



Welcome to another edition of Hort Snacks. Summer appears to be upon us. The longest day of the year has come and gone and now we head into the long busy days of the growing and harvest seasons.

With the fun and excitement that any growing season brings, this edition has a few articles that might be of use to you as you navigate the turbulent weather of growing and the challenging landscape of dealing with customers. You'll find a number of events planned for the coming months, which might provide a great educational break for you, with big benefits. You'll also find a few articles from the past and present, which provide some interesting thoughts on dealing with difficult customers and keeping an eye on the sky for the clues that signal changes in the weather. There are also some charts that outline when fruit and vegetable pests tend to occur in Alberta.

Regardless of what you are growing, there is always something going on and something to be learned from your own experiences and from things going on around you. Be sure to take a moment once in a while to reflect on what you know (and what you can learn from what is happening). And stay in touch. We're happy to help and love to hear from you. We might even be out to visit at some point. Happy growing!

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In the News / Interesting Articles

- [Robots Wielding Water Knives Are the Future of Farming](#) – WIRED.com
- [Internal & External Greenhouse Curtain Systems](#) – Stuppy Blog
- [Is organic raspberry production a profitable enterprise?](#) – ATTRA article
- [What Every New Farmer Should Know About Farm Debt](#) – Upstart University article
- [What is a biopesticide?](#) – MSU article
- ["Each generation of shoppers speaks its own language"](#) – HortiDaily article
- [6 Simple Ways to Acquire New Customers](#) – Greenhouse Grower article
- [Here's why you should close your windows in case of storm](#) – HortiDaily article
- [Tips for young farmers: Getting started on farm transition planning](#) – Family Farm Succession article
- [Tuber Dormancy: One of Nature's More Ingenious Survival Designs](#) – SpudSmart article

New FAQ - [Seasonal Pest Occurrence for Fruit and Vegetable Pests](#)

NEWSLETTER USE RESTRICTIONS

Please feel free to share all or portions of this newsletter with other interested parties.
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THINGS TO DO / THINGS TO THINK ABOUT THIS MONTH

Strawberries

- Maintain good weed control – dandelion and chickweed infestations can contribute to Tarnished Plant Bug damage (issue in day-neutrals)
- Application of nutrients – primarily nitrogen –should be done as soon as June bearer harvest is complete - 50lb/ac N, P & K; Make 2nd application in mid-August - 15-20 lb/ac N (using calcium nitrate)
- Mowing old leaves of June bearing strawberries (only) at renovation should only be done if harvest and mowing can be completed by August 5
- Irrigation (if not supplied by rainfall) should be continued at this running stage of June bearers
- Day-neutral strawberries will require constant nitrogen feeding until end of August - 10-20 lbs actual N/ac/month - may be split into weekly or bi-monthly applications
- Field cooling of strawberries should be considered if temperatures exceed 30°C. Day-neutral flower bud formation ceases at 26-28°C
 - Failure to cool will result in the conspicuous absence of a crop a month later

Saskatoon berries

- Ensure any off-plant types (e.g. chokecherries) are pruned out of the Saskatoon berry rows prior to harvest
- Soil moisture can be reduced after harvest to encourage plants to harden-off
- Harvest at night or early morning to take advantage of fruit temperatures (reduces cooling requirements)
- Cool crop immediately after harvest to preserve produce quality
 - Ensure that there is airflow through the harvested product to cool more quickly
 - If freezing the graded crop, consider that smaller quantities or thin layers will freeze more quickly than bulk quantities – which will affect final quality of the frozen product

Vegetables

- Harvest product at appropriate stages, with consideration given to cost of harvesting versus total yield
 - Multiple harvests of each planting can increase total yield but quality (and returns) may be higher for early harvests of each planting
- Cool harvested product quickly to slow post-harvest degradation
- Final washes/rinses should be in potable water

Greenhouse ornamentals

- If holding plants for extended periods, ensure plants are kept healthy, fertilized and free from pests
 - Apply sufficient water, maintenance fertilizer, etc.
- Clear out older stock as quickly as possible

