᐅᖅᐳᑦ ᐆᒐᕐᒥᒃ ᐊᔾᔨᐅᖅᑎᑦᑐᒥᒃ ᐃᓱᒪᓘᑕᐅᓂᕐᒥᒃ (ᖃᓄᐃᓕᔭᐅᓂᐊᕈᓂ) ᓇᓗᓇᐃᒃᑯᑦᑎᖅᑕᐅᓪᓗᓂ ᐊᔾᔨᐅᖅᑎᑦᑐᖅᑕᖃᓗᐊᓇᐊᖃᖅᑎᓚᖅ ᖃᓄᐃᑦᑑᓂᖅᑎᓐᓂᒃ ᐆᒪᑯᑖᒍᓐᓇᕐᓂᖅᑎᓐᓂ, ᐅᕝᕙᓗᓐᓂᑦ ᐋᕿᑎᐊᖅᓯᒪᓂᖅᑎᓐᓂᒃ ᐊᕙᑎᒥᓄᑦ

ᓇᓂᑐᐃᓐᓇᖅ ᓇᔪᖅᐸᒃᑕᖏᓐᓂ. ᑭᓯᐊᓂ, ᒫᓐᓇᓵᖅ ᐆᒪᔪᕈᖅᓯᒪᓂᖏᓐᓄᑦ ᐊᐅᖕᒥᐅᑕᖏᓐᓄᑦ ᐊᒻᒪᓗ ᓇᖅᑲᑦᑕᖅᓂᖏᓐᓄᑦ ᒪᓕᖕᓂᖏᓐᓄᑦ ᐃᓱᒪᓕᐊᕆᔭᐅᓯᒪᑐᐃᓐᓇᖅᑐᓂ ᐆᒐᐃᑦ ᐊᕕᒃᑐᖅᑕᐅᓯᒪᔪᓐᓇᖅᓂᖏᓐᓂᒃ ᑎᒃᑯᐊᖅᑕᐅᓯᒪᓂᖏᑦ ᐆᒐᖅᑲᖅᓃᑦ. 2003-ᖑᑎᓪᓗᒍ, ᑳᓪᕕᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ ᓇᓗᓇᐃᖅᓯᓚᐅᖅᑐᑦ ᓯᑕᒪᓂᒃ 4 ᑎᒃᑯᐊᖅᑕᐅᓯᒪᔪᓂᒃ ᐆᒐᖅᑲᖅᕕᖕᓂᒃ ᑲᓇᑕᐅᑉ ᐃᒦᓂᑦᑐᓂᒃ. ᑲᑎᐅᓪᓗᑎᒃ ᖅᑲᐅᔨᒪᔾᔪᑏᑦ ᐆᒪᔫᓂᖏᓐᓄᑦ ᖅᑲᓄᐃᑦᑑᓂᖏᑦ, ᐊᕙᑎᖏᑦ, ᐊᒻᒪᓗ ᐆᒪᔪᓐᓇᖅᓂᖏᑦ, ᐊᒥᓲᕗᑦ ᓴᕿᐅᒪᔪᑦ ᐆᒐᐃᑦ ᐊᔾᔨᕌᓐᓂᓪᒪᓇᖏᓐᓂᖏᓐᓂᒃ , ᐊᑦᓛᓐᑎᒃ ᐆᒐᖅᓂ ᐅᐊᖕᓇᖅᐸᓯᐊᑕ ᐱᖕᖓᖕᓇᖕᖓᓃᑦᑐᓂᒃ ᐊᑦᓛᓐᑎᒃᒥᒃ. ᑭᓯᐊᓂ, ᐊᔾᔩᖏᑦᑑᑎᐅᒐᓗᐊᖅᓱᑎᒃ ᐃᓕᑕᕆᔭᐅᒪᔪᓂ ᐆᒐᖅᑲᖅᕕᐅᔪᓂ ᐊᒥᓲᒐᓗᐊᖅᑎᓪᓗᒋᑦ ᐱᔾᔪᑕᐅᔪᑦ ᐊᕕᒃᑐᖅᓯᒪᔪᒥᒃ ᐊᔾᔩᖏᑐᓂᒃ ᐊᐅᓚᑕᐅᔫᓐᓇᖅᓂᖏᓐᓄᑦ ᐃᓱᒪᒋᓪᓗᒋᑦ, ᑐᑭᓯᓈᓂᒃᓯᒪᖏᑦᑐᖅ ᖅᑲᓄᖅ ᐆᒐᖅᑲᖅᓂᐅᔪᑦ ᐱᐅᓂᖅᐹᒃᑯᑦ ᑎᒃᑯᐊᖅᑕᐅᓯᒪᔪᓐᓇᖅᒪᖕᒌᑕ ᐆᒪᔪᕈᖅᓯᒪᓂᖏᓐᓂᒃ ᑕᑯᓪᓗᒋᑦ, ᐃᓱᒪᒋᓪᓗᒋᓪᓗ ᐆᒪᔪᕈᖅᓯᒪᓂᖏᓐᓄᑦ ᐊᐅᖕᒥᐅᑕᖏᑦ ᐊᒻᒪᓗ ᖅᑲᓄᖅ ᐱᑕᖅᑲᓕᖅᓯᒪᖕᒪᖕᒌᑕ ᖅᑲᐅᔨᒪᔾᔪᑎᖅᑲᖅᑐᐃᓐᓇᐅᖏᒪᑦ ᐆᒐᖅᓂᒃ ᐃᓚᓐᓂᒃ. ᑕᐃᒪᐃᒃᑲᓗᐊᖅᑎᓪᓗᒍ, ᐊᖏᒡᓕᕙᓪᓕᐊᑐᐃᓐᓇᖅᑐᑦ ᓴᕿᑕᐅᕙᓪᓕᐊᔪᑦ ᑐᑭᓯᓇᖅᑐᑦ ᐊᒥᓲᖏᑦᑐᒦᓐᓂᖏᑦ ᐅᒐᐃᑦ ᐊᒻᒪᓗ ᓱᖏᐅᑎᓯᒪᓂᖏᑦ ᐊᕙᑎᖏᓐᓄᑦ ᐅᒐᐃᑦ ᐊᕕᒃᑐᖅᓯᒪᔪᖅᓃᑦᑐᑦ ᒥᑭᓐᓂᖅᓴᐅᒐᔫᒃᑐᑦ ᓴᓂᐊᓂ ᑕᐃᒃᑯᓇᖕᖓᑦ ᐆᒐᖅᓂᒃ ᑕᓇᐅᕋᓗᖕᒦᓐᓂᖅᓴᐅᖅᑲᑦᑕᖅᑐᓂ ᐊᖏᓂᖅᓴᓂ ᐃᒪᖕᓂ ᑲᓇᑕᒥ.

ᑎᒃᑯᐊᖅᑕᐅᓯᒪᓂᖏᑦ ᐆᒐᖅᑲᖅᕕᐅᓂᕋᖅᑕᐅᔪᑦ ᐊᒻᒪᓗ ᐊᒥᓲᓂᖏᑦ

ᑳᓪᕕᒃᑯᑦ ᑲᑎᒪᔨᕋᓛᖏᑦ ᑲᓇᑕᒥ ᓇᓗᓇᐃᖅᓯᕙᒃᑐᑦ ᐆᒐᖅᑲᖅᕕᐅᓂᕋᖅᑕᐅᔪᓂᒃ ᐊᕕᒃᓯᒪᔪᓂᒃ ᐊᒻᒪᓗ ᐱᐅᓯᑐᖅᑲᖅᑎᒍᑦ ᐱᒻᒪᕆᐅᓂᖅᑲᖅᑐᓂᒃ ᐃᖕᒥᓂᒃ ᐆᒪᔫᓂᖏᓂᒃ, ᑕᒪᓐᓇᓗ "ᐱᒻᒪᕆᐅ"ᓂᖅᑲᐃᓂᖅ ᑐᑭᖅᑲᖅᑐᖅ ᐆᒪᔪᖅᑲᖅᕕᐅᓂᕋᖅᑕᐅᔪᖅ ᐱᒻᒪᕆᐅᓂᖏᓂᒃ ᖅᑲᓄᖅ ᐱᓐᖑᖅᓯᒪᔪᕕᓂᐅᓂᖏᓄᑦ ᐆᒪᔪᐃᑦ ᑕᒪᕐᒥᒃ ᐃᓪᓗᐃᑦᑑᓪᓗᑎᒃ, ᐊᒻᒪᓗ ᐱᑕᖅᑲᕈᓐᓅᕈᓐᓇᖅᓂᖏᓐᓂᒃ ᐊᓯᑤᕈᓐᓇᕋᔭᖏᑦᑐᒥᒃ ᐊᑯᓂᐅᔪᒥᒃ ᓯᕗᓂᒃᓴᒥ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᓂ. ᐃᖕᒥᒃᑰᖕᖓᓂᖏᓐᓂᒃ ᐃᓱᒪᖅᑲᖅᓂᖅ ᓯᕗᓪᓕᐅᖅᑲᑕᐅᔪᒥᒃ ᐱᒻᒪᕆᐅᓂᖅᑲᖅᐳᖅ, ᐊᒻᒪᓗ ᐅᖅᑲᐅᓯᖅᑲᖅᓂᐅᔪᓐᓇᖅᑐᖅ ᐆᒪᔪᐃᑦ ᐃᖕᒥᒃᑰᖅᓂᖏᓐᓂᒃ, ᓇᔪᖅᐸᒃᑕᖏᓐᓂᒃ ᐊᓯᐊᓂᑦᑎᐊᒻᒪᕆᖕᓂᖅ, ᐅᕝᕙᓗᓐᓃᑦ ᐱᑕᖅᑲᖅᓂᖏᓐᓂᒃ ᑕᐃᒃᑯᐊᑑᑎᓪᓗᒋᑦ. ᐱᒻᒪᕆᐅᓂᖅᑲᐃᓂᖅ ᐅᖅᑲᐅᓯᖅᑲᕈᓐᓇᖅᐳᖅ ᓴᓇᓯᒪᓂᖏᓐᓂᒃ ᐆᒪᔪᕈᖅᓯᒪᓂᖏᓐᓂᒃ ᐊᔾᔨᐅᖏᓂᖅᑲᓚᐅᖅᓯᒪᓂᖏᓐᓂᒃ (ᓲᕐᓗ ᓄᓇᕐᔪᐊᖅ ᓯᑯᐃᓐᓇᐅᓚᐅᖅᓯᒪᓂᖕᖓᓂ), ᐋᓇᖏᐊᖅᓯᒪᓂᖏᑦ ᐊᕙᑎᒥᓄᑦ (ᐆᒪᔪᕈᖅᐸᓪᓕᐊᓯᒪᓂᖏᓐᓂᒃ ᖅᑲᓄᐃᓕᕙᓪᓕᐊᓂᖏᓐᓂᒃ), ᐅᕝᕙᓘᓐᓃᑦ ᐊᕙᑎᐊᓂᒃ ᐊᔾᔨᐅᖏᑦᑐᒦᓐᓂᖏᓐᓂᒃ, ᐊᒻᒪᓗ ᐃᓚᒋᔭᐅᓂᖅᑲᖅᑕᐅᓂᐊᕈᑎᒃ ᑐᑭᖏᓐᓂᒃ, ᐃᓱᒪᖅᑲᓇᐊᖅᑲᖅᐳᑦ ᐃᖕᒥᑯᓯᒪᑐᐃᓐᓇᓘᑦ ᐃᖕᒥᒍᐃᓐᓇᖅ ᐱᔾᔪᑕᐅᔪᓐᓇᖏᓐᓂᖅ ᑎᒃᑯᐊᖅᑕᐅᓯᒪᓂᐊᖅᓂᖅ ᐃᓕᑕᐅᒪᓂᖅᑲᖅᒥᒃ. ᑕᒪᓐᓇ ᑕᐃᒫᒃ ᐃᓱᒪᒋᓪᓗᒍ, ᐱᓪᓚᓇᐅᒋᕗᖅ ᑎᒃᑯᐊᖅᑕᐅᓯᒪᓂᖏᑦ ᐆᒐᖅᑲᖅᓂᕋᖅᑕᐅᔪᑦ ᐃᓚᖅᑲᕈᓐᓇᖅᐳᑦ ᐊᒥᓯᓂᒃ ᒥᑭᔫᑎᐅᓂᖅᓴᓂᒃ ᐅᒐᖅᑲᖅᓂᐅᔪᓂᒃ, ᐊᑐᓂ ᖅᑲᓄᑐᐃᓐᓇᖅ ᑕᐅᕗᖏᖅᓯᒪᓂᒎᓗᑎᒃ ᓅᓯᒪᓪᓗᑎᒃ ᐃᖕᒥᓂᒃ ᐃᓚᖏᓐᓇᓂ (ᒪᑭᐊᓚᓂᒃᑯᑦ ᐃᓚᖏᓪᓗ. 2000), ᑭᓯᐊᓂ ᓅᓯᒪᓂᑰᔭᓇᐊᖅᑲᓪᓚᓇᖏᓪᒥᔪᑦ ᐃᓚᖏᓐᓂᒃ ᐱᔾᔪᑕᐅᓂᖅᒍᑦ ᒥᑭᓂᖅᓴᐃᑦ ᓯᕗᓪᓕᕕᓂᖅᓂᖅᑯᔪᑦ ᐆᒐᐃᑦ ᐋᖅᑭᒋᐊᕈᓐᓇᖅᓯᓯᒪᖏᑐᐃᓐᓇᓇᐊᖅᑲᖅᒪᑕ (ᑕᒪᑐᒧᖅᑲ ᐃᒻᒪᓇᐅᔭᐊᑎᖅᑲᖅᐳᖅ) ᐊᒻᒪᓗ ᐃᓚᔭᐅᓯᒪᑐᐃᓐᓇᖅᑲᖅᓇᖅᓯᑎᒃ ᐊᓯᖏᓐᓄᑦ ᐆᒐᖅᑲᖅᓂᐅᓂᖅᓴᖅᑲᖅᑕᐅᔪᒍᑦ ᐃᓚᒋᔭᐅᓂᖅᓴᓂᒃ ᐊᑕᐅᓯᒎᑦ ᐊᑕᓂᖅᑲᖅᑕᐅᓗᑎᒃ. ᐅᔾᔨᕈᔭᐅᔭᕈᐊᖅᑲᕈᔫᖅ ᖅᑲᐅᔨᒪᔭᐅᔪᑦ ᑲᑎᖅᓱᖅᑕᐅᓯᒪᔪᑦ ᐃᖅᑲᓗᓕᕆᔨᖅᔪᐊᒃᑯᑦ ᑕᓇᐅᖅᓄᓪᓗ ᑲᓇᑕᒥ ᖅᑲᐅᔨᓴᖅᐸᓪᓕᐊᕙᒃᑕᖏᓐᓂ, ᑕᐃᒃᑯᐊ ᐱᐅᓂᖅᐹᑦ ᓇᓗᓇᐃᖅᓯᔾᔪᑏᑦ ᖅᑲᖏᒃᑯᖏᓂᖏᓂᒃ ᐊᕕᒃᑐᖅᑕᐅᓯᒪᔪᑦ ᑎᒃᑯᐊᖅᑕᐅᓂᖏᓄᑦ ᖅᑲᖏᒃᑯᖏᓂᖅᒍᑦ ᓇᓗᓇᐃᖅᔭᐊᑕᐅᖅᑲᑦᑕᖅᒥᖕᒪᑕ ᐃᖅᑲᓗᓕᕆᔨᖅᔪᐊᒃᑯᓐᓄᑦ ᐃᓕᑕᕆᔭᐅᒪᔪᓂᒃ ᐆᒪᔪᖅᑲᖅᒪᖕᒌᑕ ᑐᑭᓕᐅᖅᑕᐅᖅᑲᑦᑕᖅᒥᖕᒪᑕ.. ᑕᐃᒪᐃᓕᖕᖓᒐᓗᐊᖅᑎᓪᓗᒋᑦ, ᑕᒪᒃᑯᐊ ᐊᐅᓚᑕᐅᔪᑦ

ᓇᓅᓐᖏᓂᒃᐱᑕᕐᑲᖅᓯᒪᕗᑦ ᐊᑯᓂᐊᓗᒃ ᖃᖕᒫᓗᓂᒃ, ᐊᒻᒪᓗ ᑕᒪᐃᓐᓂᒃ ᑭᒡᒐᖅᑐᐃᓪᓗᑎᒃ ᓇᓗᓇᐃᖅᓯᒪᑦᑎᐊᒃᑲᓂᕐᓂᖅᓴᐅᔪᓂᒃ ᖃᖕᒐᒃᑰᖕᒐᓕᖅᑎᑕᐅᓯᒪᔪᓂᒃ ᓇᓗᓇᐃᑯᑕᕐᑲᖅᑎᑕᐅᔪᓂᒃ, ᐊᓯᓕᒦᖏᓐᓂᒃ ᖃᐅᔨᓴᖅᑕᐅᙱᒃᑐᓂᒃ ᐱᒻᒪᕆᐅᔪᓂᒃ ᐊᖏᔫᑎᐅᓂᖅᓴᓂᒃ ᓇᓅᓐᓂᖏᓄᑦ ᐱᑕᕐᑲᖅᑎᒋᓂᖏᓄᓪᓗ ᐆᒪᔪᐃᑦ ᐃᖏᒨᕐᓂᕋᖅᑕᐅᓯᒪᙱᒃᑐᓂᒃ ᐆᒐᕐᑲᕐᕓᖓᓂᒃ. ᑕᐃᒪᐃᓐᓂᖏᓐᓄᑦ, ᐱᓐᖑᖅᐸᓪᓕᐊᓯᒪᓂᖏᓐᓂᒃ ᐱᒻᒪᕆᐅᔫᑦ ᖃᓄᐃᓕᖕᒐᓂᖏᑦ ᐊᑖᓂ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔫᓐᑐᑦ ᑕᐃᒪᐃᒍᒥᓇᖏᑦᑑᒐᓗᐊᑦ, ᐊᒻᒪᓗ ᓱᓕ ᖃᐅᔾᔭᖅᑕᐅᑎᐊᒃᑲᓐᓂᕆᐊᓕᒃ ᓱᓕ ᐊᒥᓱᓂᒃ. ᒪᓕᒃᑕᐅᓐᓂᖏᓐᓂᖅ ᑳᔅᕙᒃᑯᑦ ᑲᑎᒪᔩᕋᓛᖏᑦ ᑲᓇᑕᒥ ᓇᓗᓇᐃᒃᑯᑕᖏᑦ ᑎᒃᑯᐊᖅᓯᕐᑲᑦᑕᕐᓂᕐᒧᑦ ᒪᓕᒃᑕᐅᔪᒃᓴᓂᒃ ᐊᑖᒍᑦ ᐆᒪᔪᕐᓂᖕᒐᖅᓯᒪᓂᕋᖅᑕᐅᙳᒃᑐᓂᒃ, ᐳᖅᑐᓂᕐᑲᖅᑎᑕᐅᔪᒥ, 6–ᖑᕗᑦ ᑎᒃᑯᐊᖅᑕᐅᓯᒪᔪᑦ ᐆᒐᓕᑦ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᑦ ᑖᒃᑯᓇᓄᓂ ᐅᓂᒃᑳᓕᐊᓂ, ᐊᒻᒪᓗ ᓈᓴᖅᑕᐅᓯᒪᔪᒃᑲᕐᑲᕐᑲᕞᖕᒐᑦ, ᖃᓄᐃᓕᕙᓪᓕᐊᓂᖏᑦ ᑎᑎᕋᖅᓯᒪᓪᓗᑎᒃ ᕿᑐᖏᐅᖅᐸᓪᓕᐊᔪᑦ ᐊᒥᓱᑭᖅᐸᓪᓕᐊᓯᒪᓂᖏᑦ ᐊᑐᓂ ᐆᒐᕐᑲᕐᕓᖕᓅᑦᑐᑦ, ᐅᕐᑲᐅᓯᐅᓯᒪᕆᓪᓗᑎᒃ. ᐊᑐᓂ ᐆᒐᕐᑲᕐᓅᑦ ᐃᓚᕐᑲᖅᐳᑦ ᐆᒐᕐᓂᒃ ᐱᑕᕐᑲᖅᑐᓂᒃ ᐊᓯᖏᓂᒻᒥᔪᓂᒃ ᐊᐅᓚᑦᑕᐅᔪᓂᒃ ᐆᒐᕐᑲᕐᓂᕐᒥᒃ, (ᐱᖏᑦᑕᑐᐊᓇᓪᓗᒋᑦ ᐅᑭᐅᖅᑕᖅᑐᒥ ᑕᓯᕐᓂᒃ ᐆᒐᓖᑦ) ᐊᕙᒃᑐᖅᑕᐅᓯᒪᓂᖏᑦ ᒪᓕᒃᑕᐅᓪᓗᑎᒃ ᓈᕖᒃᑯᓐᓄᑦ (ᐅᐊᖕᓇᖕᒐᑕ ᐱᖕᒐᖕᓇᖅᐸᓯᐊᓄᑦ

ᐃᕐᑲᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᕐᑲᑎᕆᓪᔪᐊᑦ) ᐊᕙᒃᑐᖅᓯᒪᔓᖏᓐᓂᒃ (ᓇᓴᐅᑎᓕᒃ 7). ᑖᒃᑯᐊ ᐊᕙᒃᑐᖅᑕᐅᓯᒪᓂᖏᑦ ᓇᓗᓇᐃᖅᓯᓯᒪᒋᕗᑦ ᐆᒐᓕᖕᓂᒃ ᐊᐅᓚᑕᐅᔪᓂᒃ ᐃᕐᑲᓗᓕᕆᔨᕐᔪᐊᒃᑯᓐᓄᑦ ᐊᒻᒪᓗ ᑕᕆᐅᕐᓄᑦ ᑲᓇᑕᒥ.

ᐅᑭᐅᖅᑕᖅᑐᒥ ᑕᓯᑦ ᐆᒐᓕᑦ ᑎᒃᑯᐊᖅᑕᐅᓯᒪᔪᑦ ᐊᕙᒃᑐᖅᑕᐅᓯᒪᓂᖏᑦ

ᐆᒐᐃᑦ ᑎᒃᑯᐊᖅᑕᐅᓯᒪᕐᑲᑕᐅᔪᑦ ᑕᐃᒃᑯᓇᓃᑉᐳᑦ ᑐᑭᓕᐅᖅᑕᐅᓯᒪᔪᓂ ᓯᓪᔭᖅᐸᓯᖏᒥ ᑕᓯᕐᓂ ᑕᐅᕗᓇᓕᒪᖅ ᑲᓇᖕᓇᖅᐸᓯᐊᒍᑦ ᓯᓲᔾᔨᑦ ᕿᑭᖅᑖᓅᑉ, ᓄᓇᕗᑦ (ᐱᖕᒐᓱᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᓕᖅᑐᑦ), ᐃᓖᓂᒃᑯᑦ ᑕᕆᐅᕐᒧᑦ ᑯᓪᕙᐅᓲᓂ ᐃᒪᕐᓂ. ᑖᐃᒃᑯᐊ ᑕᓰᑦ ᐊᑎᕐᑲᖅᐳᑦ ᐃᒦᒃ, ᐆᒐᖅ ᑕᓯᖅ, ᖃᓯᒋᐊᓕᒥᓂᖅ ᑕᓯᖅ ᐊᒻᒪᓗ ᑕᕆᐅᔭᕈᓯᖅ ᑕᓯᖅ.

ᐅᑭᐅᕐᑲᓕᕐᓂᖏᑦ ᐱᕈᐊᓂᒃᓯᒪᓕᖅᓱᑎᒃ

ᐅᑭᐅᕐᑲᕐᓂᖏᑦ ᐃᓐᓇᐅᓕᖅᑎᓪᓗᒋᑦ (ᑭᒡᒐᖅᑐᖅᑕᐅᓪᓗᑎᒃ ᐅᑭᐅᕐᑲᕐᓂᖏᑦ 50 ᐳᓴᓐᑎᖏᓃᑎᓪᓗᒋᑦ ᐊᕐᓇᓪᓗᐃᑦ ᒪᓐᓃᔭᕈᓐᓇᖅᓯᓯᒪᓪᓗᑎᒃ) ᐊᔾᔨᒌᕐᑲᑦᑕᖏᑦᑐᑦ ᐆᒐᓕᖕᓂ ᐊᒻᒪᓗ ᐱᔾᔪᑕᐅᔪᒃᓴᐅᓪᓗᑎᒃ ᐊᕙᑎᖏᑦ (ᓰᕐᓗ ᓂᓪᓚᓱᖕᓂᖕᒐ ᐃᒪᐅᑉ), ᐊᒻᒪᓗ ᐆᒪᓂᖏᓐᓄᑦ ᐊᒃᑐᖅᑕᐅᓯᒪᓂᖏᑦ ᐊᒻᒪᓗ ᐱᔾᔪᑎᕐᑲᕈᓐᓇᖅᓱᑎᒃ ᐃᕐᑲᓗᒃᓯᐅᖅᑕᐅᕐᑲᑦᑕᖅᑎᒋᓂᖏᓐᓂᒃ. ᐊᔾᔨᒌᖏᓐᓂᖏᑦ ᖃᐅᔨᓇᓱᒃᓱᒋᑦ ᐃᓐᓇᐅᓕᖅᑐᓐᓂ, ᐊᑐᕋᔪᒃᑐᖅ ᑐᕐᑲᒐᔪᖕᓂᓇᕙᒃᖏᓐᓂᒃ ᐅᑭᐅᖏᓐᓂᒃ ᑕᒪᐃᓐᓂ ᐆᒪᔪᐃᑦ ᑕᒪᐃᓐᓂ ᓇᔪᖅᑕᖏᓐᓂ, ᓈᓴᖅᑕᐅᓪᓗᑎᒃ, ᐅᕐᑯᒪᐃᓐᓂᕐᓂᐊᖅᑕᐅᓪᓗᑎᒃ, ᐳᖅᑐᓃᖅᐸᑦ ᐊᒥᓲᓂᕋᖅᑕᐅᓯᒪᔪᑦ ᒪᓕᒃᑕᐅᓪᓗᑎᒃ ᐊᑐᓂ ᐅᒐᕐᓂᒃ ᑕᐃᑯᓄᖕᒐ ᐃᓚᒋᔭᐅᔪᓂ (ᒪᓕᒃᑕᐅᓪᓗᑎᒃ ᐆᒃᑐᕋᐅᑎᖏᑦ VPA–ᑯᑎᒍᑦ ᐊᒥᓲᓂᖏᓐᓂᒃ ᓇᓚᐅᒃᑖᕈᑏᑦ; ᑕᑯᓗᒋᑦ ᐆᒐᐃᑦ ᐱᑕᕐᑲᕐᓂᖏᑦ ᐊᒻᒪᓗ ᖃᓄᐃᓕᕚᓪᓕᐊᓂᖏᑦ ᐊᑖᓂᑦᑐᑦ). ᐆᒐᐃᑦ ᐱᑐᕐᑲᐅᑏᓕᖅᐸᒃᑐᑦ ᐃᓐᓇᐅᓂᖏᑦ ᓂᐅᕚᑏᓪᒥᓗ ᑏᑉᑐᐊᓇᒥᓗ ᐆᒐᓕᖕᓂ, ᒪᕿᖕᓂᔅᓯᑎᒃ ᐅᒐᓕᖕᒃ ᐱᕈᐊᓂᕐᑲᑦᑕᖅᑐᑦ 6–ᓂᒃ ᐅᑭᐅᕐᑲᓕᖅᓯᑎᒃ ᐊᒻᒪᓗ ᕿᓚᒻᒥᐅᓂᖅᐹᖑᕙᒃᑐᒥᒃ ᐱᕈᐊᓂᓲᖑᓪᓗᑎᒃ ᓂᕆᐊᓂ ᐆᒐᓕᖕᓂ, ᑕᐃᒃᑯᐊ ᒪᕿᒃ ᐅᒐᕐᑲᕐᓃᒃ ᐱᕈᐊᓂᕐᑲᑦᑕᖅᓯᑎᒃ 2.5–ᓂᒃ ᐅᑭᐅᕐᓂᒃ (ᓈᓴᐅᑎᓕᒃ 3). ᓇᓗᓇᖏᑦᑎᐊᖅᑐᒥᒃ ᐊᔾᔨᒌᖏᓐᓂᕐᑲᖅᑐᑦ ᐅᑭᐅᖏᓐᓂᒃ ᐱᕈᐊᓂᕐᑲᑦᑕᕐᓂᖏᓐᓂᒃ ᓴᕿᐅᒪᔪᑦ ᓂᕆᐊᓂ

ᐆᒐᖃᕆᕝᓂ, ᐱᕈᐊᓂᖃᑦᑕᖅᓯᑎᒃ ᒪᕈᖕᓂᒃ ᐱᖓᓱᓂᒡᓗᓐᓃᑦ ᐅᑭᐅᕐᓂᒃ, ᐊᒃᓯᑲᓪᓚᒃ ᕿᒻᓚᐅᒥᖅᓴᐅᓪᓗᑎᒃ ᐊᓯᖏᓐᓂᒃ ᐆᒐᓕᖕᓂᒃ .

<u>ᐆᒫᔭᐃᑦ ᐊᔾᔨᒌᖏᓐᓂᖏᑦ ᐃᓚᖏᓐᓂ ᑎᒥᖏᓐᓂᒃ ᐋᕿᐅᒪᓂᖏᑦ ᐆᒐᐃᑦ</u>

ᓴᖏᔩᒋᕗᑦ ᓴᕿᓯᒪᔪᑦ ᐱᒪᕆᐅᔪᓂᒃ ᓴᓇᓯᒪᓂᖏᓐᓂᒃ ᐊᔾᔨᒌᖏᓐᓂᖏᓐᓂᒃ ᐃᓚᖏᓐᑐᑦ ᐆᒐᐃᑦ (ᑕᑯᑦᑎᔾᔪᑦ 1). ᐃᓱᒪᒋᓪᓗᒋᑦ ᐊᒥᓲᐊᓅᓂᖏᑦ ᐳᒐᐃᑦ ᑕᒫᓂ, ᐊᒻᒪᓗ ᓯᑯᓯᒪᕐᔪᐊᓚᐅᖅᓯᒪᓂᖅ ᐊᓂᒍᖅᓯᒪᓂᖓᓂᒃ ᓇᒧᐃᓇᕈᓇᕐᓂᖅᓴᐅᓚᐅᖅᓯᒪᓂᖏᓐᓄᑦ, ᑲᒪᓇᖏᓚᕐᓗᓐᓃᑦ ᖃᓄᑎᒋ ᐅᖓᓯᒃᑐᒦᓂᖏᓐᓄᑦ ᐊᔾᔨᒌᖏᓐᓂᖏᑦ ᓴᕿᐅᒪᓗᐊᖏᒻᒪᙵᓚ, ᑕᐃᒪᐃᒐᔪᖕᒪᑕ ᑕᕆᐅᕐᒥᐅᑕᐃᑦ ᐃᖃᓗᐃᑦ ᓇᓂᑐᐃᓐᓇᖅ. ᑕᐃᒪᐃᓕᖕᒐᒐᓗᐊᖅᑎᓪᓗᒍ, ᐱᒪᕆᖕᓂᒃ ᖃᓄᐃᓕᖓᓂᖏᑦ ᐅᔾᔨᕆᔭᐅᓯᒪᒋᕗᑦ ᐊᒥᓱᒐᓴᖕᓂᒃ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᓂ, ᓲᕐᓗ ᐅᖓᓯᒃᑐᒦᓐᓂᖏᑦ ᐅᕝᕙᓗᓐᓃᑦ ᐊᔪᕐᓇᕈᑕᐅᔪᑦ ᐊᓯᐊᓄᐊᖅᐸᓪᓕᐊᓯᒪᔪᓐᓇᕐᓂᖏᑦ ᐆᒫᔭᐃᑦ (ᐱᐋᓴᓐ ᐃᓚ ᖏᓪᓗ 1996) ᐊᑐᖅᑕᐅᓪᓗᑎᒃ ᐊᐅᖏᑦ ᐱᖑᖅᑎᑕᐅᓯᒪᓂᖏᓐᓄᑦ ᐱᑕᕐᑲᕐᓂᖏᑦ, ᖃᐅᔨᔭᐅᓯᒪᔪᑦ ᐊᔾᔨᒌᒐᓚᖕᓂᖅᓴᐅᓂᖏᓐᓂᒃ ᓄᐅᕙᓛᓐᒥᑦᑐᑦ, ᕋᓚᒥᓯᒥᐅᑕᐃᑦ ᐃᒪᖏᓐᓂ, ᐊᒻᒪᓗ ᐆᒐᐃᑦ ᓯᑰᓯᐊᑉ ᐃᒪᐅᓂᖓᓂ (ᑕᑯᓗᒋᑦ ᑕᑯᑎᑦᑎᔾᔪᑎᑦ 1). ᑕᐃᒻᒃᓴᐃᓐᓇᖅᑕᐅᖅ, ᕈᓵᓐᑎᒃᑯᑦ ᐃᓚ ᖏᓪᓗ (1998), ᑎᑎᕋᖅᓯᒪᓚᐅᖅᑐᑦ ᐱᒪᕆᐅᔪᓂᒃ ᐋᕿᐅᒪᓂᖏᓐᓂᒃ ᐃᒪᕐᒥᐅᑕᐃᑦ, ᐊᔾᔨᒌᖏᑦᑑᑎᐅᓂᖏᓐᓂᒃ ᓗᐊᕆᐊᓐᓴᓐ ᑰᕋᓗᐊᑕ ᐊᑭᐊᓐᓂᑦᑐᓄᑦ (ᑕᑯᑎᑦᑎᔾᔪᑦ 1). ᐋᓪᓴᓐᑯᑦ ᐃᓚ ᖏᓪᓗ (2001) ᖃᐅᔨᓴᖅᑕᐅᓚᐅᖅᑐᑦ ᖁᓛᑦ 10 ᐊᐅᖏᓐᓂᒃ ᑐᑭᓯᓂᐊᖅᑕᐅᓪᓗᑎᒃ ᑎᒥᖏᑦ ᖃᓄᐃᓕᖓᓂᐊᕐᒪᖓᑕ ᓇᓗᓇᐃᒃᑯᑕᖏᑦ (ᖃᓗᓈᑎᑐᑦ ᓇᐃᓈᖅᑕᐅᓪᓗᑎᒃ ᑕᐃᔭᐅᔪᑦ RFLP–ᒥᒃ) ᐆᒐᐃᑦ, ᖃᐅᔨᔭᐅᓚᐅᖅᑐᑦ ᐱᒪᕆᐅᓂᖏᑦ ᐊᔾᔨᒌᖏᓐᓂᖃᕐᓂᖏᓐᓂᒃ ᐆᒐᐃᑦ ᐆᒃᑐᕋᖅᑕᐅᓯᒪᔪᑦ ᑎᒃᑯᐊᖅᑕᐅᓯᒪᔪᓂᒃ ᐆᒐᖃᕆᕝᓂᒃ, ᐱᓗᐊᖅᑐᒥᒃ ᑕᐃᒃᑯᓇᓂ ᓂᐅᕙᓛᓐᒥᐅᑕᓂᒃ ᐊᒻᒪᓗ ᓗᐊᕆᐊᓐᓴᓐ ᐃᒫᑕ ᓂᒋᐊᓂᒃ ᐆᒐᖃᖅᑐᓂ. ᐱᒻᒪᕆᐅᔪᒥᒃ ᐃᓕᑕᕐᓇᖅᑐᖃᓚᐅᖅᑐᑦ ᓴᓇᓯᒪᓂᖏᓐᓄᑦ ᐊᐅᖏᒥᐅᑕᓂᒃ ᐊᑕᐅᓯᑐᐃᓐᓇᕐᒦᓐᓂᖏᓐᓂᒃ ᑕᐅᕙᓂ ᖃᐅᔨᔭᐅᓚᐅᖅᑐᑦ ᒋᐅᓪᐳᑦ ᐲ ᐃᒫᓂ, ᓚᐸᑐᐊᓇᒥ (ᕈᓴᓐᑎ ᐃᓚ ᖏᓪᓗ 2001; ᐹᑦᓴᒻ ᐃᓚ ᖏᓪᓗ 2002) ᐊᒥᓱᒐᓴᖕᓂ ᐃᑭᐅᖅᑕᖅᑐᒥ ᑕᓯᕐᓃᑦᑐᓂ (Hᐊᕐᑎ ᐃᓚ ᖏᓪᓗ 2006) ᑕᒪᕐᒥᒃ ᑖᒃᑯᐊ ᑕᓇᐅᖑᓂᓪᓚᓇᖖᐊᕈᓐᓇᖏᓐᓂᖏᓐᓄᑦ (ᑕᑯᑎᑦᑎᔾᔪᑦ 1). ᐱᑕᕐᑲᖏᓐᓂᖏᓐᓂᒃ ᑲᔪᓯᒃᑲᓐᓂᕈᑕᐅᔪᓐᓇᖅᑐᑦ ᐆᒪᔪᓄᑦ ᓇᒨᖓᕈᓐᓇᕐᓂᖏᓐᓂᒃ, ᓇᓗᓇᖏᑦᑐᖅ ᓇᓂ ᐱᑕᑲᕈᓐᓇᕐᓂᖏᑦ ᐃᓕᑕᕐᓇᖅᑐᑦ ᐊᐅᖕᒥᓂ ᓴᓇᓯᒪᓂᕐᒥᓂᒃ ᐊᑕᐅᓯᖅᑕᖃᐃᓐᓇᕐᒪᑦ ᓇᓗᓇᐃᒃᑯᑕᕐᒥᒃ ᑎᒥᖏᓐᓂᒃ ᐅᖓᓯᒃᑐᒦᓐᓂᖏᓐᓂ. ᐹᓪᓴᓐ ᐃᓚ ᖏᓪᓗ (2001). ᐅᕐᑲᓚᐅᖅᑐᑦ ᐱᓪᓕᕆᐊᓗᖕᒥ ᐱᐅᖏᑦᑐᒥᒃ ᐱᑕᕐᑲᕐᓂᖅ ᑎᒥᒥᐅᑕᕆᔭᖏᓐᓂ ᐊᐅᖕᒥ ᓇᒧᖓᕈᓐᓇᕐᓂᖏᓐᓄᑦ ᐊᔪᕈᑕᐅᔪᒥᒃ ᐊᒻᒪᓗ ᐅᖓᓯᒃᑐᒦᓐᓂᖏᓐᓂᒃ ᐆᒐᐃᑦ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᑦ ᑲᓇᑕᐅᑉ ᐃᒪᖓᓃᑦᑐᑦ ᓂᐅᕙᓛᒥᐅᑕᐃᑦ ᐊᒻᒪᓗ ᓚᐸᑐᐊᓇᒥᐅᑕᐃᑦ ᐊᒻᒪᓗ ᐊᖏᓂᖅᓴᐃᑦ ᐆᒐᖃᕆᕝᐅᔪᓂ . *ᐋᔾᔨᑐᐃᓐᓇᑲᓴᖏᓐᓂᒃ ᑕᐃᒪᐃᓂᕋᐃᓚᐅᕐᒥᔪᑦ ᐅᓂᒃᑳᖏᓐᓂᒃ ᐹᑦᓴᒻ ᐃᓚ ᖏᓪᓗ* (2002) ᖃᐅᔨᓴᖅᑕᐅᒐᒥᒃ 7–ᖑᔪᑦ ᐊᐅᖏᓐᓂᒃ ᓴᓇᓯᒪᓂᖏᑦ ᐊᒻᒪᓗ ᑎᒥᒥᐅᑕᖏᑦ ᖃᓗᓈᑎᑐᑦ ᑕᐃᔭᐅᔪᑦ Pantophysin – *PanI–ᒥᒃ*)– (ᑕᑯᑎᑦᑎᔾᔪᑦ 1). ᒫᓐᓇᓵᖅ ᐳᕌᑦᐳᓇ, ᐃᓚ ᖏᓪᓗ (ᓴᕿᑎᑕᐅᓯᒪᖏᑦᑐᑦ ᓱᓕ ᑲᑎᖅᓱᖅᓯᒪᔭᖏᑦ) ᖃᐅᔩᓚᐅᖅᑐᑦ ᐃᖏᒨᖅᓯᒪᔪᖃᕐᓂᖏᓐᓂᒃ ᐅᖓᓯᒃᑐᓃᑦᑐᑦ ᑕᒪᐃᓐᓂᒃ ᐊᖏᔪᓂ ᒥᑭᓂᖅᓴᓂᓗ ᓇᔪᖅᐸᒃᑕᖏᓐᓂᒃ ᐆᒐᐃᑦ (ᑕᑯᓗᒋᑦ ᓈᓴᐅᑎᓕᒃ 4B, C ᐊᒻᒪᓗ ᐊᑖᓃᑦᑐᑦ ᑐᑭᓯᒋᐊᑦᑎᐊᒃᑲᓐᓂᕈᒪᒍᕕᑦ). ᑕᒪᒃᑯᐊ ᓈᒻᒪᖏᓐᓂᖏᑦ ᓇᔪᖅᐸᒃᑕᖏᓐᓂᒃ ᐃᒪᕐᓂ ᒥᑭᓂᖅᓴᐅᓂᖃᖅᑐᓂᒃ 700 ᑭᓛᒥᑕᓂᒃ ᑐᑭᖃᖅᑑᔭᖅᑐᑦ ᐊᖏᓂᖅᓴᒥᒃ ᐊᕕᒃᓯᒪᔩᑦᑐᖃᕌᖓᑦ

