



THANK YOU FOR YOUR BUSINESS!

With 46 years in the water resource management business, Cygnet Enterprises, Inc. would like to express our gratitude to all of our valued customers. Through your continued support, we at Cygnet Enterprises will strive to be the best supplier and continue to provide quality water resource management products so you can continue to serve your own customers with the products they need. We look forward to continue working with you all for many years to come.

FALL 2020

ne Cygnet News

Did You know?

During periods of dry weather in peak irrigation season (July-August) in southern **Idaho**, the entire Snake River – up to 10,000 CFS – is diverted at Milner Dam into the canals of five irrigation companies that turn the Magic Valley's high desert into 500,000 acres of farmland. The Snake ceases to exist below the Dam, but quickly rebuilds to 6,000 CFS through natural spring inflow as it winds through the 30 miles of canyon below Milner Dam.



The herbicidal activity of diquat dibromide only takes place during periods of **photosynthesis**, making light a necessary factor in plant kill. For applications made after dark or within 2 hours of sunset, less diquat is needed since there is time during the dark for absorption and translocation of the material within the plant. The following day when light is present and photosynthesis resumes, the plant begins to die rapidly.

Eric Schutman, Aquatics Territory Manager - Syngenta Professional Products



Did you know, True Moss grows on the surface of concrete lined canals and has become problematic for many large districts in the PNW because reduces capacity. Presently there is no in season treatment option and no one has been able to grow it in the lab for possible herbicide treatment experimentation.

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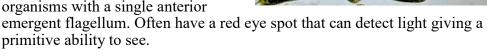
2020-2021 Upcoming Events...16

Did you know? For best results, Euglena has to be treated before sunrise.

Euglenoids are included in the large group called algae, but more specifically they could be defined as photosynthetic and/or heterotrophic protists. Over 1,100 known species.

They are Single-celled eukaryotic organisms with a single anterior

primitive ability to see.



Stores food as carbohydrates called paramylon. Some can absorb organic

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Did You know? Continued from page 1

matter or ingest organic particles as a food source and not just dependent on photosynthesis to survive. They grow in most freshwaters but thrive in high organic matter ponds.

They can form a protective resting/cyst state under stress conditions (typically high light intensity, low nutrients or heat). This state has more protective red carotenoid pigments known as haematochrome. In this state they are less active and often become buoyant, form accumulated red scums and get wind blown. Much tougher to kill when in this resting state.



But they pop in and out of this state, and can do it quite rapidly when conditions become conducive. Often best to treat very early in the morning when most are more active when red first appears or proactively in routine troublesome ponds.

Some species of euglena can produce toxins that impact fish.

Contact SePRO/Neal for best Rx for a specific site!

West Bishop, Ph.D., CLP | Algae Scientist and Water Quality Research Manager **SePRO Research and Technology Campus**



Did you know that Primrose has become a major invasive aquatic weed problem that is predominant in irrigation systems in the northern half of California? Primrose grows right at the waterline of dirt lined canals, and left unchecked it grows out from the edge to completely cover the surface of the water over the full width. Many herbicides can kill or stunt this plant, but all of them have various irrigation restrictions for "in season" control.