General / Other

- Adjust irrigation as soil moisture conditions and plant requirements change.
 - As plants begin to mature and fruit fills, moisture requirements typically increase.
 - Maintain soil moisture levels through harvest (particularly during fruit formation and filling)
- If June was particularly wet and you have sandy soils, it is possible that soil nitrogen levels may be depleted. Make light applications of nitrogen. Heavy applications of nitrogen can lead to soft fruit and plants

Pest Monitoring / Management

- Continue to monitor disease and insect pest development and make appropriate controls (adhering to PHI and REI restrictions)
- Remove / prune out diseased plant material
- Check out PMRA website for most recent info on registered pesticides
- Abandonment (ploughing under) of an annual crop can sometimes be more cost effective than trying to salvage a heavily infested crop with chemical sprays (weeds, insects, disease)
- Consider cultural pest control practices such as exclusion, using such technologies as row covers, netting, etc.
- **Raspberries**
 - Monitor for spider mites and control if necessary
 - Examine primocane growth on floricanes for spur blight infection
 - Plan post-harvest fungicide spray if identified
- **Saskatoon berries**
 - Continue to monitor for Entomosporium and apply fungicides with short Pre-harvest interval if necessary
 - Ensure that you do not exceed seasonal maximum number of applications
 - If Woolly Elm Aphids have been or are an issue in your orchard, application of Orthene, Alias or Admire is permitted on bearing and non-bearing plants
 - Apply as close to peak aphid migration as possible – early to mid-July to mid-August (depends on crop and season)
 - Apply after harvest in bearing plants, although Alias / Admire may be applied with a short PHI window (14 days)
- **Greenhouse ornamentals**
 - Monitor for spider mites and aphids, as well as foliar diseases such as powdery mildew
 - Correct situations that encourage fungus gnats

DETAILS TO COME SOON

Fruit & Vegetable Field Days

Growing Season Extension Technology & CSA (September – date TBD) – Sand Springs Ranch (Lac La Biche area, AB)

The plan:

- Afternoon (starting with lunch)
 - Focused / Specific topic
- Watch www.albertafarmfresh.com OR AAF [Coming Events](#) for event details.

MENTAL SNACKTIME – Nurturing

“Management is about arranging and telling. Leadership is about nurturing and enhancing.” – Tom Peters

“Feelings of worth can flourish only in an atmosphere where individual differences are appreciated, mistakes are tolerated, communication is open, and rules are flexible - the kind of atmosphere that is found in a nurturing family.” – Virginia Satir

“Really in technology, it's about the people, getting the best people, retaining them, nurturing a creative environment and helping to find a way to innovate.” – Marissa Mayer

“Competing at the highest level is not about winning. It's about preparation, courage, understanding and nurturing your people, and heart. Winning is the result.” – Joe Torre

“It takes a little bit of mindfulness and a little bit of attention to others to be a good listener, which helps cultivate emotional nurturing and engagement.” – Deepak Chopra

Upcoming Conferences / Workshops

July 2017

- Rosy Farm Haskap Orchard Tour and Tasting
July 15, 2017 – Alcomdale, AB
[Event website](#)
- Cultivate 17 (Formerly OFA Short Course)
July 15-18, 2017 – Greater Columbus Convention Centre – Columbus, OH
<http://cultivate17.org/>
- Haskap Days Extravaganza (4 separate days)
July 19-22, 2017 – Various sites around University of Saskatchewan – Saskatoon, SK
www.fruit.usask.ca/extension.html
- 101st Potato Association of America (PAA) Conference
July 23-27, 2017 – Holiday Inn – Fargo, North Dakota, USA
www.potatoassociation.org OR <http://z.umn.edu/paa17>