ᐆᒪᓂᓕᒫᖏᓐᓂᒃ ᐆᒐᐃᑦ, ᖃᓄᐃᑦᑑᖃᑦᑕᕐᓂᖏᓐᓂᒃ ᐊᒻᒪᓗ ᓇᓃᖃᑦᑕᕐᓂᖏᓐᓂᒃ (ᑕᑯᓗᒋᑦ ᖁᓛᓃᑦᑐᑦ). ᐆᒐᕐᓂᒃ, ᑎᒥᒥᒍᑦ ᐃᓚᒌᒎᒥᓇᖏᓐᓂᖅᓴᐅᓕᖃᑦᑕᓇᕗᑦ. ᐊᒻᒪᓗᑦᑕᐅᖅ, ᐱᓪᓚᐅᔪᒥᒃ ᐅᖓᓯᖕᓂᖅᓴᒦᑉᐸᒃᑐᑦ ᓱᓕ ᐅᖓᑖᓂ 700 ᑭᓛᒥᑕᓂᒃ, ᑐᑭᓯᔭᐅᓯᒪᒋᕗᑦ ᑕᒪᕐᒥᒃ

ᐊᒥᓲᖃᑦᑕᕐᕆᓂᕐᕆᓂᒃ ᐊᓯᐊᓄᐊᖃᑦᑕᖅᑐᑦ ᖃᐅᔨᓴᖅᑕᐅᓪᓗᑎᒃ ᐃᓕᓯᕙᐅᓯᒪᖃᑦᑕᖅᓱᑎᒃ ᓇᓗᓇᐃᒃᑯᑕᕐᓂᒃ ᐊᒻᒪᓗ ᐊᕐᕆᓂᕐᕆᑦ ᐃᒪᐃᑦ ᓇᔪᖅᑕᕐᕆᑦ ᖃᐅᔨᔭᐅᓯᒪᓂᕐᕆᓂ ᑎᒥᕐᕆᓂ ᐊᔾᔨᕈᕐᕆᓂᕐᕆᑦ ᑐᑭᓯᕚᓪᓕᕈᑕᐅᔪᓇᕐᒥᔪᑦ ᖃᓄᐃᓕᖓᓂᕐᕆᓂᒃ ᑎᒥᕐᕆᑦ, ᒪᓕᒃᓱᑎᒃ ᐆᑲᖃᕕᑦ ᑭᒡᓕᓕᐊᕆᔭᐅᓯᒪᓂᕐᕆᑦ . ᕈᓴᓐᑎ ᐃᓚᕐᕆᓪᓗ (1998) ᐊᒻᒪᓗ ᐛᑦᓴᒻ, ᐃᓚ ᖏᑦᓪᓗ (2002) ᖃᐅᔨᓚᐅᖅᑐᑦ ᐱᒻᒪᕆᐅᔪᒥᒃ ᐊᔾᔨᕈᕐᕆᓂᖃᕐᓂᕐᕆᓂᒃ ᓗᐊᕆᐊᓐᓴᓐ ᐅᐊᕐᓇᕐᖓᓂ ᐊᒻᒪᓗ ᓂᐅᕙᓐᓃᓐ/ᓚᐸᑐᐊᕆᑉ ᐅᖓᕐᕆᓐᓂ, ᐃᑲᔪᖅᓱᕈᑕᐅᓪᓗᑎᒃ ᐊᕙᒃᑕᐅᓯᒪᔭᕆᐊᖃᕐᓂᕐᕆᓂᒃ ᑖᒃᑯᐊ ᐃᕐᒥᒧᕐᓂᕋᖅᑕᐅᔪᑦ ᐅᖓᓖᑦ. ᐊᒻᒪᓗᑦᑕᐅᖅ ᓱᓕ, ᐱᒻᒪᕆᐅᔪᒥᒃ ᐊᔾᔨᕈᕐᕆᓂᕐᕆᑦ ᖃᐅᔨᔭᐅᓚᐅᖅᑐᑦ (ᕈᓵᓐᑎ ᐃᓚ ᖏᑦᓪᓗ. 1998, 2000) ᑕᒪᐃᓐᓄ ᐊᑭᐊᓄᑦ ᓗᐊᕆᐊᓐᓴᓐ ᑰᕐᖓᓄᑦ, ᐊᒻᒪᓗ ᐊᑯᓐᓂᕐᕆᓐᓂᒃ ᓂᕆᐊᓂᒃ ᐊᒻᒪᓗ ᓗᐊᕆᐊᓐᓴᓐ ᓂᕆᐊᓂ ᐃᕐᒥᕘᖅᑐᑦ ᐅᖓᓕᑦ, ᐃᑲᔪᖅᓱᐃᒃᑲᓐᓂᖅᓱᑎᒃ ᑎᒃᑯᐊᖅᑕᐅᓯᒪᓂᕐᕆᓂᒃ ᑖᒃᑯᐊ ᑭᒡᓕᖃᑎᖅᑕᐅᓂᖅ ᐊᒻᒪᓗ ᐋᕿᒃᑕᐅᓂᕐᕆᓐᓂ ᓗᐊᕆᐊᓐᓴᓐ ᓂᕆᐊᓂ ᐃᕐᒥᒃᑰᖅᑐᑦ ᐅᖓᓕᑦ. ᐃᓗᐊᓂ ᐅᖓᖃᖅᕚᑦ, ᒥᑭᓐᓂᖅᓴᓂ ᐅᖓᓕᕐᓂ, ᐊᔾᔨᕈᕐᕆᓂᖃᓗᐊᖅᑐᔾᔨᕐᕆᑦᑐᑦ (ᐱᐊᓐᓴᓐ 1996; ᕈᓵᓐᑎ ᐃᓚ ᖏᑦᓪᓗ. 1998; ᐛᑦᓴᒻ ᐃᓚ ᖏᑦᓪᓗ. 2002). ᐱᕐᕆᑦᑑᓪᓗᑎᒃ ᖁᓛᓂ ᐅᖃᐅᓯᐅᕋᓂᒃᓯᒪᓂᕐᕆᑦ ᖃᐅᔨᒪᔭᐅᓕᖅᑐᑦ ᓴᓇᓯᒪᓂᕐᕆᑦ ᐊᔾᔨᕈᕐᕆᓂᕐᕆᓂᒃ ᐅᕐᕕᓯᒃᑐᒦᓐᓂᖅᓴᐅᕙᒃᑐᑦ (ᓲᕐᓗ ᕆᐅᓪᐳᑉ ᐛᑉ ᐃᒫᓂ). ᓴᕿᓯᒪᔪᑦ ᑎᒥᕐᕆᓐᓂᒃ ᓴᓇᓯᒪᓂᕐᕆᑦ ᐊᔾᔨᕈᕐᕆᓂᕐᕆᑦ ᑕᒪᒃᑯᓇᓂ ᐃᕐᒥᒃᑯᖅᑐᓂ ᐅᖓᓕᕐᓂ ᓇᔪᖅᐸᒃᑕᕐᕆᑦ ᓇᐃᓈᖅᑕᐅᓯᒪᓪᓗᑎᒃ ᐅᓂᒃᑲᖅᑕᐅᓯᒪᕚᑦ ᑕᑯᑎᑦᑎᔾᔪᑎᓂ 1-ᒥ. ᐅᔾᔨᕆᔭᐅᔭᕆᐊᖃᕐᒥᔪᖅ ᐊᒥᓱᓂᒃ ᖃᐅᔨᓴᖅᑕᐅᓯᒫᓂᒃᑐᓂ ᓴᕿᐅᒪᓚᐅᖅᑐᑦ ᐱᒻᒪᕆᐅᔪᒥᒃ ᐊᔾᔨᐅᕐᕆᓂᖃᕐᓂᕐᕆᓂᒃ, ᐃᓚᖃᓚᐅᖅᑐᑦ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᓪᓗᑐᖅᑐᓂᒃ ᐊᐅᕐᒥᓃᑦᑐᖃᕐᓂᕐᕆᓂᒃ ᓴᓂᓕᕕᒃᑐᓂᒃ ᓴᓇᓯᒪᓂᕐᒥᓄᑦ ᐊᔾᔨᕖᒃᑐᖅᑕᓕᕐᓂᒃ (ᑕᐃᔭᐅᔪᒥᒃ Gmo132, ᑕᑯᑎᑦᑎᔾᔪᑦ 1), ᓇᓗᓇᐃᖅᑕᐅᓯᒪᓪᓗᓂ ᑖᓐᓇ ᐃᕐᒥᓃᓐᓇᖅ ᐱᐅᓯᑐᖃᕐᒧᑦ ᓴᕿᖃᑦᑕᕐᓂᕐᖓᓂᒃ (ᓂᐅᓪᓴᓐ ᐃᓚ ᖏᑦᓪᓗ. 2006). ᑕᒪᓐᓇ ᓴᕿᑉᐸᓪᓕᐊᓯᒪᓂᖅ ᑐᕐᖓᕙᐅᓕᖅᐸᓪᓕᐊᓂᕐᕆᓐᓄᑦ ᐅᖓᐃᑦ ᐃᕐᒥᒧᕐᓂᕐᕆᓐᓄᑦ ᐊᒻᒪᓗ ᓲᕐᕆᐅᑎᓯᒪᓂᕐᕆᓂᒃ ᑕᕆᐅᕐᒥᐅᑕᓂ ᐃᖃᓗᕐᓂ ᑲᔪᓯᑐᐃᓐᓇᖅᐳᖅ ᐱᓕᕆᐊᕐᔪᓂᕐᕆᓂᒃ ᐅᒪᔪᐃᑦ ᓴᓇᓯᒪᓂᕐᕆᓂᒃ ᐊᐅᕐᒥᒧᑦ ᓇᓗᓇᐃᖅᑕᐅᔪᓐᓇᖅᑐᓂᒃ ᐊᔾᔨᕈᒃᑐᖅᑲᕐᕆᓂᕐᕆᓂᒃ ᐱᓕᕆᐊᕐᔫᕙᓪᓕᐊᕐᕆᓐᓇᖅᓱᑎᒃ. (ᐳᕌᐳᓇ ᐃᓚ ᖏᑦᓪᓗ. ᑐᓂᓯᓚᕆᖅᑕᕐᕆᑦ ᖃᐅᔨᔭᕐᕕᒃ) ᐊᒻᒪᓗ ᑕᐃᒃᑯᐊ ᐆᒃᑐᕋᐅᑕᐅᓚᔪᒃᑐᑦ (ᓲᕐᓗ Hᐊᑦᓯᕐᓯᒃᑯᑦ ᐃᓚ ᖏᑦᓪᓗ. 2007), ᑕᒪᕐᒥᒃ ᓴᖀᓯᒪᓕᖅᓱᑎᒃ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᓂᕐᕆᓂᒃ ᐅᖓᐃᑦ ᐃᒪᕐᓂ ᐊᕐᕆᓂᖃᖅᑐᓂᒃ ᐅᖓᑖᓂ 500 ᑭᓛᒥᑕᐃᑦ ᓱᕐᕆᐅᑎᓯᒪᕐᕆᓂᒃ ᐅᖓᐃᑦ (ᐊᑖᓂᑦᑐᑦ ᑕᑯᓗᕆᑦ).

ᑐᑭᓯᓂᐊᕐᕕᒃ	ᐆᒐᖅᑳᑦ		ᓇᓗᓇᐃᒃᑯᑕᐃᑦ	# ᐊᐅᖕ ᒥᐅᑕ ᖏᑦ	ᐊᖏᓂᕆᔭᐅᒐ ᔪᒃᑐᑦ ᐆᒃᑐᕋᖅᑕᐅᔪᑦ	ᐱᒻᒪᕆᐅᓂ ᖏᑦ	F_{ST}
Hᐊᐅᑎ ᐃᓚᖏᓪᓗ 2006	ᐆᒐᖅ ᑕᓯᖅ	ᖃᓯᒋᐊᓕᒥᓂᖅ ᑕᓯᖅ	ᐊᐅᖕᒥᓅᑦᑐᑦ ᓴᓂᓕᕆᒃᑐᓕᒃ ᓴᓇᓯᒪᓂᕐᒧᑦ ᐊᔾᔨᒋᒃᖏᑐᖅᑕᓕᖕᒥᒃ	7	84	ᐄ	0.1952
Hᐊᐅᑎ ᐃᓚᖏᓪᓗ 2006	ᐆᒐᖅ ᑕᓯᖅ	ᖃᓯᒋᐊᓕᒥᓂᖅ ᑕᓯᖅ	ᐊᐅᖕᒥᓅᑦᑐᑦ ᓴᓂᓕᕆᒃᑐᓕᒃ ᓴᓇᓯᒪᓂᕐᒧᑦ ᐊᔾᔨᒋᒃᖏᑐᖅᑕᓕᖕᒥᒃ	7	84	ᐄ	0.2381
Hᐊᐅᑎ ᐃᓚᖏᓪᓗ 2006	ᖃᓯᒋᐊᓕᒥᓂᖅ ᑕᓯᖅ	ᑕᕿᐅᔭᕈᓯᖅ ᑕᓯᖅ	ᐊᐅᖕᒥᓅᑦᑐᑦ ᓴᓂᓕᕆᒃᑐᓕᒃ ᓴᓇᓯᒪᓂᕐᒧᑦ ᐊᔾᔨᒋᒃᖏᑐᖅᑕᓕᖕᒥᒃ	7	84	ᐄ	0.2234

ᑲᓇᑕᒥᐅᑕᐅᓂᖏᑦ

ᑲᓇᑕᒦᓐᓂᖏᑦ ᐃᒪᖅᓂ, ᐊᑦᓚᓐᑎᒃ ᐆᒐᐃᑦ ᐱᑕᖅᑲᖅᐳᑦ ᑕᐅᕗᓇᓕᒫᖅ ᑲᓇᖕᓈᒍᑦ ᓯᒡᔭᐅᓂᒃᑯᑦ ᔾᔪᐊᔾᔨᔅ ᐸᕐᒃ ᐃᒪᖓᓂᒃ, ᑕᐅᕗᖓ ᐋ ᐊᖁ ᕙᓐᑎᒧᑦ ᓂᒋᐊᓄᑦ, ᐅᐊᖕᓇᖅᐸᓯᖕᒥ ᑕᐅᕗᓇ ᓯᑰᓯᐊᑉ ᓄᓇᓄᑦ ᐊᑕᔪᒥ, ᑕᐅᕗᓇ ᒐᓪᖁᑦ ᐃᒪᒃᑯᑦ ᓴᐃᓐᑦ ᓗᐊᕆᓐᓯᑉ, ᐊᕙᓗᐊᒧᑦ ᕿᑭᖅᑕᖕᒐᑕ ᓂᐅᕙᓐᑖᓐ, ᐊᒻᒪᓗ ᑭᒍᓪᓕᕐᒥ ᑕᐅᕗᓇᓕᒫᖅ ᑲᓇᖕᓇᖕᒐᓂᒃ ᓯᒡᔪᒧᑦ ᒪᐸᑐᐊᕆᐸ ᐊᒻᒪᓗ ᕿᑭᖅᑖᓗᖕᒥ, ᓄᓇᕗᑦ (ᓈᓴᐅᑎᓕᒃ 2, 6, ᐊᒻᒪᓗ 7). ᐱᑕᖅᑲᖅᒥᔪᖅ ᐱᖕᒐᓯᓂᒃ. ᑕᕆᐅᖑᖏᑦᑐᒦᑦᑐᓐᓂᒃ ᑕᓯᕐᓂᒃ ᐆᒐᕐᓂᒃ ᕿᑭᖅᑖᓗᖕᒥ (ᒪᒃᓕᐅᕆᓐ 1967; ᐹᑐᕆᑯᐃᓐ 1967; Hᐊᐅᑎ ᐃᓚᖏᓪᓗ. 2006, 2008). ᑲᓇᑕᐅᑉ ᓯᓚᑖᓂ ᐆᒐᖅᑲᕐᒥᔪᖅ ᐅᐊᖕᓇᖕᒐᑕ ᑲᓇᖕᓇᖅᐸᓯᐊᓂ ᐊᒻᒪᓗ ᓂᒋᖅᐸᓯᐊᓂᒃ ᒍᕌᓐᑦ ᐹᖕᒃᓯᑉ ᐃᒫᖕᒐᓂ, ᐊᒻᒪᓗ ᕕᓕᒥᔅ ᑳᐸᖑᓂᕋᖅᑕᐅᔪᒥ, ᐊᑭᑦᑎᐊᖕᒐᓃᑦᑐᖅ ᐅᐊᖕᓇᖕᒐᑕ ᑲᓇᖕᓇᖕᒐᓂ ᒍᕌᓐᑦ ᐹᖕᒃᒥᒃ.