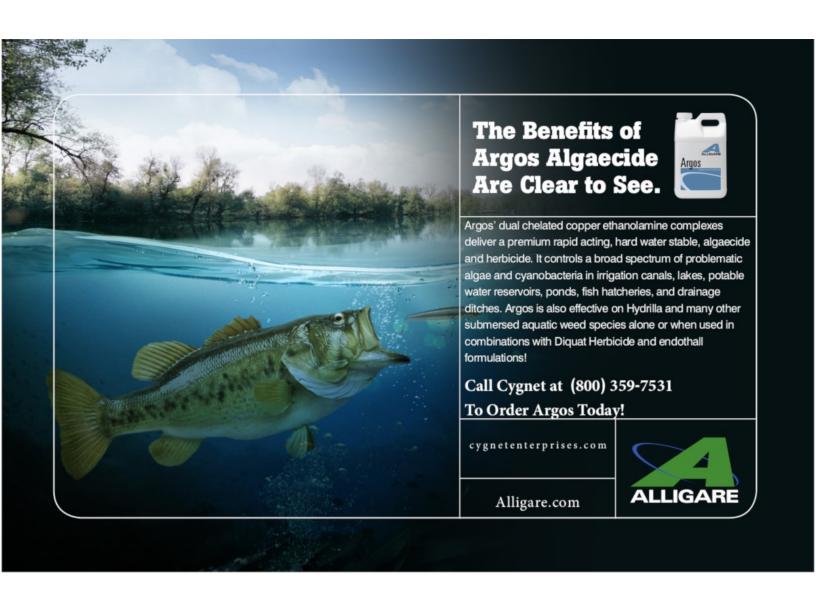
Did You know? Continued from page 2

It costs over \$150 million o more, and up to 12 years, to introduce a new pesticide to the market.

There are approximately 300 herbicides registered in the US, but only 16 are currently registered for use in aquatic systems.

A single acre-foot of water comprises around 326,000 gallons of water and weighs around 2.7 million pounds.

2,4-D is one of the world's most studied chemistries. More is known about 2,4-D and how it works than almost any other crop protection tool. If all of the academic studies on 2,4-D were stacked on top of one another, **THEY WOULD BE TALLER THAN NIAGRA FALLS**. 2, 4-D is registered for use in over 90 countries. (2, 4-D Research Taskforce)





WHAT IS AN ADJUVANT?

An adjuvant is any substance added to a formulation to modify herbicidal activity or application characteristics. Adjuvants are used with an herbicide to improve efficacy or to improve handling characteristics. Research has found that up to 70% of the effectiveness of a pesticide can be dependent on the spray application.

	Activator Adjuvants e the retention and absorption of the herbicide into the target plant.		
Wetter/Spreaders	Penetrants		
Often known as surfactants or stickers	Oil-based adjuvants		
Changes properties of the mixture to increase absorption	Helps dissolve the waxy cuticle of the plant		
Lowers the surface tension of the water to increase spray retention	Increased uptake of the herbicide to regions of the plant for better efficacy		
Slows down spray droplet evaporation increasing the contact time of the herbicide	Typically works better on large and more difficult to control weeds		

	Utility Adjuvants						
Adjuvants that are used to improve the efficiency of the spray mixture.							
	Defoamers	Water Conditioners	pH Buffers	Tracer Dyes	Drift Reducers		
	Added prior to tank filling, these adjuvants help prevent bubble formulation	Binds to dissolved minerals that are commonly found in natural waters to help improve the efficacy of an herbicide	As most herbicides perform better in slightly acidic water, a pH buffer helps safely reduce the pH to increase herbicide efficacy	plants that have	Agents that are added to a mixture to "thicken" the spray solution reducing the shearing into small droplets		

Aquatic Surfactants Facts

<u>AOUABUPH</u>: This surfactant is a water conditioning adjuvant. It contains nitrogen and tricks the plant into thinking it is being fed and speeds up the intake of herbicides. It contains an ammonium sulfate replacement to help buffer the Ph.

<u>CYGNET PLUS</u>: This is a great activator penetrant nonionic adjuvant. It is one of a few used with algaecides. Due to the ingredient Limonene, when used with algaecides, it acts as a penetrant removing the husk off troublesome algae allowing copper algaecides to act as a cell toxicant. When used with herbicides it takes the waxy coating off plant allowing the herbicide to enter the plant.

<u>POLY CONTROL II</u>: used as a great sticker, but most often used as a drift control when spraying herbicides. Can also be used as a sinker but needs to be added to tank mix slowly with agitation so the mix will not gel.

SILENERGY: This surfactant is silicone based and is used as a sticker for herbicides, insecticides, fungicides and miticides.