August 2017

- CityFARMed – Small Farm Tour
Aug 1, 2017 – Edmonton, AB – Call 1-800-387-6030 to register
- North American Strawberry Growers Association (NASGA) Summer Tour
Aug 15--16, 2017 – Minneapolis, Minnesota, USA area
www.nasga.org
- Farwest Show
Aug 23-25, 2017 – Oregon Convention Centre – Portland, OR
<http://www.farwestshow.com/>
- Independent Garden Center (IGC) Show 2017
Aug 15-17, 2017 – Navy Pier Festival Hall – Chicago, Illinois, USA
<https://www.igcchicago.com/>

September 2017

- 3rd International Strawberry Congress 2017
Sept 6-8, 2017 – Flanders Meeting & Convention Center – Antwerp, Belgium
<http://www.iscbelgium.com/>
- CityFARMed – Small Farm Tour
Sept 12, 2017 – Calgary, AB – Call 1-800-387-6030 to register
- 2017 Canada's Outdoor Farm Show
Sept 12-14, 2016 – Woodstock, ON
www.outdoorfarmshow.com
- CanWest Hort Expo
Sept 27-28, 2017 – Tradex – Abbotsford, BC
www.canwesthortexpo.com

Q: Herding cats - what are some useful customer management tools that you use in your operation?

A: When calling back customers that leave angry voicemails I first give them a day to cool down and then call them back.

A: Hmm, what's a herding cat?

A: We keep careful watch on customers when they are in our orchards and request that all product be presented at cash out area prior to loading.

A: Wunderlist Email Sheets

A: I have upick by appointment only and I use a lot of signage.

A: Rule #1 the customer is always right; rule #2 when customer is wrong refer to rule #1; While this may seem facile always remember your own experiences when dealing with sales people and companies. No one want excuses or "that's our Policy" type answers; Try to understand the actual issue. May not be what they say, read body language and other clues; Ask open ended questions; Offer solutions. It may be referring them to another producer or god forbid a grocery store; Never lie; If you promise something do it; Under promise and over perform; Gladly and quickly refund money if necessary; Happy customers might tell a couple of friends, unhappy customers tell their tales of woe to 10-20 others unjustified or not; Be empathetic and understanding; Be transparent

Next Month's ? → [When do you decide to stop harvesting a crop? What tells you that it is "done"?](#)

A blue rectangular box containing the white text 'Q&A' in a stylized, bold font.

Dealing with difficult customers

It is a reliably established fact that in all circles of life, there are nice people and there are less nice people. There are people that will bend over backwards like a Cirque de Soleil performer to accommodate and avoid inconveniencing someone. And then there are others that make it seem like the Spanish Inquisition were giving out free puppies and fruit smoothies. It's a fact. The sad truth is that these same people (and their corresponding styles) make up your customers. Customers come in all shapes, sizes and characters. Some are basically invisible; they come, they pick or shop and then they leave. Others are interactive; they chat, they want to know about you and your business, they want to know the intricacies of things and they are pretty excited about the entire experience.

And then there are the difficult customers. Who knows what makes them difficult? It could be a momentary thing (residual frustration from something that just happened to them), it could be learned/habitual behavior or it could be some sort of legitimate concern that can be resolved with some effort on your part. It can be hard. Sometimes logic is nowhere in sight and people are just upset or want to be difficult, simply because they can and you happen to be conveniently located to vent frustrations on. The challenge that you and your employees face is determining the real cause of concern or complaint, so that it can be dealt with, all while navigating the symptoms of the concern, which manifests in any number of ways (most of them unpleasant). So, regardless of whether your customer's concern is legitimate (which is, of course, subjective) or not, if you want them as a customer in the future, you need to deal with them. Here are some possible tips for handling difficult people (note, these are according to me, not necessarily the path that you have to take).

1) *Keep your cool and be polite*

This can be hard. Really, really hard. When someone is coming at you, it can be hard to suppress natural tendencies that you've developed over years of being human (flight, fight, etc.). As much as possible, keep your tone even, try to avoid going on the defensive (or worse, an aggressive offensive) and work to treat the customer the same as you would a non-difficult customer. Be respectful and polite. It NEVER hurts to be polite. Even when people aren't. And maybe throw a smile in there (try to make it more smile, less grimace, as much as possible).