ᓯᕗᓪᓕᖅᐹᒥᒃ ᐱᓇᓱᐊᕈᓯᒐᓴᐅᔪᓂᒃ ᐃᖅᑲᓗᒐᕈᓚᐅᖕᒋᓐᓂᖕᒋᓐᓂ, ᐆᒐᐃᑦ ᒪᓂᐅᓲᖑᕗᑦ, ᐊᒻᒪᓗ ᖁᐱᕈᕝᓕᖅᓱᑎᒃ, ᐆᒪᓪᓗᑎᒃ 10–50–ᒥᑕᓂᒃ ᑕᕆᐅᕐᒥ. ᐊᒃᑐᖅᑕᐅᓴᕋᐃᑦᑑᕗᑦ ᑖᒃᑯᐊ ᐆᒪᔪᓐᓇᕐᓂᖏᑦ ᐆᒐᐃᑦ ᓴᕿᕋᑖᖅᓯᒪᓂᖏᓐᓂ ᐱᔾᔪᑎᖃᓗᐊᖅᐳᑦ ᓂᕿᒃᓴᖅᑲᕐᓂᖅ ᐊᒻᒪᓗ ᓂᒡᓚᓱᖕᓂᖅ ᐃᒪᐅᑉ (ᓂᒡᓚᓱᖕᓂᖅᓴᐅᒍᓂ ᐊᑯᓂᐅᓂᖅᓴᖅ ᐱᕈᕋᓯᐊᓱᖕᒍᕗᑦ, ᐊᒻᒪᓗ ᐊᑯᓂᐅᓂᖅᓴᒥᒃ ᐆᒐᐃᑦ ᒥᑭᔫᑯᑖᖕᓂᖅᓴᐅᓪᓗᑎᒃ, ᓂᕿᒃᓴᖃᔭᐅᔪᓐᓇᖅᓯᑎᒃ ᐊᓯᖕᒋᓐᓄᑦ ᐃᒪᕐᒥᐅᑕᓱᖕᒍᔪᓄᑦ ᐅᒪᔪᕐᓄᑦ). ᑕᐃᒪᐃᓐᓂᖕᒋᓐᓄᑦ, ᑕᕆᐅᑉ ᐊᐅᓚᓐᓂᖕᒐ ᒪᓐᓂᖅᑲᖅᕕᐅᔪᒧᑦ ᖁᐸᕐᕈᖅᑲᖅᓂᖕᒋᓐᓂᓗ ᐊᒻᒪᓗ ᓂᕿᒃᓴᖃᔭᐅᔪᓐᓇᖅᓂᖕᒋᓐᓂᒃ ᐱᒻᒪᕆᐅᔪᒃᓴᐅᕙᒃᑐᑦ ᐆᒪᔪᕈᓵᖅᓯᒪᓂᖕᒋᓐᓄᑦ (ᓵᖅᓗ ᐆᒃᑑᑎᒋᓗᒍ, ᐆᕋᑦᐸᓇ ᐃᓚᖏᓪᓗ. 2000, 2002, 2008).

ᐆᒪᐃᓐᓇᕈᑎᖅᑲᖅᓂᖅᐹᖕᒍᕚᒃᐳᑦ ᐆᒐᖅᓄᑦ ᑕᐃᒃᑯᐊ ᒥᑭᔫᓂᖕᒋᓐᓂᒃ ᓇᑦᑎᖅᓃᓕᖅᓂᖕᒋᑦ ᓯᕗᓪᓕᖅᐹᒥᒃ ᐊᖅᑯᒥᒃ ᐆᒻᒪᓚᐅᖅᓂᖕᒋᓐᓂᒃ ᓯᑕᒪᓄᑦ ᐊᖅᑯᓄᑦ ᐆᒪᓂᖕᒋᓐᓂ. ᐊᒥᓱᒐᓴᐃᑦ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᑦ ᑐᑭᓯᓇᖅᑐᔾᔭᖅᐳᑦ ᑕᐃᒃᑯᐊ ᐱᕈᖅᑐᖅᑲᖅᓂᖕᒋᑦ ᓇᔪᖅᑕᐅᔪᑦ, ᐱᓗᐊᖅᑐᒥᒃ ᓇᐸᖕᒐᔪᓂᒃ ᐱᕈᓰᑦ, ᓵᖅᓗ ᐱᕈᖅᓯᐊᑯᑖᓖᑦ ᐃᕙᐅᔭᖅᑐᓂᒃ, ᐃᒪᖅᓂ ᓯᒡᔪᒧᑦ ᖃᓂᑦᑐᓂ, ᐱᐅᒋᔭᐅᖅᑲᑦᑕᖅᐳᑦ ᑕᒪᒃᑯᓄᖕᒐ ᐃᖅᑲᓗᒐᖅᔫᖕᓂᖕᒋᓐᓂ. (ᓵᖅᓗ ᐆᒃᑑᑎᒋᓪᓗᒋᑦ, ᒐᖕᓴᐃᑕᔅ ᐃᓚᖏᓪᓗ. 1995, 1997; ᑕᐳᖅ ᐊᒻᒪᓗ ᐳᑑᓖ

1995; ᒍᓇᐊᒍᓇ ᐊᒻᒪᓗ ᐋᓐᑐᓵᓐ, 1997; ᓗᐊᕈᓪ ᐃᓚ ᖏᓪᓗ. 2003a,b, 2004). ᑕᐅᑦᑕᐅᖃᑦᑕᖅᓱᑎᒃ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᓂᒃ (ᑕᐸ ᐊᒻᒪᓗ ᐳᑑᓕᕖ 1995) ᐊᒻᒪᓗ ᐆᒃᑐᕋᕈᑎᓕᐊᖑᓯᒪᔪᓂᒃ ᐃᔾᔪᐊᖅᓯᓯᒪᔪᓂᒃ ᓴᓇᔭᐅᓯᒪᔪᓂᒃ (ᒈᑦᓴᐃᑕᓪ ᐃᓚ ᖏᓪᓗ. 1995; ᓚᐃᓂH ᐊᓐ ᐃᓚ ᖏᓪᓗ. 2001; ᓗᐊᕈᓪ ᐃᓚ ᖏᓪᓗ 2003a, b), ᐱᕈᖅᓯᐊᓕᖕᓂᒃ ᓇᔪᖅᑐᑦ ᐃᒪᕐᒥ ᐱᐅᓂᖅᓴᐅᔫᔮᖅᑐᑦ ᐱᕈᐊᓂᒃᓯᒪᖏᑦᑐᓄᑦ ᐆᒡᕐᓄᑦ, ᐅᓗᓇᐊᓇᖅᑐᖃᖏᓐᓂᖅᓴᐅᓂᖓᓄᑦ ᐊᒻᒪᓗ ᐱᕈᕐᓂᖅᓴᐅᔪᒥᓇᕐᓂᖓᓄᑦ ᐆᒐᐃᑦ. As e ᑕᐃᒪᐃᒃᑲᓗᐊᖅᑎᓪᓗᒍ, ᐊᓯᖏᑦ ᐱᑕᖃᕐᒥᔪᑦ ᒥᑭᔫᑎᓂᒃ ᓄᕙᐅᔭᖅᑐᓂᒃ (ᑈᑦᓴ 1990) ᐊᒻᒪᓗ ᐊᓯᖏᑦ ᑕᐃᒪᐃᑦᑐᓂᒃ ᐃᒪᕐᒥᐅᑕᓕᒃ (ᒈᑦᓴᐃᑕᓪ ᐃᓚ ᖏᓪᓗ 1995; ᑕᐸ ᐊᒻᒪᓗ ᐳᑑᓕᕖ 1995) ᐊᒻᒪᓗ ᐃᑎᔪᓂᒃ ᐱᕈᖅᓯᐊᓕᖕᓂᒃ ᐳᑦᑖᓱᓐᖑᓪᓗᑎᒃ ᓄᕕᐊᒍᑦ (ᓕᓐHᐊᒻ ᐃᓚ ᖏᓪᓗ. 2007) ᐱᒻᒪᕆᐅᔪᓐᓇᕐᒥᔪᑦ.

ᑕᐃᒪᐃᓂᖏᓐᓄᑦ, ᓇᔪᒐᖏᑦ ᐊᔪᕈᑕᐅᔫᒃᓴᐅᕗᑦ ᐆᒐᕐᓄᑦ ᖁᓕᓇᓕᖅᓯᒪᓪᓗᑎᒃ, “ᐱᖓᓱᐃᓪᓕᖃᔪᓂᒃ” ᑕᐅᑐᖃᖅᑐᑦ ᓱᓇᑐᐃᓐᓇᐃᑦ, ᐱᑕᖃᕈᑕᐅᓂᖏᓐᓂᑦ ᓱᕐᓗ ᐱᕈᖅᓯᐊᑦ, ᐅᔭᕋᐃᑦ, ᑎᒥᒧᑦ ᑕᖃᓇᖏᓐᓂᖅᓴᐅᓂᖅ ᐊᒻᒪᓗ ᑕᒪᒃᑯᐊ ᐅᔭᕋᓪᒎᓂᐅᔮᖅᑐᑦ ᐱᕈᖅᓯᒪᔪᑦ. ᐊᒻᒪᓗ ᓴᐳᑎᐅᓯᓈᖅᓱᑎᒃ ᐊᓯᖏᓐᓂᒃ ᓂᓇᓲᓂᒃ ᐆᒪᔪᕐᓂᒃ, ᑕᒨᒃᑯᐊ ᐱᕈᖅᐸᒃᑐᑦ ᓇᓗᓇᖏᓚᖅ ᐱᑕᖃᕈᑕᐅᓲᖑᕗᑦ ᒥᑭᔫᑎᓄᑦ ᐃᖃᓗᒑᕐᔪᖕᓄᑦ, ᓴᐅᓂᖃᖏᑦᑐᓄᓪᓗ ᐃᒪᕐᒥᐅᑕᓄᑦ, ᖁᐱᕐᕈᕐᓄᓪᓗ ᓂᕿᑦᓯᔪᓐᓇᖅᑕᖏᓐᓄᑦ ᐆᒐᐃᑦ.

ᐆᒫᔪᓕᓇᓂᖅ

ᑕᒪᐃᓐᓂ

ᐃᖃᓗᒃᓯᐅᖅᑕᐅᖃᑦᑕᐃᓐᓇᖅᓯᒪᒐᓗᐊᕋᒥ ᐅᖓᑖᓂ 500 ᐊᕋᒍᐃᑦ, ᑲᓇᑕᒥ ᐃᒪᕐᓂ, ᓱᓕ ᐊᖏᔫᕗᑦ ᐊᒥᒐᕐᓂᖏᑦ ᖃᐅᔨᒪᔭᑦᑎᓐᓂᒃ ᑕᒪᐃᓐᓂᒃ ᐆᒪᔫᓂᖏᑦ ᑖᒃᑯᐊ ᓇᔪᖅᐸᒃᑕᖏᓪᓗ ᐆᒐᐃᑦ. ᑕᐃᒪᐃᒃᑲᓗᐊᖅᑎᓪᓗᒍ, ᖃᐅᔨᔭᐅᔪᖅ ᐃᖃᓗᒐᕈᕋᖓᒥᒃ, ᒪᓐᓂᐅᓚᐅᖃᖅᓱᑎᒃ ᖃᓂᒋᔭᖏᓐᓂᒃ 60–ᓂᒃ ᐅᓪᓗᓂᒃ, ᖁᐸᕈᖏᑦ ᓂᓇᓲᖑᒋᕗᑦ ᓄᐃᔭᖃ̇ᖓᒥᒃ ᐆᓇᓚᐅᖅᑕᒥᓂᒃ ᐅᓪᓗᒐᓴᖕᓂᒃ. ᖁᐱᕐᕈᓂᖏᓐᓂ, ᓂᓇᕚᒃᑐᑦ ᖁᐸᕐᕈᕋᓛᕐᓂᒃ ᐊᒻᒪᓗ ᐱᕈᖅᑐᐊᕐᔪᖕᓂᒃ ᐳᖅᑐᓂᓕᖕᓂ 10-50 ᒦᑕᓂᒃ ᐃᒪᐅᓂᕐᒥᒃ. ᐱᓇᓱᐊᕈᓯᒐᓴᐃᑦ ᓈᔭᕌᖓᑕ, ᖁᐸᕐᕈᐃᑦ ᑭᕕᕚᒃᑐᑦ ᓇᑎᐊᓄᑦ, ᑕᐃᑲᓂᓐᓂᐊᓕᖅᓱᑎᒃ ᐊᑕᐅᓯᕐᒥᒃ ᓯᑕᒪᓄᑦ ᐊᕋᒍᓄᑦ, ᑲᓇᑕᒦᑦᑐᐃᓐᓇᐅᔪᓂ ᐃᒪᕐᓂ. ᑕᒪᒃᑯᐊ ᐊᖅᑲᖅᓯᒪᕝᕕᖏᑦ ᖃᐅᔨᒪᔭᐅᔪᑦ ᐃᑲᑦᑐᒻᒪᕆᐅᓂᖅ (ᒥᑭᓂᖅᓴᐃᑦ 10–ᒥᑕᓂᒃ 30-ᒦᑕᓄᑦ ᓯᒃᔭᖅᐸᓯᖕᒥ ᐃᒪᕐᓂ ᐃᓚᖏᓐᓂᓗ ᐃᑎᓂᖅᓴᐅᒐᓛᑦᑐᓂ 50–ᓂᒃ 150–ᒦᑕᓄᑦ ᐃᒪᕐᓂ ᑕᓇᐅᖑᓂᖅᓴᐅᔪᒥ ᐃᒪᕐᒥ ᐊᒻᒪᓗ ᖁᐸᕐᕉᓂᖏᓐᓂ ᐃᖃᓗᒑᕐᔫᓂᖏᓄᓪᓗ ᓴᐳᓐᓂᐊᖅᑕᐅᓯᒪᔾᔪᑎᒋᕙᑦ ᓂᓇᔭᐅᑐᐃᓐᓇᓇᐊᖃᕐᓂᕐᒥᒃ ᐊᓯᖏᓐᓂᓗ ᐆᒪᔪᓂᒃ. ᐊᖅᑲᓚᐅᖅᑎᓪᓗᒋᑦ ᐅᒃᐱᓇᔭᐅᕗᑦ ᐆᑲᐃᑦ ᐊᕋᒎᑉ ᐃᓚᓐᓈᒍᑦ ᓅᓱᖑᓂᖏᓐᓂᒃ ᓅᒋᐊᓕᓵᓱᖑᕗᑦ (ᑐᕌᖓᓂᖏᑦ ᖃᐅᔨᒪᔭᐅᓇᑎᒃ ᓯᒃᔭᖅᐸᓯᒥᒃ ᐃᒪᕐᓂᒃ) ᐊᒻᒪᓗ ᓅᓪᓚᓇᓕᕐᓂᖏᓐᓄᑦ (ᑐᕌᖅᑕᐅᔪᑦ ᖃᐅᔨᒪᔭᐅᓕᖅᑐᑦ ᓇᓚᐅᑖᖅᑕᐅᒐᔪᖕᒪᑕ ᓇᒧᖓᐅᓂᖏᑦ), ᑕᐃᒪᐃᒐᔪᖕᒪᑕ ᐱᕈᐊᓂᒃᓯᒪᓕᕋᖓᒥᒃ ᐆᒐᐃᑦ (ᓱᕐᓗ ᐅᒃᑑᑎᒋᓗᒍ ᑏᑎ ᐃᓚ ᖏᓪᓗ. 2001; 2004).

<u>ᐅᑭᐅᖅᑕᖅᑐᒥ ᑕᓯᕐᓂ ᐃᖏᒨᖅᑐᑦ ᐆᒐᓕᑦ</u>

ᐆᒐᐃᑦ ᐃᖏᒍᖅᑐᓂᒃ ᐆᒐᓕᖕᓅᑦᑐᑦ ᐱᖓᓱᓂᒃ ᐊᐅᓚᑐᓐᓇᖏᑦᑐᓂᒃ ᑕᓯᕐᒥᒃ (ᐆᒐᖅ, ᖃᓯᒋᐊᓕᒥᓂᖅ ᐊᒻᒪᓗ ᑕᓇᐅᔭᕈᓯᖅ ᑕᓯᕐᓂᒃ) ᕿᑭᖅᑖᓘᑉ ᓂᒋᐊᓅᑦᑐᓂ (Hᐊᐅᕐᑎ 2007, Hᐊᐅᕐᑎ ᐃᓚ ᖏᓪᓗ 2008).