SUNWET: This adjuvant is a nonionic MSO and has a low LD50 rating. Used with herbicides such as Imazapyr and Imazamox due to its oily sticker consistency.

SUNENERGY: This adjuvant is a MSO, nonionic surfactant and organosilicone. Used with many herbicides for its wetting properties.









Cygnet PlusTM

100% Limonene, Methylated Vegetable Oil, & Emulsifiers

• Non-ionic

• Wetter

• Penetrant

Wetter/spreader: One of the best-known properties of nonionic surfactants like Cygnet PlusTM is their ability to reduce the surface tension of the spray solution. Reducing surface tension means that spray droplets will spread beyond their initial contact area.

Penetrant: Cygnet PlusTM contains methylated vegetable oil, an effective penetrant that can improve herbicide movement to the target site. This type of adjuvant can soften, plasticize, or dissolve the plant's cuticular waxes – a barrier that aqueous spray solutions cannot efficiently cross – allowing herbicide movement to the more hydrophilic regions underneath.

Emulsifier: The limonene in Cygnet PlusTM is an effective emulsifier – promoting the suspension of one liquid in another, typically an oil-in-water emulsion. This is an important feature of spray adjuvants and allows the herbicide's active ingredient to be applied evenly as a water-spray.

Cygnet PlusTM does not contain any Nonylphenol ethoxylates (NPE's). NPE's are a nonionic surfactant that were commonly used in a wide variety of industrial applications and consumer products such as laundry detergents. The use of NPE's have been limited by the EPA due to concerns with ability to mimic the female hormone estrogen. 37% of NPE's that are used reach the aquatic environment undegraded and 46% reaching the soil causing concern with feminization in wildlife.

What is Limonene?

Is the major component in the oil extracted from citrus fruit peels like oranges and lemons. (Can also be derived from the oils *found in pine)*

Cygnet PlusTM is registered in all states

*Including CA and WA

Cygnet PlusTM works well with subsurface, surface, and right of way—foliar treatments

Cygnet PlusTM is available in various container sizes:

Quart, 1 gallon, 2.5 gallon, 30 gallon, & 275 gallon containers

CYGNET SOUTH SPRAY ADJUVANT FOR PESTICIDES T • NONIONIC • BIODEGRADABLE • WATER EMULSI This Product is registered in California for aquatic uses under CA-1051114-50001 ACTIVE INGREDIENTS: We warrant that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth on the label. methylated vegetable oil ... WARNING: alkyl hydroxypoly oxyethylene.. Causes Serious Eye Irritation. May Cause an Allergic Skin Reaction. TOTAL THERE ARE NO OTHER WARRANTIES, WHETHER EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. If Swallowed: Rinse mouth. Call a doctor if you feel unwell. CYGNET PLUS is a wetting agent, activator and penetrant CYGNET PLUS is compatible with most terrestrial and aquatic herbicides, insecticides and other pesticides. If on Skin: Wash area with plenty of soap and water. Remove contaminated coth-ing. Launder cothing before reuse. If imitation or rash occurs get medical advice. This warranty does not extend to the handing or use of this product contrary to label instructions or under abnormal conditions or under conditions not reasonably foreseeable to seler, and buyer assumes all risk of any such use. CYGNET PLUS contains no nonylphenol ethoxylates. DIRECTIONS FOR USE If in Eyes: Rinse cautiously with water for several minutes.

HIGH VOLUME GROUND APPLICATION LOW VOLUME GROUND & APPLICATION per ac Remove contacts if present. Continue rinsing. If imitation occurs get medical advice. Aquatic - surface, Foliar 1-2 quarts 1-2 quarts 1-2 quarts 1-2 gallons 1-2 gallons 1-2 gallons If Inhaled: Remove indi-1-2 pints vidual to fresh air. If affect-ed, get medical attention. FLASH POINT: 155°F 1 pint-2 quarts

CYGNET PLUS is noncomposite to metal and chemical resistant hose in continued use it is detrimental to rubber and plastic.