2) *Be sincere*

If you genuinely want to help your customers, your tone, actions and attitude will communicate that to them. It'll show and it'll keep them coming back.

3) *Listen to understand*

A big part of being sincere is spending more time listening than you do talking. In my experience, in a challenging situation, when you start talking, the tone tends to slide over towards the defensive (cue excuses, etc.). So spend less time talking. And more importantly, listen with intent to understand. Ask questions at appropriate times, so that you A) actually gain the information that you need to really get a good grasp of the situation and B) you demonstrate that you actually WANT to understand.

4) *Defer to a higher power*

I'm not suggesting that you throw things heavenward when things go south (although a silent, internal prayer for patience never goes awry), but rather give yourself permission to let someone else deal with an issue. If you are an employee, don't be afraid to turn things over to someone else, especially if you are on the bottom end of the totem pole. If you have employees, give them permission to call you in and tag out. In either situation, by turning things over to someone else, there is a break (albeit a brief one), which allows emotions to subside (theoretically). Additionally, a new face brings new perspective and, more importantly, a potentially a cooler head.

If you are the boss, or if you are an employee, but have been given permission and authority to deal with issues (however the policy has been developed), then deal with them. If the problem drops in your laps from someone else, then deal with it. Shunting people from one person to another just fans the fires of frustration.

5) *Don't be a doormat*

In my humble opinion, the adage or saying "the customer is always right" has been stretched and abused to the point of ridiculous. Now, your personal business motto might disagree with that, and you might be prepared to go to ANY length to satisfy a customer, but sometimes, people are WRONG. Condoning and enabling bad behavior just encourages people to continue to act that way. So, be firm. Work hard to be polite, to solve their problem and satisfy them, but don't tolerate abusive behavior. You and your employees have the same rights as anyone. So establish what those are and don't budge beyond that point.

In the end, whatever happens, the end goal should be to gain an ally for your business, because allies make great customers. Be respectful and work hard to have both you and the customer land in a place where you are both happy. Good luck.

Check your Elm Trees for Dutch Elm Disease (DED) Symptoms

By Janet Feddes-Calpas

Dutch Elm Disease Awareness Week is recognized annually throughout the province of Alberta from June 22- 28. The intent is to raise awareness on how dangerous Dutch elm disease (DED) is, the importance of elm trees to our communities, and that DED can be prevented. At present, Alberta has the largest DED-free American elm stand in the world, and it is important to protect this valuable resource. The Society to Prevent Dutch Elm Disease (STOPDED) is asking for your assistance to save our beautiful elm trees from this deadly disease.

DED is caused by a fungus that clogs the elm tree's water conducting system, causing the tree to die. The fungus is primarily spread from one elm tree to another by three species of beetles, the smaller European, the native and the banded elm bark beetle. The beetles are attracted to weak and dying trees, which serve as breeding sites for the beetles. Once the beetles have pupated and turned into adults they leave the brood gallery and fly to healthy elms to feed, thus transporting the fungus on their bodies from one tree to the next. Monitoring for the beetles is done annually throughout the province by STOPDED. The smaller elm bark beetles have been found throughout the province in low numbers and now the banded elm bark beetle is found in larger numbers throughout the City of Medicine Hat and area. For this reason we must be even more vigilant.

Leaves on a DED-infected elm will wilt or droop, curl and become brown. This appears in mid-June to mid-July. Leaves on trees infected later in the season usually turn yellow and drop prematurely. Leaf symptoms are accompanied by brown staining under the bark. All DED suspect elms must be tested in a lab so if you think you see DED symptoms call the hotline.

During DED Awareness Week, please take a moment and find out how you can help save our elms.

What can you do?