ᑕᒪᒃᑯᐊ ᑕᓯᑦ ᐃᓕᑕᕐᓇᓱᙱᑦᑐᑦ ᐋᕿᐅᒪᓂᖏᑦ ᐱᐅᓯᕐᒥᓂ ᐊᔪᕐᒪᑕ ᐊᑦᑕᑕᕈᓐᓇᕐᓂᖅ ᓯᖁᔭᒥᐅᓄᑦ ᐊᓪᓕᑎᒧᑦ ᐊᒻᒪᓗ ᐳᖅᑐᔪᒥᓕᖅᐸᒃᓱᑎᒃ ᐃᖏᒨᖏᓐᓇᕐᓂᖏᑦ ᐊᓯᖏᓐᓂᒃ ᑕᕆᐅᕐᒥᑕᐅᓂᒃ ᐆᒪᔪᕐᓂᒃ ᐊᒻᒪᓗ ᐊᓪᓕᑎᒥᐅᕋᓗᐊᒥᒃ (Hᐊᐅᕐᑎ ᐃᓚ ᖏᓪᓗ. 2006). ᖃᐅᔨᓴᖅᑕᐅᓯᒪᑦᑎᐊᓛᙱᑦᑐᑦ ᑖᒃᑯᓇᖕᑦ ᑕᓯᕐᓂᒃ ᐆᓚᓕᑦ ᐅᓐᓃᑉᐳᖅ, ᐆᒡᓚᖅ ᑕᓯᖓ, ᑕᕆᐅᓕᒃ ᑕᓐᓇ ᐊᐅᓚᔪᓐᓇᖏᑦᑐᖅ ᑕᓯᖅ ᕿᑭᖅᑖᓘᖏᑦᑐᖅ, ᐃᓛᓐᓂᒃᑯᑦ ᑕᕆᐅᕐᒥᒃ ᐃᓪᓚᕌᖅ ᑕᑯᓂᖅᐹᒥᒃ ᑭᓯᐊᓂ ᑎᓂᓐᓂᖃᖅᑎᓪᓗᒍ ᐊᐅᔭᒃᑯᑦ (ᒪᒃᓕᐊᓇᓐ 1967; ᐸᑐᓇᑭᓐ 1967). ᖃᐅᔨᓴᖅᑕᐅᓯᒪᐃᓐᓇᖏᒃᑲᓗᐊᖅᓯᑎᒃ ᑕᓯᑦ ᑖᒃᑯᐊ, ᐃᓕᓯᕝᕕᐅᓯᒪᓚᐅᖅᑐᓂᑦ ᐱᔭᐅᒃᑲᓐᓂᖅᐸᒃᓯᑎᒃ ᖃᐅᔨᓴᖅᑕᐅᓚᐅᖅᓯᒪᔪᑦ ᑕᐃᔅᓯᒪᓂ 1957-1962–ᒥ ᐊᒻᒪᓗ ᒫᓐᓇᓵᖅ ᓈᓴᖅᑕᐅᖃᒥᒃ ᐊᒥᓲᓂᖏᑦ (2003-2004) ᐆᖃᐃᑦ ᑕᓯᐊᓂᒃ ᐃᓱᒪᓇᖅᑐᖅ ᐊᓯᔾᔨᖅᓯᒪᑦᑎᐊᖏᓐᓂᖏᓐᓂᒃ ᐆᖃᐃᑦ 500–ᖏᓃᓐᓂᖏᑦ >60 ᓴᓐᑕᒦᑕᓂᒃ ᐊᒻᒪᓗ 10,000ᖏ–ᓃᑦᑐᑦ >25 ᓴᓐᑎᒦᑕᓕᖕᓂᒃ (Hᐊᐅᑎᑯᑦ ᐃᓚ ᖏᓪᓗ. 2006, 2008). ᐆᒪᔫᑯᑖᒍᓐᓇᕐᓂᖏᓐᓂᒃ ᖃᐅᔨᒪᔭᐅᔪᑦ ᐊᒥᓲᖏᑦᑐᒪᓇᐅᕗᑦ. Hᐊᐅᑎ (2007) ᐃᓱᒪᒋᔭᖏᑦ ᐊᖏᓂᓖᑦ 50 ᐳᓴᓐᑎᖏᓐᓃᑦᑐᑦ ᐱᕈᐊᓂᒃᓯᒪᔪᑦ ᑕᑭᓂᖃᓰᑦ 36 ᓴᓐᑎᒦᑕᓂᒃ (ᐊᖑᓴᓪᓗᐃᑦ) ᐊᒻᒪᓗ 42 ᓴᓐᑎᒦᑕᓂᒃ (ᐊᕐᓇᓪᓗᐃᑦ)ᐊᒻᒪᓗ ᐱᕈᐊᓂᒃᓯᒪᓰᙱᓂᖏᓐᓂᒃ ᑕᓪᓕᒪᓂᒃ ᐊᕐᕋᒍᓂᒃ 5 (Hᐊᐅᑎ 2007, ᑕᑯᑎᑦᑎᔾᔪᑦ 5.6). ᐊᖏᓂᖅᐹᙱᓚᐅᖅᓯᒪᔪᑦ ᐱᔭᐅᓚᐅᖅᓯᒪᔪᖅ ᐆᖃᖅ ᑕᐃᑲᓂ ᐆᖃᕐᓂ ᑕᓯᕐᒥ 1965–ᒥ ᑕᑭᓂᖃᓚᐅᖅᓯᒪᔪᖅ 144 ᓴᓐᑎᒦᑕᓂᒃ 2003–ᒥ (Hᐊᐅᑎ ᐃᓚ ᖏᓪᓗ (2008) ᐅᓂᒃᑳᓚᐅᖅᓯᒪᔪᑦ ᑕᑭᓂᖅᐹᙱᓂᖃᐃᓪᓗᑎᒃ 133 ᓴᓐᑎᒦᑕᓂᒃ. ᐆᖃᖕᓂᐊᖅᑕᐅᕝᓪᓕᐊᑐᐃᓐᓇᕐᓂᖏᑦ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᕗᑦ ᐃᓱᒫᑕᐅᓂᖏᓐᓄᑦ ᓄᓇᓕᖕᒥᐅᓄᑦ. ᓲᖃᐃᒻᒪᓗᓐᓃᑦ, ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᑦ ᑕᐃᒪᖕᖓᑦ 1960–ᖏᓐᓂᒃ ᐅᖃᐅᓯᐅᒪᔪᑦ ᐊᔪᕐᓇᖏᓈᖅᑕᐅᓯᒪᖃᑦᑕᕐᓂᖏᑦ ᐊᒥᓱᒪᓇᐊᓗᐃᑦ ᐆᖃᖅᑕᐅᔪᓐᓇᖅᑐᑦ ᑕᒪᒃᑯᓇᖕᖓᑦ ᑕᓯᕐᓂᒃ. ᐊᒻᒪᓗᑦᑕᐅᖅ ᓱᓕ, ᐃᓱᒪᒋᓪᓗᒋᑦ ᐊᔾᔨᒌᖏᑦᑐᒪᓇᐅᓂᖏᑦ ᓴᓇᓯᒪᓂᖏᑦ ᐆᖓᐃᑦ ᑕᓯᕐᓂ, ᐊᒻᒪᓗ ᐊᓯᙱᕈᓐᓇᑦᑎᐊᖏᓐᓂᖏᓐᓂᒃ ᐱᑕᕐᑲᕐᓂᖏᑦ ᐊᒻᒪᓗ ᐊᓯᑕᕐᑲᕐᓂᖏᓐᓂ ᐃᒪᕐᒥᐅᑕᓂᒃ, ᑕᒪᑯᐊ ᐆᖃᕐᑲᕐᕕᐅᔪᑦ ᐸᒡᕕᓴᖅᑕᐅᓯᒪᔪᓐᓇᑦᑎᐊᖅᐳᑦ ᐊᒻᒪᓗ ᐃᑲᔪᖅᑕᐅᓯᒪᔪᓐᓇᕋᔭᖅᑐᔾᖏᑦᑐᑦ ᓴᓂᓕᕆᔭᖏᓐᓄᑦ ᐱᑕᕐᑲᖅᑐᓄᑦ.

ᓇᓗᓇᐃᒃᑯᑕᐃᑦ ᖃᐅᔨᓴᔭᐅᓯᒪᔪᑦ Hᐊᐅᑎᒥᒃ ᐃᓚᖏᓪᓗ. 2008)	ᑕᓯᖅ		
	ᐆᖃᖅ	ᖃᓯᒋᐊᓕᒥᓂᖅ	ᑕᕆᐅᔭᕈᓯᖅ
ᐆᖃᖅᑲᖅᑎᒋᓂᖏᑦ (ᑭᓗᒍᓛᒻᑯᑦ ᓂᒃᓯᑯᑦ-1 h-1)	2.5-57.0	1.5-5.0	0.5-5.0
ᕿᑎᐊᓃᖏᓐᓇᖅᑐᑦ ᑲᑎᓪᓗᒋᑦ (ᓴᓐᑎᒦᑕᑎᒍᑦ)	59	52	53
ᐊᖏᓂᖅᐹᑦ ᑲᑎᓪᓗᒋᑦ (ᓴᓐᑎᒦᑕᑎᒍᑦ)	133	82	111
ᔫᓪᑕᓐᑯᑎᒍᑦ ᐆᒃᑐᖃᐅᑎᒃᑯᑦ	0.75	0.72	0.69
ᐊᒥᓲᓂᖏᑦ ᐆᒃᑐᕋᖅᑕᐅᔪᑦ	103	106	92

ᐊᔪᕐᓇᕈᑕᐅᓕᖅᑐᑦ ᐊᒻᒪᓗ ᐅᓗᕆᐊᓇᕈᑕᐅᓕᖅᑐᑦ

ᐱᔾᔪᑕᐅᓯᒪᔪᖅ ᐊᒥᓲᖏᓗᐊᓕᕐᓂᖏᓐᓄᑦ ᐆᖃᐃᑦ ᓴᕿᓚᕿᓯᒪᔪᖅ 1990 ᐃᓱᐊᓂ ᐆᖃᕐᓂᐊᖅᑕᐅᓗᐊᖃᑦᑕᕐᓂᖏᑦ (Hᐊᑦᓯᖕᔅ ᐊᒻᒪᓗ ᒪᐃᔭᔅ 1994; Hᐊᑦᓯᖕᔅ 1996; ᒪᐃᔭᔅ ᐃᓚ ᖏᓪᓗ 1997b; ᓯᐊᓪᑕᓐ ᐊᒻᒪᓗ ᓕᓕ 2000; Hᐊᑦᓯᖕᔅ ᐊᒻᒪᓗ ᔩᖃᓴᓐ 2000a,b; ᐸᓐᑎ 2001; ᕙᐊ ᐃᓚ ᖏᓪᓗ. 2001; ᓯᒥᐳᓪ ᐃᓚ ᖏᓪᓗ 2002; ᐅᐊᔅᑕ ᐃᓚ ᖏᓪᓗ 2009), ᐊᒥᓱᖃᓴᐃᑦ ᐊᓯᖏᑦ

ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᑦ ᐃᓱᒪᖃᕐᓗᐊᖅᓱᑎᒃ ᐱᔾᔪᑕᐅᑐᐃᓐᓇᓇᐊᖃᕐᓂᖏᓐᓂᒃ ᐱᐅᔪᓐᓃᖅᒪᓂᖏᑦ ᓇᔪᖅᐸᒃᑕᖏᑦ (ᕉᔅ ᐊᓯᖏᓪᓗ 2000; ᕉᔅ 2004; Hᐋᓚᑏ ᐊᒻᒪᓗ ᐱᓐHᐅᐊᓐ 2009). ᒫᓐᓇᐅᒥᒃ, ᐆᒐᕐᓂᐊᖅᐸᖕᓂᖅᓂ ᓱᓕ ᐱᒻᒪᕆᐅᓂᖅᐹᖑᓪᓗᓂ ᐅᓗᕆᐊᓇᕈᑕᐅᔪᖅ ᑕᒪᐃᓐᓂ ᐆᒐᖅᑲᖕᓂ. ᑭᓯᐊᓂ, ᐱᐅᓯᑐᖅᑲᕐᒥᖑᑦ ᑐᕐᖁᖅᓯᒪᓗᐊᓕᕐᒥᔪᑦ ᐃᓚᖏᓐᓂ (ᓯᑰᓯᐊᑉ ᓄᓅᓗᐊᑕ ᐃᒪᖓᓂ ᐊᒻᒪᓗ ᓂᑭᐊᓂ ᐃᒪᖓᓂ ᒐᙵᖓᓂ ᓴᐃᓐᑦ ᓗᐊᕆᓐᓯᑉ) ᓇᓚᐅᑦᑖᕈᑕᐅᓪᓗᑎᒃ ᓄᖑᑦᑎᐊᒻᒪᕆᒍᓐᓇᕐᓂᖏᓐᓂᒃ ᐊᑯᓂᐅᖏᑦᑐᖅ ᓯᕗᓂᒃᓴᒥ (ᓵᕐᓗ ᐆᒃᑑᑎᑦᓪᓗᒍ ᓱᐋᓐ ᐊᒻᒪᓗ ᓯᐃᓅᑦ, 2008).

ᐆᒐᕐᓂᐊᖅᑕᐅᓗᐊᖅᓯᒪᓂᖏᓐᓄᑦ ᐊᒃᓱᕈᕈᑕᐅᔪᑦ

ᓇᖏᓂᖅ ᐆᒐᖅᑕᐅᖅᑲᑦᑕᕐᓂᖏᓐᓄᑦ, ᐊᓯᙶᖏᓐᓂᒃ ᐃᖅᑲᓪᓗᒃᓯᐅᖅᑐᑦ ᓄᓗᐊᖅᓯᖅᑲᑕᐅᖅᑲᑦᑕᕐᓂᖏᑦ, ᐃᑎᑕᐅᑐᐃᓐᓇᖅᑲᑦᑕᕐᓂᖏᑦ ᐊᒻᒪᓗ ᐃᑎᒍᑦ ᒪᓕᒐᐃᑦ ᓱᕋᐃᔭᐅᓪᓗᑎᒃ ᐆᒐᕐᓂᐊᖅᑕᐅᕙᖕᓂᖏᑦ ᓱᓕ ᑲᔪᓯᓂᖏᑦ ᐊᒥᓱᓂ ᐊᕕᒃᑐᖅᓯᒪᔪᓂ ᓱᓕ ᐊᒥᓲᖏᑲᓗᐊᖅᑎᓪᓗᒋᑦ, ᑐᕐᖁᖅᐸᓪᓚᐊᖏᓐᓇᕐᓂᖏᓄᓪᓗ ᓇᓗᓇᖏᑦᑐᖅ ᐅᓗᕆᐊᓇᕈᑕᐅᔪᑦ ᐊᒥᓱᖅᓯᐊᓇᔭᐅᔪᒪᓪᓚᒍᓗᐊᖅᑐᓄᑦ ᐊᒻᒪᓗ ᐊᔪᐃᓐᓅᖅᑕᐅᓇᓱᐊᕐᓂᖏᓐᓄᑦ ᐆᒐᐃᑦ ᑲᓇᑕᐅᑉ ᐃᒪᖏᓐᓂ.

ᓇᐃᓅᖅᑕᐅᓯᒪᓪᓗᑎᒃ ᐅᓂᒃᑳᖅᑕᐅᓂᖏᓐᓂᒃ, ᐱᔾᔪᑕᐅᔪᑦ ᐱᒻᒪᕆᐅᓂᖅᐹᑦ ᐊᒥᓱᓐᓃᕐᓂᖏᓐᓄᑦ ᐊᑦᑏᓐᑎᒃᒥ ᐆᒐᐃᑦ ᑕᒪᐃᓐᓂ ᓇᔪᖅᑕᖏᓐᓂ, ᐊᒻᒪᓗ ᐱᒻᒪᕆᐅᓂᖅᐹᖅ ᐅᓗᕆᐊᓇᕈᑕᓕᖅᑐᖅ ᒫᓐᓇᐅᔪᖅ ᐱᔾᔪᑎᖃᖅᑐᖅ ᐆᒐᕐᓂᐊᖅᑕᐅᓗᐊᖃᑦᑕᕐᓂᖏᑦ. ᑭᓯᐊᓂᓕ, ᐃᓚᖏᓐᓂ ᐊᕕᒃᑐᖅᓯᒪᔪᓂ, ᐊᒥᓲᔪᓐᓃᖅᐸᓪᓕᐊᓂᖏᑦ ᐊᑕᔫᖏᑦᑐᑦ ᐆᒐᕐᓂᐊᖅᑕᐅᖃᑦᑕᕐᓂᖏᓐᓄᑦ, ᐊᒻᒪᓗ ᐱᔾᔪᑎᖃᓗᐊᖅᑐᖅ ᐊᒥᓱᕈᖅᓯᒪᓂᖏᓐᓂᒃ ᐱᐅᓯᑐᖅᑲᕐᒥᖑᑦ ᑐᕐᖁᖅᐸᓪᓕᐊᔪᑦ, ᑕᒻᒪᓇ ᐱᒻᒪᕆᐅᓕᖅᐸᓪᓕᐊᑐᐃᓐᓇᖅᓱᓂ. ᓇᓗᓇᖅᑕᐅᔪᓐᓇᖅᑐᑦ ᐅᓗᕆᐊᓇᕈᑕᐅᔪᑦ ᖃᓄᐃᑦᑑᓐᓃᕐᕈᓐᓇᕐᓂᖏᓐᓄᑦ ᐊᒻᒪᓗ ᐊᒥᓱᕈᖅᓯᐊᕆᔭᐅᓂᖏᓐᓄᑦ ᐆᒐᐃᑦ ᐃᓚᖃᖅᐳᑦ ᓇᖏᓂᖅ ᐆᒐᕐᓂᐊᖅᑕᐅᖅᑲᑦᑕᕐᓂᖏᑦ (ᒪᓕᒃᑕᐅᓪᓗᑎᒃ ᑰᑕᐃᑦ ᐱᔭᐅᔪᓐᓇᕐᓂᖏᓐᓄᑦ ᐊᒻᒪᓗ ᐱᔭᐅᔪᓐᓇᕐᓂᖏᑦ ᐃᕿᐊᖑᐃᔭᐅᑎᒋᓪᓗᒋᑦ ᐅᖅᑯᓗᓐᓃᑦ ᓂᕿᒃᓴᓇᓗᒋᑦ), ᐅᖃᐅᓯᐅᓯᒪᖏᓐᓂᖏᑦ ᐱᔭᐅᓂᖏᑦ, (ᑕᐃᒪᐃᓚᕿᔪᑦ ᒪᓕᒐᕐᓂᒃ ᓱᕋᐃᓪᓗᑎᒃ ᐆᒐᕐᓂᐊᖅᓯᒪᔪᑦ, ᐅᖃᐅᓯᖃᑦᑕᖏᓐᓂᖏᑦ ᑕᒪᕐᒥᒃ ᐆᒐᖅᑕᐅᓯᒪᔪᑦ, ᐃᑎᑕᐅᑐᐃᓐᓇᖃᑦᑕᕐᓂᖏᑦ) ᐊᒻᒪᓗ ᐊᓯᖏᓐᓂᒃ