BREWER International

Do not store near heat or open flame. Store in original confainer. Do not treuse empty container. Triple rinse (or equivalent) then dispose of or recondition container through the regulations set by local and state authorities. CYGNET ENTERPRISES, INC.

"We have been using Cygnet PlusTM for over 20 years...CP enhances the ability of the products we use to penetrate more effectively and manage our targeted plants with great success!!"

Christopher Hanlon Aquatic Technologies, Inc.

Surfactants in CYGNET PLUS are exempt from the requirements of tolerance under the CFR.

STORAGE AND DISPOSAL:

Always read and follow the label's instructions.



Got weeds? Choose UPL.

Effective. Versatile.

Keep your lakes and ponds free of invasive aquatic weeds















Support Available for:

- Environmental, Regulatory, and Public Affairs
- Human Health, Technical, and Toxicology
- National and Local Distribution Partners
- National Hotline



Check our web app to:

- Measure your pond or lake
- Find the right product
- Get application rates
- Identify weeds and algae

Visit: <u>UPLAquatics.com.</u>

OUPLAQUATICS PPE REQUIREMENTS PPE REQUIREMENTS



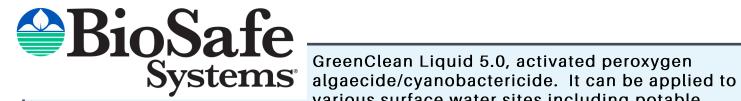
Download our Personal Protective Equipment (PPE) requirements

Get quick access to resources and more information

Download

www.uplaquatics.com

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various surface water sites including potable

Harbor Isle - St. Pete (on the FL HAB Dashboard -

water sources, copper sensitive or restricted areas. GreenClean Liquid 5.0 is NSF/ANSI Certified for potable water sources and used for treatment of cyanobacteria, a common sources of taste and odor compounds and harmful algal toxins.

GreenClean Liquid 5.0 can also be applied to areas without swimming, irrigation or other use restrictions. With its patented peroxyacetic acid formulation, GreenClean Liquid 5.0 works quickly to fight planktonic algal blooms, including cyanobacteria blooms, filamentous or mat-forming nuisance algae.

Application Rates

Typical application rates of GreenClean Liquid 5.0 used in the field are on the low end of the range of labelled use rates. 2.8-5 gallons of GreenClean Liquid 5.0 can control planktonic cyanobacterial blooms, nuisance filamentous cyanobacteria and algae. The moderate to high/extreme algal density application rates are generally reserved for spot applications to thick, dense mats of nuisance al-gae/cyanobacteria or heavy bloom conditions of planktonic algae/cyanobacteria.

before, 48 hours after, 3 months after)

GreenClean Liquid 5.0 has labelled use rates from

2.8 up to 28.5 gallons per acre-ft of water. It is recommended to speak to your local Cygnet distributor or BioSafe Systems representative for assistance in algal identification and application recommendations.

NO LONG WAIT FOR FOLLOW UP TREATMENTS! GreenClean Liquid 5.0 label permits the retreatment of waterbodies after 48 hours, unlike other algaecides that require up to 2 weeks before a retreatment can be performed.

GreenClean Liquid 5.0 can be effectively used in a wide range of water quality conditions. Non-factors for most applications include: pH, hardness, alkalinity, salinity and temperature.



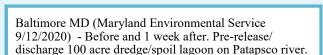
Tank Mixing with Other Products

- The addition of a non-lonic penetrant/surfactant is recommended when treating filamentous algae or cyanobacteria mats and some dense floating scums.
- GreenClean Liquid 5.0 is tank compatible with Endothall and Flumioxazin and tank mixes may be recommended for the treatment of some difficult to control algae or cyanobacteria.