- Be aware of the Alberta elm pruning ban between April 1 and September 30. The beetles are most active at this time and can be attracted to the scent of fresh tree cuts, possibly infecting a healthy elm.
- Keep your elm trees healthy, and vigorous.
- Water elms well from April to mid-August. To allow the tree to harden off for the winter, watering should be stopped mid-August followed by a good soaking or two before freeze-up.
- Only between October 1 to March 31, remove dead branches and trees as they can provide beetle habitat.
- Dispose of all elm wood immediately by burning, burying or chipping.
- Report all suspect trees to the DED Hotline at 1-877-837-ELMS. A confirmed DED tree must be removed immediately to prevent further spread.

What you shouldn't do!

- Do not transport or store elm firewood at any time! DED and the beetles are declared pests under the AB Agricultural Pests Act and this can be enforced.
- Do not transport elm firewood into Alberta! Firewood is confiscated at all the Alberta-Montana border crossings.
- Do not prune elms between April 1 to September 30.

To report a DED suspect elm tree or for more information, call the STOPDED hotline at 1-877-837-ELMS or check out the web site at www.stoppeded.org

Constant Vigilance – Watch out for Late Blight

Over the last few years, there has been a great deal of concern in Alberta surrounding a serious disease called Late blight that affects mainly potatoes and tomatoes. This disease is caused by a fungal pathogen called *Phytophthora infestans*. The favourable conditions for disease development, combined with the presence of the pathogen, have resulted in multiple outbreaks of Late blight in commercial, market garden and urban potato and tomato crops throughout parts of Alberta in past years. A number of different strains of the pathogen have been identified in different years, each being more or less aggressive on either potatoes or tomatoes. For 2017, this disease continues to be a risk for all Solanaceous crops (potato/tomato family) grown in Alberta.

Although the hot and dry conditions that are sometimes observed in Alberta during the summer help to reduce the potential for this disease, irrigation and rain showers can create favourable conditions in localized fields and plantings. Certain strains of *Phytophthora infestans* are also more tolerant of warmer/drier conditions than others, which increases risk.

It is recommended that ALL growers of potatoes and tomatoes be extra vigilant to try and catch any diseased material early on, before a significant outbreak can occur. In the early season, growers should watch for:

- Tomato transplants and newly emerged potato shoots with water-soaked leaf lesions
- Plants that develop lesions early on in the season or as the season progresses, particularly if conditions are moderate and wet/humid

If you find plants showing suspicious lesions, it is strongly recommended that you can contact 310-FARM (3276) to determine if further testing is required and to discuss management. Please do not hesitate to report an incidence, as early awareness will help to prevent and contain an outbreak and can help others to protect their crops.

While undertaking identification, producers should dispose of infected material as quickly as possible, removing disease parts (small scale) or killing out plants so disease cannot develop further. Protective fungicide applications can be made if conditions favour disease (and if disease is known to be present in the province)

Information on Late Blight

[FAQ – Late Blight of Potatoes and Tomatoes](#)

Colorado Potato Beetle

Leptinotarsa decemlineata

Crops Affected: Plants in the *Solanaceae* (potatoes, tomatoes, eggplant, and solanaceous weeds)

Life Cycle:

- Adults are 10mm by 7mm (1/3 inch by ¼) somewhat rounded beetles with black stripe markings running the length of the back overlaying the pale yellowish colouring
- Adults overwinter in the soil where crops were previously grown
- Beetles move upwards as soils warm in the spring – typically emerge in late May or early June
- Beetles seek out and feed on host plants, starting to mate after several days of feeding
- Females lay yellow to orange eggs on the underside of leaves in clusters of approximately 30
- The entire period of egg laying occurs over a couple of months
- Larvae are humpbacked and reddish-orange with 2 rows of black spots along the side of their body
 - Larvae emerge and feed on the plants for 2-3 weeks until pupating in the soil
- New adults appear after approximately 3 weeks and feed for a short time before entering the soil for overwintering
- Typically single generation per season

Symptoms:

- Adults and larval stages feed mainly on the foliage of the plant
- Irregular holes in leaves and leaf margins – complete defoliation can occur with high populations
- Some stem feeding may also occur
- Presence of adults, larvae or eggs in the field