ᐃᖏᓐᓂᓐᓇᖅ ᑐᕐᖁᖅᐸᓪᓕᐊᑐᐃᓐᓇᕐᓂᖏᑦ ᓂᕿᐊᓃᑦᑐᑦ ᒐᙵᖓᓂ ᐃᒫᓂ ᓴᐃᑦ ᓗᐊᖅᑎᕐᔪᐅᑉ (ᓗᐊᖅᑎᓐᓴᑦ ᓂᕿᐊᓂ ᐃᖏᒨᖅᑐᑦ ᐆᒐᓕᕐ) ᐱᑕᖃᕈᓐᓃᑦᑎᐊᒻᒪᕆᒍᓐᓇᖅᑐᑦ ᖁᓕᖏᓐᓂ ᐊᕐᕋᒍᓂᒃ. ᐊᒻᒪᓗ ᓱᓕ ᐊᓯᖏᑦ ᐅᓗᕆᐊᓇᕈᑕᐅᔪᑦ ᐊᒥᕈᖅᓯᐊᕆᔭᐅᔪᓐᓇᕐᓂᖏᓐᓄᑦ ᐃᓚᖃᕐᒥᔪᑦ ᐊᓯᙳᖅᓯᒪᓂᖏᑦ ᐊᕙᑎᖏᑦ, ᐊᒻᒪᓗ ᐊᑕᐅᑎᒃᑰᖅᑐᓂᒃ ᐊᓯᔾᔨᖅᓯᒪᓂᖏᓐᓂᒃ ᐊᒥᓲᓂᖏᓪᓗ ᖃᓄᐃᑦᑐᓂᖏᓪᓗ ᐆᒐᐃᑦ ᐊᑯᓯᒪᖅᑲᑦᑕᕐᓂᖏᑦ (ᓵᕐᓗ ᐊᒥᓱᕈᓇᐊᕈᑕᐅᓯᒪᓂᖅ ᐆᒐᐃᑦ ᑐᕐᖁᖅᑲᑦᑕᕐᓂᖏᑦ ᓇᑦᑎᕐᓄᑦ ᓂᕿᑭᔭᐅᖅᑲᑦᑕᕐᓂᖏᓐᓄᑦ). ᑕᒪᒃᑯᐊ ᐊᕙᑎᐊᓐᓂᑦᑐᑦ ᐊᓯᔾᔨᖅᓯᒪᔪᑦ ᐱᔾᔪᑕᐅᔫᔭᖅᐳᑦ ᐱᑐᖃᐅᓂᖅᓴᓂ ᐆᒐᕐᓄᑦ ᓄᖑᐸᓪᓕᐊᔾᔪᑕᐅᓂᕐᒧᑦ. ᐱᔪᒪᔭᐅᖏᓐᓂᖅᓂᓴᐅᓂᖏᑦ ᐊᒻᒪᓗ ᐱᕈᐊᓚᓂᖏᑦ, ᐊᒻᒪᓗ ᐊᒥᓲᓗᐊᖅᑐᓄᑦ ᐆᒐᕐᓂᐊᖅᑕᐅᖅᑲᑦᑕᓚᐅᕐᓂᖏᑦ ᓯᕗᓂᐊᒍᑦ, ᐱᔾᔪᑕᐅᓇᓯᑎᔭᐅᑎᕗᑦ ᐊᒥᓲᓂᖏᓐᓄᑦ ᑐᕐᖁᖅᐸᓪᓕᐊᓯᒪᔪᑦ (ᐊᒃᑐᖅᑕᐅᓯᒪᓪᓗᑎᒃ ᐱᕈᐊᓂᒃᓵᓕᓂᖅᓴᐅᖅᑲᑦᑕᕐᓂᖅ; ᐸᕕᖕᑕᓐ *etᐃᓚ ᖕᒋᓪᓗ* 1994) ᐊᒻᒪᓗ ᓯᒃᑲᐃᓂᖅᓴᒥᒃ ᐱᕈᐊᓂᖅᑲᑦᑕᓕᕐᓂᖏᑦ ᐅᔾᔨᕆᔭᐅᓯᒪᓕᖅᑐᑦ ᐃᖅᑲᓪᓕᐊᖅᓯᒪᓪᓗᑎᒃ ᓄᓕᐊᖅᑕᐅᖅᑲᓯᐅᔾᔭᐅᖅᑲᑦᑕᕐᓂᖏᓐᓂᒃ ᓇᑎᕐᒥᐅᑕᐅᔪᓂᒃ ᑕᕆᐅᕐᒥᐅᑕᓂᒃ (ᖃᓕᕋᓕᖕᓂᒃ, ᐳᔾᔩᑎᓕᖕᓂᒃ, ᐅᑭᐅᒃᑯᑦ ᖃᐅᓪᓗᖅᑐᓂᒃ ᐃᖃᓗᖕᓂᒃ, ᐊᓯᖏᓐᓂᓪᓗ). ᓇᓗᓇᕈᓐᓂᖅᐸᓪᓕᐊᔫᔭᑐᐃᓐᓇᖅᑐᖅ

ᐱᐅᓯᑐᖃᕐᒥᒍᑦ ᑐᖁᕋᖅᐸᓪᓕᐊᓂᖏᑦ ᐱᒻᒪᕆᐅᔪᒥᒃ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᖏᑦᑐᒥᒃ ᓱᓕ ᐅᓗᕆᐊᓇᕈᑕᐅᔪᖅ ᐊᒥᓲᓄᑦ ᐅᓚᕐᓄᑦ ᐆᓚᖃᕐᕕᖕᓂ, ᐊᒻᒪᓗ ᐃᓱᒪᒋᔭᐅᒋᐊᑲᐅᑎᒋᔭᕆᐊᖃᖅᓕᖅᑐᑦ ᓂᕆᐅᒋᔭᐅᓂᖏᑦ ᐊᒥᓱᔫᓐᖏᖅᐸᓪᓕᐊᑐᐃᓐᓇᕐᓂᐊᕐᓂᖏᑦ, ᓯᕗᓪᓕᐅᓕᖅᒪᑕ ᑕᐃᒪᐃᒋᐅᖅᑐᑦ ᐆᓚᐃᑦ (ᓱᕙᐃᑦ ᐊᒻᒪᓗ ᓱᐃᓇᕐᑦ 2008). ᒪᓐᓇᐅᔪᖅ, ᐃᓕᖏᓐᓂ ᐆᓚᐃᑦ ᐅᓪᓗᒥ. ᓱᓇᑐᐃᓐᓇᖅ ᐱᔾᔪᑕᐅᕙᓗᐊᖅᐸᑦ, ᓇᓗᓇᖅᑑᔮᕐᓂᖅᑐᖅ ᐱᐅᓯᑐᖃᕐᔪᑦ ᑐᖁᕋᖅᐸᓪᓕᐊᓯᒪᓂᖏᑦ ᐊᒻᒪᓗ ᐆᓚᕐᓂᐊᖅᑕᐅᓗᐊᖃᑦᑕᕐᓯᒪᓂᖏᑦ ᒪᓐᓇᐅᔪᖅ ᐱᒻᒪᕆᐅᔪᒥᒃ ᐅᓗᕆᐊᓇᕈᑕᐅᓕᖅᐳᑦ ᐊᒥᓲᓄᑦ ᐆᓚᖃᕐᕕᐅᔪᓄᑦ ᓇᓂᑐᐃᓐᓇᓕᒫᖅ ᑲᓇᑕᐅᑉ ᐃᒪᕐᑯᑎᖏᓐᓂ.

ᐊᔾᔨᐅᖏᑦᑐᒥᒃ ᐱᒻᒪᕆᐅᓂᖃᕐᓂᖏᑦ ᐆᒪᔪᐃᑦ

ᐃᓱᒪᒋᓪᓗᒋᑦ ᑕᐃᔅᓱᒪᓂ ᒫᓐᓇᐅᓕᖅᑐᕐᓗ ᐱᒻᒪᕆᐅᓂᖃᕐᓂᖏᑦ ᐃᓄᖕᓄᑦ, ᐊᒥᓲᓯᒪᖏᓕᑦ ᐊᓯᖏᑦ ᐱᒻᒪᕆᐅᓂᖅᓴᐅᓯᒪᔪᑦ ᑲᓇᑕᒥᐅᓂ. ᑕᐃᔅᓱᒪᓂᑕᒻᒪᕆᑦ ᓄᓇᒃᓴᖅᓯᐅᖅᑎᕕᓃᑦ (ᕙᐃᑭᖢᓂᕋᖅᑕᐅᔪᑦ) ᓄᓇᑖᓚᐅᖅᑎᓪᓗᒋᑦ ᓂᐅᕙᓐᓛᓐ ᐅᐊᖕᓇᖅᐸᓯᐊᓂ ᓄᕗᖕᒥ, ᐊᕋᒍᖏᓐᓂ 900-ᓂᒃ 1000-ᒧᑦ, ᐆᓚᐃᑦ ᐱᔾᔪᑕᐅᓚᐅᖅᓯᒪᔪᑦ ᔪᐊᓇᕐᒥᐅᑕᓄᑦ ᑎᑭᓯᒪᐃᓐᓇᕈᑕᐅᒋᐊᓚᐅᖅᓯᒪᔪᑦ ᓂᐅᕙᓐᓛᓐᒥᐅᓄᑦ, ᐃᒪᖏᓐᓄᑦ, 1400–ᖏᓃᓕᖅᑎᓪᓗᒋᑦ, ᑮᓇᐅᔾᔭᓕᐅᕈᑕᐅᓪᓗᑎᒃ ᓄᓇᑖᕈᑕᐅᑉᑳᖅᓯᒪᔪᑦ ᓄᓇᒋᔭᐅᖏᓐᓇᓕᖅᑐᓂᒃ ᑲᓇᑕᐅᓕᕐᒧᑦ (1612–ᖑᑎᓪᓗᒍ; ᑭᐅᐱᕐᔅ, ᓂᐅᕙᓐᓛᓐᒥ). ᑎᑭᓪᓗᒋᑦ ᑭᓯᐊᓂ 1990–ᖏᓐᓄᑦ, ᐊᑦᓛᓐᑎᒃᒥ ᐆᓚᐃᑦ ᑮᓇᐅᔾᔭᓕᐅᕈᑕᐅᓂᖅᐹᖑᓯᒪᔪᑦ ᐃᓅᔾᔪᑕᐅᓪᓗᑎᒃ ᓂᐅᕙᓐᓛᓐᒥᐅᓄᑦ ᐊᒻᒪᓗ ᓚᐸᑐᐊᕆᒥᐅᓄᑦ, ᐱᔾᔪᑎᒋᓪᓗᒍ ᐃᓕᒋᔭᐅᓂᖏᑦ ᐊᖏᓂᖅᓴᓄᑦ ᐆᓚᕐᑲᕐᓂᖏᓐᓄᑦ ᑕᐅᕙᓂ ᑕᕆᐅᕐᒥᐅᑕᓂ ᓄᓇᓕᖕᓂ, ᐊᒻᒪᓗ ᑕᐅᖀᓇ ᑯᐸᐃᑉ ᐅᐊᖕᓇᖕᖓᒍᑦ ᐊᒻᒪᓗ ᒫᔅᐱᕆᐅᑦ ᓄᕙᐊᓂ. ᐆᒪᔫᓂᖏᑦ ᐃᓱᒪᒋᓪᓗᒋᑦ, ᐊᑦᓛᓐᑎᒃ ᐆᓚᐃᑦ, ᐊᒥᓅᓂᖃᓚᐅᖅᓯᒪᔪᑦ ᖃᓂᒋᔭᖏᓐᓂᒃ 2.5 ᐱᓕᔭᓐᓂ, ᒪᓃᔭᕈᓐᓇᕐᓂᖏᑦ, ᒫᓐᓈᓴᓚᒻᒪᕆᒃ, 1960–ᖏᓐᓂ, ᐊᒻᒪᓗ ᓂᕆᖃᑦᑕᐅᕙᓪᓕᐊᕙᖕᓂᖏᓐᓂᒃ ᐆᒪᔪᐃᑦ ᑕᕆᐅᕐᒥ ᖁᓪᓕᖅᐹᖑᖃᑕᐅᓚᐅᖅᓱᑎᒃ ᐅᐊᖕᓇᖓᑕ ᐱᖓᖕᓇᖅᐸᓯᐊᓂ ᐊᑦᓛᓐᑎᒃ ᑕᕆᐅᖓᓂ.

ᒫᓐᓇᒥ ᓴᐳᓐᓂᐊᖅᑕᐅᓯᒪᓂᖏᑦ ᐊᓯᖏᓪᓗ ᖃᓄᐃᓕᖓᓂᖏᓐᓄᑦ ᑎᒃᑯᐊᖅᔪᑏᑦ

ᑲᓇᑕᒥ, ᐊᑦᓛᓐᑎᒃ ᐆᓚᐃᑦ ᓴᐳᓐᓂᐊᖅᑕᐅᓯᒪᕗᑦ ᑲᓇᑕᐅᑉ ᒐᕙᒪᒃᑯᖏᓐᓄᑦ *ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᒪᓕᒐᖅᑎᒍᑦ* ᐊᒻᒪᓗ *ᑕᕆᐅᕐᓄᑦ ᒪᓕᒐᕐᓄᑦ*. ᒫᓐᓇᐅᔪᖅ ᓴᐳᓐᓂᐊᖅᑕᐅᓯᒪᓂᖏᓐᓄᑦ ᐆᓚᕐᓂᐊᖅᑕᐅᔪᓐᓇᕐᓂᖏᓐᓄᑦ ᐸᕐᓇᐅᑎᖃᖅᑎᑕᐅᕗᑦ ᓂᒋᐊᓂ ᐃᒪᕐᒥ ᓴᐃᓐᑦ ᓗᐊᕆᐊᓐᓯᒥ ᐱᒋᐊᖅᑎᑕᐅᓯᒪᓕᖅᑐᑦ ᐊᒻᒪᓗ ᐱᖓᓱᓂᒃ ᑲᓇᑕᒥ/ᐊᕕᒃᑐᖅᓯᒪᓂᖏᓐᓄᑦ ᐆᓚᐃᑦ ᖃᓄᐃᓕᐅᕈᑕᐅᕙᓪᓕᐊᓂᖏᓐᓄᑦ ᐱᓕᕆᐹᖅᓯᒪᓕᖅᓱᑎᒃ (ᓂᐅᕙᓐᓛᓐᒥ, ᓚᐸᑐᐊᕆᒥᓗ, ᑕᕆᐅᕐᒥᐅᑕᓂᒃ ᓄᓇᓕᖕᒥᐅᑕᓂ, ᑯᐸᐃᒡᒥᓗ) ᑎᓕᔭᐅᓯᒪᓴᓪᓗᑎᒃ ᐊᔭᐅᖅᑎᐅᓂᖅ ᐊᒥᓱᕈᖅᓲᓂᕐᒥᒃ. ᐊᒻᒪᑕᐅᖅ, ᐊ ᒥᓱᓴᐃᑦ ᐆᓚᕐᑲᕐᓂᖏᑦ ᑲᓇᑕᒥ ᐃᒪᕐᓂ ᐊᐅᓚᑕᐅᕐᑲᑕᐅᒋᕗᑦ ᐃᓕᒋᔭᐅᓪᓗᑎᒃ ᐊᓯᖏᑦ ᓄᓇᓕᒃᔪᐊᑦ ᑲᓇᑕᐅᑉ ᓯᓚᑖᓂᒃ. ᓲᕐᓗ ᐆᒃᑑᑎᒋᓪᓗᒍ, ᑲᓇᖕᓇᖅᐸᓯᐊᑕ ᔾᔪᐊᔾᔨᑉ ᐋᖓᓂ ᐃᒪᕐᒥ ᐆᓚᕐᑲᕐᓂᖏᑦ ᐊᐅᓚᑕᐅᕐᑲᑕᐅᒍᑦ ᐃᖃᓗᓕᕆᓃᕐᔪᐊᓄᑦ ᑕᕆᐅᕐᒧᓪᓗ ᑲᓇᑕᒥ ᐊᒻᒪᓗ ᓄᓈᓗᐊᓐᓂ ᑕᕆᐅᕐᒥᐅᑕᐃᑦ ᐃᖃᓗᓕᕆᓅᓪᓗ ᐱᓃᑦᑎᖁᖅᑎᖏᓐᓄᑦ ᐊᒥᐊᓕᑲᒥᐅᓂ; ᐊᒻᒪᓗ ᐆᓚᐃᑦ ᓈᕗᒃᑯᑦ ᑲᑎᒪᔩᕐᔪᐊᖏᓐᓄᑦ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᑦ ᐱᖓᓱᓂᒃ ᐃᓕᑰᒃᓱᕐᕕᐅᔪᓄᑦ ᑎᒥᐅᔪᓄᑦ ᓗᐊᓇᓐᓴᓐ ᐅᐊᖕᓇᖕᓚᓂ ᐆᓚᕐᑲᕐᓂᖏᑦ ᐊᐅᓚᑕᐅᕗᑦ ᓴᓂᓕᕇᒃᓱᑎᒃ ᑲᓇᑕᒥᐅᑦ ᕗᕌᓐᓯᒥᐅᓪᓗ (ᐱᔾᔪᔾᔭᐅᓪᓗᑎᒃ ᓴᐃᓐᑦ ᐱᐅᕆᒥᐅᑦ ᐊᒻᒪᓗ ᒥᑯᓛᕐᒥᐅᕐ). ᑕᒪᐃᓐᓂᑲᓴᒃ ᐊᕕᒃᑐᖅᓯᒪᓂᐅᔪᓂ, ᑑᑦᑲᖅᑎᑕᐅᕆᕗᑦ ᐊᕐᕋᒍᐸ ᐃᓖᒍᑦ, ᐊᒻᒪᓗ ᓴᓇᕐᕈᑎᓂᒃ ᐃᓕᖏᓐᓂᒃ ᐊᑐᖅᑕᐃᓕᒪᑎᑕᐅᔪᑦ ᐊᐅᓚᑦᑕᐅᓂᖏᓐᓄᑦ ᑐᖓᕕᐅᓕᖅᑐᓂ (ᐅᐊᓯᐊᕽᑕᒃᑯᑦ ᐃᓕᖏᓪᓗ. 2009-ᒥ).