(Continued on page 9)

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- GreenClean Liquid 5.0 is NOT tank compatible with Chelated Copper Algaecides or Diquat - The introduction of these chemistries to GreenClean Liquid 5.0 can cause a quickened reaction of the PAA/peroxide, potentially causing foaming and spillage from the chemical mixing tank or unwanted pressure to build inside a pump or hose.
- The use of a pesticide tank cleaner is recommended (like Brewer F-239) for systems that have had consistent application of diquat or chelated copper algaecides. Ensure that your tank, pumps, valves and lines are flushed before use of GreenClean Liquid 5.0 with your application equipment. Ensure the hoses, valves and pumps and gaskets are not harboring pesticide residues. Proper maintenance and replacement of worn items, like hoses and seals is important.













POWERED BY



TECHNOLOGY







THE ROUNDUP® BRAND ITO HERBICIDE WITH MAXIMUM FLEXIBILITY

Anywhere weeds and water meet, there's a strong chance that vegetation management problems can grow. Anyone who manages weeds and brush in sensitive aquatic or terrestrial sites knows that, when left unchecked, they create a growing problem. Roundup Custom® ITO herbicide offers a multitask solution with applicator and use site flexibility.

- Application and use flexibility for weed and brush control in or around water
- Offers the flexibility to choose the right surfactant, tank mix or custom herbicide blend for the job at hand
- Nonselective and highly effective on more than 190 species of emerged weeds, brush and vines
- Excellent fit for aquatic, forestry, right-of-way, industrial, turf, ornamental and habitat-restoration use sites, especially where weeds and water meet

FEATURES & BENEFITS

- Seamless Control Quality Pledge
- 24-Hour Hotline Support
- Local Training and Support



TRUE BLUE ADVANTAGE. Beyond Price.

Roundup Custom ITO herbicide delivers value for your herbicide dollar beyond just the price per jug. Roundup Custom ITO herbicide delivers quality, product support and aquatic- and terrestrial-use flexibility.

Seamless Control LLC continues to work to educate our customers and protect your freedom to operate. We have an experienced team of experts, and our product support team is available to provide 24-hour support for Roundup Custom ITO herbicide if and when you need it.

Visit RoundupITO.com for more information.

Performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible.

ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. Roundup Custom®, Roundup® and TRUEBLUE ADVANTAGE PROVEN RELIABLE SUPPORTED and Design® are trademarks licensed by Seamless Control LLC from Bayer Group. ©2019 Bayer Group. All rights reserved. All other trademarks are the property of their respective owners. ©2019 The Scotts Company LLC. World rights reserved. 19PRO6

Clean Boats Clean Waters

Before Launching AND Before Leaving

CLEAN

Clean off any mud, plants, and animals from boats, trailers, and equipment.



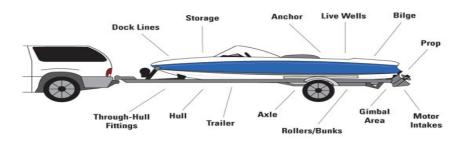
Drain your boat and equipment away from the water.



Dry anything that comes into contact with the water.

Never release plants, fish, or animals into a body of water unless they came out of that body of water.

Inspect everything!



Check your boat, trailer and vehicle

Please report suspected aquatic invasive species sightings to:
Aquatic Nuisance Species (ANS) Task Force

