

# Ashi-niswi giizisoog (Thirteen Moons)

## Aabita-Niibino-giizis

*The new Aabita-Niibino-giizis, Mid-summer moon, begins July 2nd. Other names for this moon are Miini-giizis, Blueberry Moon; Miskomini-giizis, Raspberry moon and Baashkawe'o-giizis, Flying moon.*

Summer is here and many people have begun gardening, but with that we have to worry about invasive species. One that has become a major pest in the last several years is the Colorado potato beetle (*Leptinotarsa decemlineata*). This invasive species has been impacting all of North America.

Colorado potato beetle adults become active in the spring, about the same time as potato plants begin to grow out of the ground. These beetles and their larvae will devour leaves, leaving plants completely defoliated.

Part of the problem with their impact on crops is that many pesticides are ineffective on them, however, a combination of strategies can reduce their numbers and lead to successful potato growth.

### Identifying the Colorado potato beetles

The first step to combating them starts with being able to identify them. These pests are oval and about 3/8 of an inch long. They have yellow and orange bodies with yellow-white wing covers with 10 narrow black stripe. Female Colorado potato beetles lay clusters of bright yellow-orange oval eggs on the underside of leaves.

Their larva however look different while they mature, having a brick red body with black heads after they first hatch. As they larvae ages, it develops a pink hue before forming into adults. All larvae have two rows of dark spots on each side

of their bodies.

### What they eat

Typically Colorado potato beetles feed on potatoes, but that isn't the only plant they will destroy. They will also feast on eggplants, tomato, peppers, nightshade, and ground cherry.

Riding your garden of this pest can be difficult as they will spend the winter months underground, typically 5-10 inches or so, under fields of potatoes, gardens, and other areas.

Adults will feed for a short time once spring arrives and then mate to lay somewhere between 10-30 eggs. Each female can lay up to 350 eggs during her life which can last for several weeks. Those eggs will hatch within two weeks depending on the weather conditions. Those larvae are capable of completely developing with 10 days if temperatures are above 80° F or as long as a month if temperatures are as cold as 60° F.

In parts of the state south of the Fond du Lac Reservation, there is typically a second generation by midsummer. So watching out for any stage of the Colorado potato beetle is wise to keep crops healthy.

The damage by these species can be devastating to a crop, particularly with older larvae who are responsible for as much as 75% of damage caused from their feeding. Potatoes are known to tolerate up to 30% defoliation when they are in the vegetative state, so this much damage could ruin

crops. That damage becomes much more important as they are more sensitive when they are beginning to bulk and can only tolerate 10% defoliation. Tuber bulking begins soon after flowering, making this an important time to watch for the Colorado potato beetle infestation in your garden.

### Protecting your garden

The Colorado potato beetle can destroy crops in your garden and keeping them from doing so is challenging. It will require a few things, and mostly the combination of pest management tactics to reduce their numbers which will keep them from destroying crops.

Keeping your garden clean, particularly in the spring is crucial to limiting their numbers as the look for other hosts in the absence of potato plants. Weeds, such as nightshade and ground cherry, should be kept from your garden to keep them from finding other food sources and destroying your garden.

Another tactic is to plant an early maturing variety that way much of the damage can already be missed by the adults who are emerging in midsummer. One way to do this is to check catalogs for varieties that mature in less than 80 days.



A particularly effective effort to limiting the Colorado potato bug is to plant potatoes in your garden every other year. That effort as well as keeping potatoes from growing with a quarter to a half mile away and temperatures not being excessively warm should help keep the pest from invading your garden.

Of course the most effective way is to hand pick beetles off of plants in small gardens. If you do pick them, drop them and their larvae into a bucket of soapy water. Remove, or even crush, the yellow-orange eggs on the undersides of leaves. Adult beetles can fly, so be sure to frequently inspect your garden for them. If you have a large garden, handpicking may not be the easiest to do.

### Pesticide Use

Colorado potato beetles are frustratingly resilient to almost all synthetic pesticides such as carbaryl, cypermethrin, deltamethrin, lambda cyhalothrin, imidacloprid, permethrin, and pyrethrins. These products are unlikely to be effective and their use is not suggested. If you use a pesticide to kill them and it doesn't, switch to a different active ingredient.

Colorado potato beetles are not resistant to azadirachtin or spinosad. These products are also "soft" on natural enemies.

*Information and photo courtesy <https://extension.umn.edu/yard-and-garden-insects/colorado-potato-beetles#>. Xu-zh0ry2080.email*

# Ashi-niswi giizisoog Ojibwemowin Page

## Anishinaabemowin Lessons

Basic Ojibwe words and phrases:

### Double Vowel Chart

This is how to pronounce Ojibwe words.  
All consonants sound the same as in English.

“Zh”- sounds like the “su” in measure  
“a”- sounds like the “u” in sun

“aa”- sounds like the “a” in father  
“i”- sounds like the “i” in sit  
“ii”- sounds like the “ee” in feet  
“o”- sounds like the “o” in go  
“oo”- sounds like the “oo” in food  
“e”- sounds like the “ay” in stay

## Ashi-niswi giizisoog BIGADA'WAA WORD SEARCH

Find the Ojibwe words in the puzzle below

U E W V B B E T D G R O W E N I B A N R  
I F N H W U I I D I B D G H A B K Z L L  
X Z Z I G E B N L I D R N Z S I C C G Y  
H U O V K I P G G G H N B K O P N T Z E  
V M E G S A W J G O U J V E O A K U F G  
R K A H I A P A W O S S G T N K O E O E  
B N K W T M Z A F Z Q H D R I O S M S S  
X O J W A V A F B E U E E O N O Z E A V  
O J P D S S C A M N L R K N I M V P A P  
U C D A L M A A T S O A N H S B W Q D O  
Z H T D A X D H V O A L F O O E U S O U  
A D W A N N N I X D G E P B D N K K K I  
X T J E I I W B E I M R G L L S H M O B  
F Q N Z N T U N E K Q T K L S S N U O U  
W A I N A G I J N O O M I B I L T M M Z  
I B W U F G K M T K Z Q W I M L I A N A  
W A A W A A T E S I T K B M C Y V N L O  
D M B N W G L T G U V I P S R Q D Q L R  
B A E L E O H D J M D A P G G V B N R D  
R C D O L C H I I J A A D O O B U Q G Z

BAPAKINE/grasshopper

BIMOONJIGAN/dance bustle

BINGOSHENS/gnat

BIPAKOOMBENS/cucumber

BIZINDAM/listen

BOODAAJII/inflate

DIBIISHKOO/equal

GIIGOOZENS/minnow

GOTAAMIGOZI/good worker

MOOKODAASO/carve

NINOOSAN/hip

OKAADENIGAN/braid

WAAWAATESI/firefly

WENIBAN/disappeared