ᐆᒪᔩᓂᖏᑦ ᑐᑭᓯᓂᐊᖅᑕᐅᓯᒪᔪᓐᓇᕐᓂᖏᓐᓄᑦ ᖃᐅᔨᐊᒋᐊᕐᕕᐅᕙᒃᑲᓗᐊᖅᓱᑎᒃ ᐊᒥᓱᓴᐃᑦ ᐆᕙᕐᑲᕐᓂᖏᑦ, ᑕᐃᒃᑯᐊ ᒫᓇᐅᓕᖅᑐᖅ ᐊᑐᖅᑕᐅᔪᓐᓃᖅᑐᑦ ᐊᐅᓚᑕᐅᓂᖏᓐᓄᑦ ᑕᒪᒃᑯᐊ ᐆᕙᕐᑲᕐᓂᖏᑦ, ᐊᒻᒪᓗ ᐆᕙᐃᑦ ᐊᐅᓚᑕᐅᓂᖏᑦ ᑲᒪᒋᔭᐅᕙᓕᖅᑐᑦ ᓴᕿᐸᑦᐸᓕᐊᔪᑐᐃᓐᓇᐅᓖᙵᑕ ᑲᒪᒋᔭᐅᔭᕆᐊᖅᑲᕐᓂᖏᑦ, ᐱᔾᔪᑎᕐᑲᕐᓂᖏᓐᓂᒃ ᐊᕐᕌᒍᑕᒦᖅ ᑕᒪᐃᓐᓂᒃ ᐱᔭᐅᔪᓐᓇᕐᓂᖏᓐᓂᒃ ᐋᕐᑮᓂᕐᒧᑦ. ᒫᓇᐅᓕᖅᑐᖅ, ᐊᒥᓱᓇᐃᑦ ᐆᕙᕐᑲᕐᓂᖏᑦ ᓱᓕ ᓂᐅᕐᕈᑎᒃᓴᐅᔪᓐᓇᕐᓂᕐᒧᑦ ᐱᑕᖅᑕᐅᑕᐃᓕᒪᑎᑕᐅᔪᑦ, ᐊᒻᒥᐊᒍᖏᑦᑐ ᒫᓇᐅᔪᖅ ᑰᑕᕐᑲᖅᑎᑕᐅᓗᑎᒃ ᐊᔪᕐᓇᕐᓂᕐᑲᖅᑎᑕᐅᔪᑦ ᐃᓱᒪᒋᑦᑐᒋᑦ ᑕᐃᔅᓯᒪᓂᐅᕙᓚᐅᖅᑐᒥ ᐊᑐᖅᑕᐅᕙᓚᐅᖅᑐᓂᒃ.

ᐊᓯᖏᑦ ᖃᓄᐃᓕᖓᓂᖏᓐᓄᑦ ᑎᒃᑯᐊᖅᑕᐅᓯᒪᓕᖅᑐᑦ ᓇᓗᓇᐃᒃᑯᑕᐃᑦ ᐊᑦᓘᓐᑎᒃ ᐆᕙᕐᓄᑦ

ᓯᓚᕐᔪᐊᕐᒥᐅᓂ ᑲᑐᔾᔨᖃᑎᒌᖕᔪᐊᑦ ᓄᓇᒥᐅᑕᑐᕐᑲᐃᑦ ᓴᐳᓐᓂᐊᖅᑕᐅᓯᒪᓂᖏᓐᓄᑦ IUCN-ᑯᑦ: ᖃᓄᐃᓕᑲᐅᑎᕆᔪᓐᓇᖅᑐᒥᓕᖅᑐᑦ:

ᓄᓇᕐᔪᐊᕐᒥ ᐱᑕᕐᑲᐃᓐᓇᖅᑐᑐᕐᑲᐃᑦ ᖃᓄᐃᓕᓂᖓᓂᖏᓐᓄᑦ ᕐᑯᕙᓯᖕᓂᕐᒥᒃ ᓇᓗᓇᐃᒃᑯᑕᖅ: G5

ᒪᓕᒐᓕᖅᓂᒃᑯᑦ ᓇᐃᓈᖅᑕᐅᓯᒪᔪᑦ – ᐅᑭᐅᖅᑕᖅᑐᒥ ᑕᓰᑦ *Gadus morhua*	
ᐊᑦᔫᓐᑎᒃ ᐆᕙᐃᑦ ᐅᑭᐅᖅᑕᖅᑐᒥ ᑕᓯᕐᓃᑦᑐᑦ	morue franche population des lacs de l'Arctique
ᐆᕙᕐᑲᕐᓃᑦ ᑲᓇᑕᒥ: ᓂᕿᐊᑕ ᐱᖓᖓᖅᐸᓯᐊᓂᒃ ᕿᑭᖅᑖᓗᖕᒥ, ᓄᓇᕗᒻᒥ	

ᓇᓅᓂᖏᓐᓂᒃ ᐊᒥᓲᓂᖏᑦᑐ	
ᕿᑐᖏᐊᖅᐸᑦᑕᐊᖏᓐᓇᕐᓂᖏᑦ ᑭᖑᕚᖅᑖᖅᐸᑦᑕᐊᑦᑐᑎᒃ (ᐅᑭᐅᕆᔭᐅᕙᔪᒃᑐᑦ ᒪᓐᓃᔭᕐᑲᑦᑕᑦᑕᕐᓂᖏᓐᓂ ᐆᕙᐃᑦ)	10.0 ᐊᕐᕌᒍᐃᑦ
[ᑕᐅᑐᒃᑕᐅᓯᒪᓪᓗᑎᒃ ᖃᐅᔨᓴᖅᑕᐅᔪᓂᒃ, ᓇᓚᐅᑦᑕᖅᑕᐅᓯᒪᔪᓂᒃ, ᑕᐃᒪᐃᓐᓂᐊᖑᕈᓇᔭᐅᔪᓂᒃ, ᐸᓴᒋᔭᐅᔪᓂᒃᓗᓐᓃᑦ] ᐳᓴᓐᑎᑎᒍᑦ [ᐊᒥᓱᕈᓇᐊᖅᓯᒪᔪᑦ ᐊᒥᓲᔪᓐᓃᖅᐸᓪᓕᖅᓯᒪᔪᓪᓗᓐᓃᑦ] ᑲᑎᓪᓗᒋᑦ ᑕᒪᕐᒥᒃ ᐱᕈᐊᓂᒃᓯᒪᔪᑦ ᐊᑐᓂ ᐆᕙᐃᑦ ᐊᕐᕌᒍᓂ ᑭᖑᓪᓕᕐᓂ [ᕐᑯᓕᓂᒃ ᐅᕝᕙᓗᓐᓃᑦ ᑕᓪᓕᒪᓂᒃ ᐊᕐᕋᖑᓂᒃ, ᐅᕝᕙᓗᓐᓃᑦ ᑭᖑᕚᖅᑖᖅᓯᒪᓂᖏᓐᓂᒃ ᐱᖓᓱᐃᓕᖅᑲᖓᔪᓂᒃ ᒪᕐᕉᖕᓂᒡᓗᓐᓃᑦ ᕿᑐᖏᕐᐅᖅᓯᒪᓂᖏᓐᓂ] .	ᖃᐅᔨᒪᔭᐅᖏᑦᑐᑦ
[ᓇᓚᐅᑦᑖᖅᑕᐅᓯᒪᔪᑦ ᑕᐃᒪᐃᓕᓂᐊᕋᓱᒋᔭᐅᔪᓪᓗᓐᓃᑦ] ᐳᓴᓐᑎᑎᒍᑦ [ᐊᒥᓱᕈᓇᐊᖅᓯᒪᔪᑦ ᐊᒥᓲᔪᓐᓃᖅᐸᓪᓕᖅᓯᒪᔪᓪᓗᓐᓃᑦ] ᑲᑎᓪᓗᒋᑦ ᑕᒪᕐᒥᒃ ᐱᕈᐊᓂᒃᓯᒪᔪᑦ ᐊᑐᓂ ᐆᕙᐃᑦ ᐊᕐᕌᒍᓂ ᑭᖑᓪᓕᕐᓂ [ᕐᑯᓕᓂᒃ ᐅᕝᕙᓗᓐᓃᑦ ᑕᓪᓕᒪᓂᒃ ᐊᕐᕋᖑᓂᒃ, ᐅᕝᕙᓗᓐᓃᑦ ᑭᖑᕚᖅᑖᖅᓯᒪᓂᖏᓐᓂᒃ ᐱᖓᓱᐃᓕᖅᑲᖓᔪᓂᒃ ᒪᕐᕉᖕᓂᒡᓗᓐᓃᑦ ᕿᑐᖏᕐᐅᖅᓯᒪᓂᖏᓐᓂ] .	ᖃᐅᔨᒪᔭᐅᖏᑦᑐᑦ
[ᑕᐅᑐᒃᑕᐅᓯᒪᓪᓗᑎᒃ ᖃᐅᔨᓴᖅᑕᐅᔪᓂᒃ, ᓇᓚᐅᑦᑕᖅᑕᐅᓯᒪᔪᓂ] ᐳᓴᓐᑎᑎᒍᑦ [ᐊᒥᓱᕈᓇᐊᖅᓯᒪᔪᑦ ᐊᒥᓲᔪᓐᓃᖅᐸᓪᓕᖅᓯᒪᔪᓪᓗᓐᓃᑦ] ᑲᑎᓪᓗᒋᑦ ᑕᒪᕐᒥᒃ ᐱᕈᐊᓂᒃᓯᒪᔪᑦ ᐊᑐᓂ ᐆᕙᐃᑦ ᐊᕐᕌᒍᓂ ᑭᖑᓪᓕᕐᓂ [ᕐᑯᓕᓂᒃ ᐅᕝᕙᓗᓐᓃᑦ ᑕᓪᓕᒪᓂᒃ ᐊᕐᕋᖑᓂᒃ, ᐅᕝᕙᓗᓐᓃᑦ ᑭᖑᕚᖅᑖᖅᓯᒪᓂᖏᓐᓂᒃ ᐱᖓᓱᐃᓕᖅᑲᖓᔪᓂᒃ ᒪᕐᕉᖕᓂᒡᓗᓐᓃᑦ ᕿᑐᖏᕐᐅᖅᓯᒪᓂᖏᓐᓂ] . ᐅᑯᓂᐅᓂᓕᖕᒥ ᐊᑯᓂᐅᓂᖅᖢᒥᓗ ᐃᓚᒋᔭᐅᓪᓗᑎᒃ ᑕᐃᔅᓯᒪᓂᓂᑕᐃᑦ ᐊᒻᒪᓗ ᓯᕗᓂᒃᓴᒦᓐᓂᐊᖅᑐᑦ.	ᖃᐅᔨᒪᔭᐅᖏᑦᑐᑦ
ᐱᔾᔪᑕᐅᕐᑲᑦᑕᖅᓯᒪᔪᑦ ᐊᒥᓲᔪᓐᓃᕈᑕᐅᓂᖏᓐᓄᑦ ᓴᖑᒋᐊᖅᑕᐅᔪᓐᓇᖅᐸᑦ?	ᖃᐅᔨᒪᔭᐅᖏᑦᑐᑦ
ᐱᔾᔪᑕᐅᕐᑲᑦᑕᖅᓯᒪᔪᑦ ᐊᒥᓲᔪᓐᓃᕈᑎᖏᑦ ᑐᑭᓯᐊᔭᐅᕗᑦ?	ᖃᐅᔨᒪᔭᐅᖏᑦᑐᑦ

ᐱᔾᔪᑕᐅᖃᑦᑕᖅᓯᒪᔪᑦ ᐊᒥᓲᔪᓐᓃᕈᑎᒋᓯᒪᔭᖏᑦ ᒥᑭᖍᓖᑦᓕᖅᓯᒪᓕᖅᐹᑦ?	ᖃᐅᔨᒪᔭᐅᖏᑦᑐᑦ
[ᑕᐅᑐᒃᑕᐅᓯᒪᓪᓗᑎᒃ ᖃᐅᔨᓴᖅᑕᐅᔪᓂᒃ, ᓇᓚᐅᑦᑕᖅᑕᐅᓯᒪᔪᓂ] ᖃᓄᐃᓕᕗᓪᓕᐊᓂᖏᑦ ᐊᒥᓲᓂᖏᓐᓂᒃ ᐆᒫᔪᐃᑦ	ᖃᐅᔨᒪᔭᐅᖏᑦᑐᑦ
ᐱᓗᐊᖅᑐᒥᒃ ᐊᓯᔾᔨᕿᑕᖃᑦᑕᖅᓯᒪᕙᑦ ᐊᒥᓲᓂᖏᓐᓂᒃ ᐱᕈᐊᓂᒃᓯᒪᔪᑦ ᐆᑲᕐᓂ ᐊᑐᓂ?	ᖃᐅᔨᒪᔭᐅᖏᑦᑐᑦ
ᐱᓗᐊᖅᑐᒥᒃ ᐊᓯᔾᔨᕿᑕᖃᑦᑕᖅᓯᒪᕚᑦ ᐊᒥᓲᓂᖏᓐᓂ ᐆᑲᐃᑦ?	ᖃᐅᔨᒪᔭᐅᖏᑦᑐᑦ
ᐱᓗᐊᖅᑐᒥᒃ ᐊᓯᔾᔨᕿᑕᖃᑦᑕᖅᓯᒪᕚᑦ ᐱᑕᖃᕐᓂᖏᓐᓂ?	ᖃᐅᔨᒪᔭᐅᖏᑦᑐᑦ
ᓇᓗᓇᐃᒃᑯᑕᖏᑦ ᓇᓃᓐᓂᖏᓐᓂ ᐱᑖᓖᑦ (IAO)	<20 ᕿᓛᒥᑕᓂᒃ ᕿᑉᐹᓇᒃᑐᓂ
[ᑕᐅᑐᒃᑕᐅᓯᒪᓪᓗᑎᒃ ᖃᐅᔨᓴᖅᑕᐅᔪᓂᒃ, ᓇᓚᐅᑦᑕᖅᑕᐅᓯᒪᔪᓂ] ᖃᓄᐃᓕᕗᓪᓕᐊᓂᖏᑦ ᐱᑕᖃᕐᓂᖏᓐᓂ	ᖃᐅᔨᒪᔭᐅᖏᑦᑐᑦ
ᐱᓗᐊᖅᑐᒥᒃ ᐊᓯᔾᔨᕿᑕᖃᑦᑕᖅᓯᒪᕙᑦ ᐊᒥᓲᓂᖏᓐᓂᒃ ᐱᑕᖃᕐᓂᖏᓐᓂ?	ᖃᐅᔨᒪᔭᐅᖏᑦᑐᑦ
ᑲᑎᓪᓗᒋᑦ ᐱᑕᖃᕐᓂᖏᑦ ᐊᒃᓱᓗᐊᒻᒪᕆᐊᓗᒃ ᓱᕋᖅᑎᖅᓯᒪᓕᖅᐸᑦ?	ᐄ, ᐃᒻᒪᖄ ᐱᔾᔪᑕᐅᔪᑦ ᓅᐸᐊᓪᓕᐊᓂᖏᑦ ᑕᓲᑦ ᐊᑦᑎᒃᑐᒻᒪᕆᐊᓘᓗᐊᕐᓂᖏᓐᓄᑦ.
ᐊᒥᓲᓂᖏᑦ ᐱᑕᖃᕕᐅᔪᑦ	3
ᖃᓄᐃᓕᕗᓪᓕᐊᓂᖏᑦ ᐊᒥᓲᓂᖏᓐᓂᒃ ᐱᑕᖃᕕᐅᔪᓂ	ᐱᑕᖃᖏᑦᑐᑦ
ᐊᒃᓱᓗᐊᒻᒪᕿᐊᓗᒃ ᐊᓯᔾᔨᕿᑕᖃᑦᑕᖅᓯᒪᕚᑦ ᐊᒥᓲᓂᖏᑦ ᐱᑕᖃᕕᐅᔪᓂ?	ᐋᒃᑲ
ᖃᓄᐃᓕᕗᓪᓕᐊᓂᖏᑦ [ᓇᔪᖅᑕᖏᓐᓂ ᐊᒻᒪᓗ/ᐅᕝᕙᓘᓐᓃᑦ ᓈᒻᒪᖏᓐᓂᖏᓐᓂᒃ] ᓇᔪᖅᐸᒃᑲᖏᓐᓂ	ᖃᐅᔨᒪᔭᐅᖏᑦᑐᑦ

ᐊᒥᓲᑎᒋᓂᖏᑦ ᐱᕈᐊᓂᒃᓯᒪᒨᑦ ᐊᑐᓂ ᐆᑲᐃᑦ ᐊᑐᓂ ᐆᑲᖃᕕᐅᔪᓂ ᑕᒪᐃᓐᓂ ᐊᒥᓲᓂᖏᑦ	**N ᐱᕈᐊᓂᒃᓯᒪᔪᑦ ᐊᑐᓂ ᐆᑲᐃᑦ**
ᑲᑎᓪᓗᒋᑦ	ᖃᐅᔨᒪᔭᐅᖏᑦᑐᑦ
ᐊᒥᓲᓂᖏᑦ ᐱᑕᖃᕕᐅᔪᑦ (ᓇᔪᖅᑕᐅᓲᓂᒃ)	ᐱᖓᓱᑦ

ᐱᔾᔪᑕᐅᖃᑦᑕᖅᓯᒪᔪᓂᒃ ᑐᕿᓕᐅᕈᑎᖃᕐᓂᖅ
ᐱᑕᖃᖏᑦᑐᑦ

ᓴᐳᓐᓂᐊᖅᑕᐅᒋᐊᖅᓯᒪᓂᖏᑦ (ᓄᒃᑎᖅᑕᐅᔪᖃᖅᓱᓂ ᐊᓯᖏᓂᖓᖅᓯᒪᔪᓂᒃ)	
ᖃᓄᐃᓕᖓᓂᖏᑦ ᓯᓚᑎᒥᖖᖅᓯᒪᔪᑦ ᐆᑲᐃᑦ? ᓂᐅᕙᓖᓐᒥ ᓚᐸᑐᐊᕆᒥᓗ ᐆᑲᖃᕐᓂᖏᑦ ᑕᐃᒪᖓᓂᓕᒫᑦᑎᐊᖅ ᐊᒥᓲᖏᓛᖑᓯᒪᓕᖅᐳᑦ, ᑕᐃᒪᐃᒻᒥᔪᑦ ᐆᑲᐃᑦ ᐊᑯᑭᑦᑐᕐᒥᐅᓂ.	
ᐊᓯᖏᓐᓄᒃ ᑕᐅᕗᖓ ᓅᑦᑎᓯᒪᔪᖃᖅᐸᑦ ᐃᓚᒋᐊᖅᑕᐅᓯᒪᔪᓂᒃ?	ᓴᓇᓯᒪᓂᖏᓐᓂ ᐊᔾᔨᒌᖏᑦᑐᐊᕐᓂᖏᑦ ᒪᓕᒍᑕᐅᓇᔭᖅᑐᑦ ᐃᓚᒋᖅᓯᑦᑕᐃᓕᒪᓂᖅ ᐊᓯᖏᓐᓂᖓᖅᑐᓂᒃ
ᐊᓯᖏᓂᖗᖅᑐᑦ ᐃᓚᒋᐊᖅᑕᐅᒃᐸᑕ ᐆᒪᔪᖃᐃᓐᓇᕈᑕᐅᔪᓐᓇᖅᐸᑦ ᑲᓇᑕᒥ?	ᖃᐅᔨᒪᔭᐅᖏᑦᑐᑦ, ᑕᓯᕐᒦᑦᑐᑦ