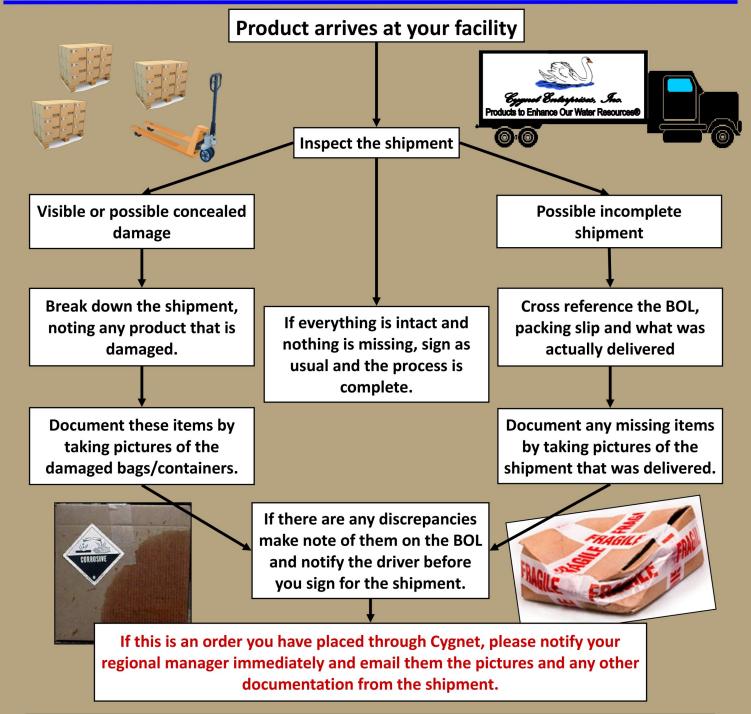
1-877-STOP-ANS or by clicking: https://nas.er.usgs.gov/SightingReport.aspx

"Pesticides are an essential tool used by conservationists to protect endangered species and restore critical habitats. Rodenticides, insecticides, and herbicides have been used successfully across the globe to remove invasive species from habitats, enabling endangered species to flourish," said Dr. William Pitt, Deputy Director for the Smithsonian Conservation Biology Institute and Associate Director for Conservation and Science for the National Zoological Park.

Stewards of Water and Procella Water Resource Solutions Where expertise and innovation come together to protect and restore Earth's most precious natural resource...water. Water Resource Solutions NEW TECHNOLOGY **WEEDS** Sonar Infinity ProcellaCOR WATER QUALITY ALGAE ReHAB **EutroSORB** Procella Water Resource Solutions is a platform of innovative technologies Sopre developed from SePRO research and available through Pro Certified Stewards of Water. Visit sepro.com/aquatics/procellacor to learn more.

Always read and follow all label directions. Procella Water Resource Solutions, ProcellaCOR, ReHAB, EutroSORB, and Sonar Infinity are trademarks of SePRO Corporation.

The Process of Documenting Lost or Damaged Inbound Shipments



It is crucial to document any damage or missing product at the time of delivery. When you sign for a delivery you are stating that the product was delivered intact and accounted for. It is very difficult to make a damage claim when the delivery has been signed for without proper documentation.



PropellerTM New Formulation Large Volume Dispersion Testing

<u>Background:</u> A previous formulation of PropellerTM did not disperse, for some applicators, in water without agitation in a manner acceptable to large volume aquatic applicators. Alligare, responding to customer concerns, reformulated PropellerTM to achieve acceptable dispersion.

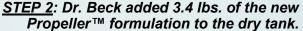
<u>Initial Testing:</u> Gary Custis, CPA, Alligare Market Development Specialist, conducted small-batch jar tests to compare the new PropellerTM formulation to ClipperTM -- a competitive product formulated by Valent BioSciences, LLC. This test revealed comparable if not better mixing by the new Alligare PropellerTM formulation.

<u>Large Tank Field Comparable Testing:</u> Procedure coincides with photos below. Testing was performed by Dr. Scott Nissen, Colorado State University, Dr. George Beck, Colorado State University (Ret.) and current Alligare Market Development Specialist and Chuck Wilcox, Alligare Marketing Manager.

STEP 1: Started with empty, dry, 200-gallon spray tank.



<u>STEP 3</u>: We began adding water before deciding to snap a shot of the dry product alone in the bottom of the tank so shortly after beginning to fill, we stopped and took this photo.