	ᐊᔾᔨᐅᑦᑎᐊᖏᒻᒪᑕ
ᐃᓂᒃᓴᖃᑦᑎᐊᕐᓂᐊᖅᐹᑦ ᐊᓯᖏᓐᓂᒃ ᓯᓚᑖᓂᒃ ᐃᓚᒋᐊᖅᑕᐅᒍᑎᒃ ᑲᓇᑕᒥ?	ᖃᐅᔨᒪᔭᐅᖏᑦᑐᑦ
ᓴᐳᓐᓂᐊᖅᑕᐅᔪᒥᓇᖅᑑᔭᖅᐹᑦ ᐊᓯᖏᓐᓂᖓᖅᑐᓂᒃ ᐃᓚᐅᓗᑎᒃ?	ᐋᒃᑲᐅᕐᑰᖅᑐᖅ

ᒫᓇᐅᔪᖅ ᖃᓄᐃᓕᖓᓂᖏᑦ ᑲᑎᒪᔨᕋᓛᑦ ᖃᓄᐃᓕᖓᓂᖏᓐᓄᑦ ᓄᖑᓕᒑᔪᓐᓇᖅᑐᒥᓕᖅᑐᓄᑦ ᐆᒪᔪᐃᑦ ᑲᓇᑕᒥ: ᐊᔾᔨᐅᖏᑦᑐᒥᒃ ᐃᓯᒪᔫᑕᐅᓕᖅᑐᑦ (ᐃᐳ 2010)

ᖃᓄᐃᓕᖓᓂᖏᑦ ᐊᒻᒪᓗ ᐱᔾᔪᑕᐅᓂᖏᑦ ᑎᒃᑯᐊᖅᑕᐅᓯᒪᓕᕐᓂᖅ ᓇᓗᓇᐃᒃᑯᑕᖃᖅᑎᑕᐅᓂᖅ	
ᖃᓄᐃᓕᖓᓂᖏᑦ: ᐊᔾᔨᐅᖏᑦᑐᒥᒃ ᐃᓯᒫᔫᑕᐅᓂᖅ	**ᑎᑎᕋᒃᑯᑦ/ᓈᓴᐅᑎᑎᒍᓪᓗ ᓇᓗᓇᐃᒃᑯᑕᖓ:** N/A
ᐱᔾᔪᑕᐅᔪᑦ ᑕᐃᒫᒃ ᑎᒃᑯᐊᖅᑕᐅᓂᖅ ᓇᓗᓇᐃᒃᑯᑕᓕᖏᒃ: ᑖᒃᑯᐊ ᑎᒃᑯᐊᖅᑕᐅᓯᒪᕐᑲᑕᐅᓂᐊᖅᑐᑦ ᐃᖏᒨᖅᑐᑦ ᐆᒪᓕᑦ ᐱᑕᖃᖅᐸᑦ ᐱᖓᓱᓂᒃ ᐅᖓᓱᒃᑐᒦᑦᑐᓂ ᑕᓯᕐᓂ, ᕿᑭᖅᑖᓘᖏ, ᓄᓇᕗᒥ. ᑲᑎᓪᓗᒋᑦ ᖄᖓᓂᒃ ᐊᖏᓂᖃᕐᐳᑦ ᐱᖓᓱᑦ ᑕᓱᑦ ᒥᑭᓂᖅᓴᒥᒃ 20 ᑮᒥᑕᓕᖏᓂᒃ ᑭᐹᓇᒃᑐᒥᒃ. ᐊᓯᖏᓐᓂᖓᖅᑐᓂᒃ ᐃᓚᔭᐅᓯᒪᔪᓐᓇᖏᑦᑐᑦ ᐊᒥᓱᕈᓇᐊᕈᑕᐅᓇᔭᖅᑐᓂᒃ. ᐃᓚᖏᑦ ᑕᓯᖅ ᑕᐃᔭᐅᔪᖅ ᐆᒐᕐᒥᒃ, ᑎᑭᑕᐅᔪᓇᖅᑐᖅ ᐃᖃᓪᓚᐊᕐᕕᐅᓗᓂ ᐊᒻᒪᓗ ᐊᒥᓱᐊᓗᓕᕈᓇᖅᓯᑎᒃ ᐆᒐᐃᑦ ᐱᔭᐅᔪᓇᖅᑐᑦ ᑕᓯᕐᒥᒃ ᐅᒐᖅᓯᐅᖅᑎᑦ ᐊᒥᓱᕈᖅᐸᓪᓚᐊᑐᐊᖅᐸᑕ.	

ᐊᑐᖅᑕᐅᔪᓐᓇᕐᓂᖏᑦ ᒪᓕᒐᐃᑦ
ᒪᓕᒋᐊᓕᖏᑦ A (ᐊᒥᓰᔪᓐᓃᖅᓯᒪᓂᖏᑦ ᑕᒪᕐᒥᒃ ᑲᑎᓪᓗᒋᑦ ᐱᕈᐊᓂᒃᓯᒪᓂᖏᑦ ᐆᒐᐃᑦ): ᒪᓕᒐᕐᓂᒃ ᒪᓕᐊᓂᒃᓯᒪᖏᑦᑐᑦ A–ᖑᓃᑦᑐᓂᒃ ᑕᐃᒃᑯᐊ ᒪᕈᒃ ᑕᓲᒃ ᐆᒐᖅᑲᖅᑑᒃ ᒫᓂᔭᖅᐸᓪᓚᐊᓰᖑᒻᒪᑦ > 40-ᓂᒃ ᐊᕐᕌᒍᓂᒃ ᐊᓯᔾᔨᕐᓂᐊᖅᑑᔭᖏᑦᑐᑦ ᐊᒥᓲᓂᖏᓐᓂᒃ ᐊᑕᐅᓯᕐᒥ ᐃᓚᖓᓐᓂ ᑕᓯᕐᒥ.
ᒪᓕᒋᐊᓕᖏᑦ B ᐊᖏᔪᖏᑦᑐᓐᓂᓂᖏᑦ ᐱᑕᖃᕐᓂᖏᑦ ᐊᒻᒪᓗ ᐊᒥᓰᔪᓐᓃᖅᓯᒪᓂᖏᑦ ᐅᕝᕙᓗᓐᓃᑦ
ᐊᓯᔾᔨᑭᑕᐃᓐᓇᕐᓂᖏᑦ): ᐊᑐᖏᑦᑐᑦ
ᒪᓕᒋᐊᓕᖏᑦ C (ᐊᒥᓲᖏᓐᓂᖏᑦ ᐊᒻᒪᓗ ᐊᒥᓰᔪᓐᓃᖅᐸᓪᓚᐊᓂᖏᑦ ᐱᕈᐊᓂᒃᓯᒪᔪᑦ ᐆᒐᐃᑦ): ᐊᑐᖏᑦᑐᖅ.
ᒪᓕᒋᐊᓕᖏᑦ D (ᐊᒥᓲᖏᑦᑐᒻᒪᕆᐅᓂᖏᑦ ᑕᒪᕐᒥᒃ ᐅᕝᕙᓗᓐᓃᑦ ᓇᓃᑦᑐᖃᑦᑎᐊᕈᓐᓃᖅᑐᖅ): ᐊᑐᖏᑦᑐᖅ.
ᒪᓕᒋᐊᓕᖏᑦ E (ᐱᔾᔪᑕᐅᔪᑦ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᓂᖏᓐᓄᑦ) ᐊᑐᖅᑕᐅᓯᒪᖏᑦᑐᑦ.

ᑎᑎᕐᑲᐃᑦ ᐃᓚᒃᑲᓐᓂᖏᑦ 1. ᐊᒥᓲᑎᒋᓂᖏᓐᓂᒃ ᖃᓄᐃᓕᕙᓪᓕᐊᔪᓂᒃ ᖃᐅᔾᔭᐅᓯᒪᓂᖏᑦ

ᐊᑐᓂ ᐊᑦᑖᓐᑎᒃ ᐆᑲᕐᓂ ᐊᐅᓚᑕᐅᔪᓂᒃ ᐊᕕᒃᑐᖅᑕᐅᓯᒪᔪᓂ ᐃᓕᑕᕆᔭᐅᒪᔪᓂ

ᐃᖃᓗᓕᕆᔾᔪᐊᒃᑯᓐᓄᑦ ᑕᕆᐅᕐᓄᓪᓗ ᑲᓇᑕᒥ.

1. ᐆᑲᐃᑦ ᐅᑭᐅᖅᑕᖅᑐᒥ ᑕᕆᐅᕐᒥ (0AB–ᒥ)

ᐆᑲᕐᑲᕐᓂᖏᓐᓂᒃ ᖃᓄᐃᓕᖓᓂᖏᑦ

ᐊᒥᓲᖏᑦᑐᒪᕆᐅᕗᑦ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᓂᑰᔪᓂᒃ ᖃᐅᔨᒪᔾᔪᑏᑦ ᐊᒥᓲᓂᖏᓐᓂᒃ ᑖᒃᑯᐊ ᐆᑲᐃᑦ ᑕᒫᓂ ᐊᕕᒃᑐᖅᓯᒪᓂᕐᒥ. ᖃᐅᔨᓴᖅᑕᐅᕐᑲᑦᑕᖅᓯᒪᔪᑦ ᑕᕐᑭᐅᕐᒥ ᓈᓴᖅᑕᐅᓂᑰᕗᑦ 1999–ᒥᖔᕐᒪᑦ, ᐅᓪᓗᒥᒧᑦ, ᐊᒻᒪᓗ ᐊᒥᓲᖏᑦᑐᒪᕆᐊᓗᓐᓂᒃ ᑕᑯᕐᑲᑦᑕᖅᓯᒪᓪᓗᑎᒃ, ᑭᓯᐊᓂ ᖃᐅᔨᒪᔭᐅᖏᑦᑎᐊᕙᓴᒃᐸᑦ ᒥᒃᓵᓄᑦ. ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᓂᒃ ᐱᔭᐅᕐᑲᑦᑕᕐᓂᖏᓐᓂᒃ ᐊᕙᑎᒥᒃ ᑕᕆᐅᒥᒃ ᖃᐃᑕᐅᓯᒪᓚᐅᖅᑐᑦ ᑎᒻ ᓯᕗᑦᒥᒃ (ᐃᖃᓗᓕᕆᔾᔪᐊᒃᑯᑦ ᑕᕆᐅᓪᓗ ᑲᓇᑕᒥ) ᒪᓕᒃᑕᐅᓪᓗᑎᒃ ᐃᖃᓗᓕᕆᔾᔪᐊᒃᑯᑦ ᐊᒻᒪᓗ ᐅᑭᐅᖅᑕᖅᑐᒥ ᑭᖑᓐᓂᐊᖅᑕᐅᕙᒃᑐᑦ ᖃᐅᔨᓴᖅᑕᐅᕗᕕᖏᓐᓄᑦ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᑦ. ᐊᒥᓲᖏᓯᓐᓈᖅᓯᑎᒃ ᐆᑲᐃᑦ ᑕᕆᐅᕐᒦᑦᑐᑦ, ᐆᑲᐃᑦ ᐱᑕᕐᑲᕆᕗᑦ ᐱᖓᓱᓂᒃ ᐊᐅᓚᔪᓐᓇᖏᑦᑐᓂ ᑕᓯᕐᓂ (ᐆᑲᕐᒥ, ᖃᓯᒋᐊᓕᒥᓂᕐᒥ, ᑕᕆᐅᔭᕈᓯᕐᒥᓗ ᑕᓯᕐᓂᒃ) ᕿᑭᖅᑖᓗᑉ ᓂᒋᐊᓂ. ᑖᒃᑯᐊ ᑕᓯᑦ ᐊᑕᖏᒻᒪᑕ ᐊᓯᖏᓐᓄᑦ ᐃᒪᕐᓄᑦ ᑯᕕᔪᓄᑦ ᑕᕆᐅᕐᒧᑦ (Hᐊᐅᑎ 2007) ᐊᒻᒪᓗ ᐃᖖᒨᑦᑕᓇᖏᓐᓂᖏᑦ ᑖᒃᑯᐊ ᐊᓯᕐᑲᖏᓂᖏᓐᓄᑦ ᐆᑲᐃᑦ ᐱᔾᔪᑕᐅᕗᑦ ᐊᕕᒃᓯᒪᓂᖏᓐᓂᒃ ᐊᓯᖏᓐᓂᒃ ᐆᑲᕐᑲᕐᓂᐅᔪᓂᒃ ᑕᕆᐅᕐᒥ ᐊᒻᒪᓗ ᐊᓯᖏᓐᓅᑦᑐᓂᒃ ᑕᓯᕐᓂ (Hᐊᐅᑎ ᐃᓚᖏᑦᓗ. 2006).

ᐆᒪᔪᕐᓂᖏᓐᓂᒃ ᖃᓄᐃᓕᖓᓂᖏᑦ

ᖃᐅᔨᒪᔭᐅᑦᑎᐊᖏᒻᒪᕆᖕᒪᑕ ᖃᓄᖅ ᐆᒪᓂᖃᓲᖑᖕᒫᖑᑕ ᐊᑐᐃᓐᓇᐅᔪᓂᒃ, Hᐊᐅᑎ (2007) ᐃᓱᒪᖃᖅᓯᒪᔪᖅ ᑕᓯᕐᒥᐅᑕᓂ ᐆᑲᕐᓂ, ᐊᖏᓂᖏᑦ 50 ᐳᓴᓐᑎᒥᒃ ᐱᕈᐊᓂᓕᖅᑎᓪᓗᑎ ᐊᖏᓂᖃᓲᖑᕗᑦ 36 ᓴᓐᑎᒦᑕᓂᒃ (ᐊᖑᓴᓪᓗᐃᑦ) ᐊᒻᒪᓗ 42 ᓴᓐᑎᒦᑕᓂᒃ (ᐊᕐᓇᓪᓗᐃᑦ) ᐊᒻᒪᓗ ᐅᑭᐅᖃᓕᖅᑎᓪᓗᒋᑦ 50 ᐳᓴᓐᑎᒥᒃ ᐱᐅᓂᓕᕐᓂᕐᒥᒃ ᐊᔾᔨᒋᖏᓐᓂᖃᕈᓐᓇᖅᓱᑎᒃ ᐅᑭᐅᖃᕐᓂᖅ 3.9-ᓂᒃ 5.0–ᓄᑦ ᐊᕐᕌᒍᓂᒃ. ᖃᐅᔨᒪᔭᐅᔪᖃᖏᓚᖅ ᖃᓄᖅ ᐆᒪᑯᑖᒃᑎᒋᔪᓐᓇᕐᒪᖔᑕ ᐆᑲᐃᑦ ᑕᕆᐅᕐᒥᐅᑕᐃᑦ.

ᐊᒥᓱᕈᖅᓯᒪᓂᖏᓐᓂᒃ ᖃᓄᐃᓕᕙᓪᓕᐊᓂᖏᑦ

ᖃᐅᔨᓴᖅᑕᐅᕙᓪᓕᐊᖏᓐᓇᖅᓯᒪᖏᑲᓗᐊᖅᓱᑎᒃ ᑖᒃᑯᐊ ᑕᓲᑦ, ᐃᓕᓯᕗᐃᓯᒪᓪᓗᑎᒃ ᐱᔭᐅᕐᑲᑦᑲᒃᑲᓐᓂᓚᐅᕐᓂᖏᓐᓂᒃ ᖃᐅᔨᓴᖅᑕᐅᓚᐅᖅᑐᑦ 1957-1962–ᒧᑦ ᐊᒻᒪᓗ ᒫᓐᓇᓵᓚᒃ ᐊᒥᓲᓂᖏᑦ ᓇᓚᐅᑦᑖᖅᑕᐅᓚᐅᖅᓯᒪᔪᑦ (2003-2004) ᐆᑲᕐᒥ ᑕᓯᕐᒥ ᐃᓱᒪᓇᖅᑐᑦ ᐊᓯᔾᔨᖅᓯᒪᑦᑎᐊᖏᓐᓂᖏᓐᓂᒃ ᓇᓚᐅᑦᑕᖅᑕᐅᓯᒪᔪᓂ ᐊᒥᓲᓂᓕᖕᓂᒃ ᐆᑲᐃᑦ 500 >60 ᓴᓐᑎᒦᑕᐃᑦ ᐊᒻᒪᓗ 10,000 >25 ᓴᓐᑎᒦᑕᓂᒃ (Hᐊᐅᑎ ᐃᓚᖏᑦᓗ. 2006 ᐊᒻᒪᓗ 2008–ᒥ). ᐊᒥᓲᖏᑦᑐᐊᕐᒪᑕ ᖃᐅᔨᒪᔾᔪᑏᑦ ᐊᑐᕙᒃᓴᐃᑦ ᐊᒥᓲᓂᖏᓐᓂᒃ ᐆᑲᐃᑦ ᑕᒫᓂ ᑕᕆᐅᕐᒥᐅᑕᐃᑦ.

ᐅᓗᓕᐊᓇᕈᑕᐅᔪᑦ

ᒫᓐᓇᐅᔪᖅ, ᐱᒻᒪᕆᐅᓂᖅᐹᖅ ᐅᓗᓕᐊᓇᕈᑕᐅᔪᖅ ᑖᒃᑯᓄᖕᒐ ᑕᓯᕐᒥᐅᑕᓄᑦ ᐆᒐᕐᓄᑦ ᐱᔾᔪᑎᖃᖅᐳᖅ ᐃᖅᑭᐊᖕᒍᐃᔭᐅᑕᐅᓪᓗᑎᒃ ᐆᒐᖅᓯᐅᖅᑕᐅᖃᑦᑕᖅᓂᖕᒋᑦ.