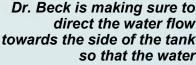




<u>STEP 4</u>: Dr. Beck adds 100 gallons of water to the 3.4 lbs. of the new Propeller™ formulation to

achieve a 22 gallon per acre total spray solution. This total solution was chosen based on

conversations Gary Custis had with applicators experiencing mixing issues with the old formulation.



coming from the hose is not making direct and immediate contact with the product in the bottom of

the tank. This is to ensure minimum agitation of the product while filling the tank.

<u>STEP 5</u>: This is showing the pile of product still exists during filling.



STEP 6: After Dr. Beck completed filling the tank with 100 gallons of water, we fashioned a ladle so we could reach into the bottom of the tank to determine how much if any product remained at the bottom of the tank.



<u>STEP 7</u>: The only product we were able to retrieve from the bottom of the tank was attached to the outside of the ladle and, after multiple attempts, we were unable to capture any undissolved product in the actual cup of the ladle. This showed us that minimal product remained undissolved at the bottom of the tank.



STEP 8: Dr. Nissen powered up the sprayer and sprayed the tank out over a 5-acre plot with no agitation running. After Dr. Nissen sprayed the entire solution from the tank, Dr. Beck dipped the ladle into the empty tank and could only retrieve the remaining foam at the bottom of the tank. There was no evidence of undissolved product in the bottom of the tank.



<u>Conclusion:</u> The new Alligare Propeller[™] formulation dissolves in water in a comparable fashion to Clipper[™], a competitive product formulated by Valent BioSciences, LLC. While no agitation was performed aside from the gentle agitation created by filling the tank with water, Alligare still recommends agitating the solution in the tank.

For more information, please contact:

Cygnet Enterprises, Inc.

(800) 359-7531

2020 - 2021 UPCOMING EVENTS

Cygnet Enterprises, Inc. will be attending to the following conferences, hope to see you there!

DATE	DATE EVENT LOCATION		CONTACT
TBD	17th Annual Aquatic Applicator & Lake Managers Symposium	TBD	Tyler Blower (800) 359-7531
TBD	The Seventeenth Annual Aquatic Management Winter Workshop	TBD	John Olsen (888) 359-7531
January 12th - 14th	Northeast Aquatic Plant Management Society	Virtual Meeting	www.neapms.org
January 18th - 21st	Idaho Water Users Association	Riverside Hotel Boise, Idaho	www.iwua.org
January 27th - 29th	California Weed Science Society	Virtual Meeting	www.cwss.org
February 22nd – 25th	41st Annual MAPMS Conference	TBD	www.mapms.org
March 10th - 13th	36th Annual Illinois-Lakes Management Association Conference	Holiday Inn Gurnee, IL	https://ilma-lakes.org
March 1st - 4th	Western Aquatic Plant Management	Virtual Meeting	www.wapms.org
April 8th - 9th	33rd Annual Indiana Lake Management Conference	Monroe Conference Center Bloomington, IN	www.indianalakes.org



Go Paperless – Electronic Invoicing!

Cygnet Enterprises, Inc., has the ability to email your invoices to you rather than having a paper copy mailed to you. If you find this to be more convenient, please contact your regional Cygnet office to make the proper arrangements.

We appreciate your commitment to sustaining our natural resources by going paperless!

The offices of Cygnet Enterprises, Inc. will be closed for the following National Holidays:

Memorial Day (May 25th)

Observance of Independence Day (July 3rd)

Labor Day (Sept 7th)

Thanksgiving Day

(November 26th & 27th)

Christmas - New Years

(December 24th to January 3rd)

DID YOU KNOW?

In Cygnet's website you can access all of our products' labels and SDS's, find information on our Pesticide Container Recycling Program, Pesticide Safety and previous editions of our newsletters. We also have a Product Reference Guide, a quick guide on Water Use Restrictions as well as links to our industry and manufacturers websites and more...

We welcome any comments or suggestions!

www.CygnetEnterprises.com