Monitoring:

- Sampling random plants throughout a field, with counts and size estimates of larvae that are present can give some indication of population levels
- Economic thresholds have not been consistently established; however the presence of 20 large larvae (later instar) per plant may be considered a general threshold for mid-maturing crops (based on a sample of at least 40 plants).
- Producers should also take into account other crop stress factors and the level of feeding and defoliation that is occurring when determining when to start control measures

Management:

- The use of registered insecticides is a common management practice
 - care should be taken to rotate between different chemical families, to avoid to build up of resistance (resistant populations have developed to many common chemicals)
 - Use spot treatments to control adults in the early season if possible and systemic larval control products as required (if thresholds are reached)
 - Regular rotations to non-host crops can be an effective tool in keeping populations low and in keeping new populations at the edges of fields
 - Biological controls can be used, however native predators are generally ineffective
 - Control *Solanaceous* weeds in non-host crops, to make crop rotations more effective
- In smaller plantings, children can be unleashed with rocks and a jar to collect adults and crush egg clusters and larvae – how effective this is at actually reducing beetle populations is difficult to estimate

Photos by Brent Elliott - MAFRI



Blossom End Rot

Crops Affected: tomatoes, peppers, eggplant

Disease Cycle / Conditions Favouring Disease Development:

- Not caused by a pathogen
- Physiological disorder caused by a localized deficiency of calcium in the fruit
- Typically linked to growing conditions that result in uneven and/or interrupted uptake of calcium
 - Drought, hot/dry conditions and/or fluctuations in water supply
 - Other factors can also influence incidence of BER
 - Rapid plant growth
 - High soil nitrogen and magnesium levels
 - Saline soils
 - Root damage
 - High relative humidity
- Not necessarily related to soil-available levels of calcium, merely the ability of the plant to take up sufficient calcium to meet developing fruit needs

Symptoms:

- Often starts on younger fruit (1/3 developed), but symptoms may develop on any stage of fruit development
- Light brown patches appear at the blossom end of the fruit, or occasionally on the sides
 - Over time, patches darken and become sunken as tissues die
 - Sunken areas can affect as much as half of the fruit
- Tissues may be infected by secondary pathogens, resulting in fruit rots

Management:

- Ensure that plants maintain a healthy, even growth and steady uptake of water
 - Irrigation will allow water availability to be more consistent
- Avoid root damage and encourage strong and deep root growth
 - Ensure that root development and health is maintained to ensure that the plant is able to take up calcium as needed
- Practices that promote moisture conservation in the soil (e.g. mulches) can be beneficial towards reducing BER
- If calcium levels are insufficient or in question, the application of calcium-rich fertilizers or amendments, or the application of foliar calcium prior to symptom development can be effective
 - On the Canadian prairies, the majority of soils were derived from calcium-rich parent materials, therefore deficiencies in soil calcium are unusual



Photo by
hort.uwex.edu/articles/blossom-end-rot/

[Pest Management
Regulatory Agency
\(PMRA\) –
Electronic Label Search
Engine](#)

Search the database for
electronic labels

Understanding and Predicting the Weather

In general terms, by definition, weather is the “symptom” of atmospheric change, as demonstrated by a range of different related factors or indicators. Some of these indicators include:

- Air Pressure
- Wind (speed or direction)
- Humidity
- Clouds

General Alberta Weather Rule of Thumb

If you don't like the weather, wait 5 minutes

The study of meteorology (*the science of the processes relating to the atmosphere*) and the use of it to predict or forecast the weather is very complex, and represents a blend of experience, computer models and a great deal of historic and real-time data collection. Meteorologists present forecasts for the public to use, which show how weather systems are developing and what types of weather might be expected over the short, medium and long term. People can look at weather maps, specific weather station data (which shows a range of weather factors), or follow weather reports and forecasts.

As evidenced by the variability of daily, weekly, monthly and longer term forecasts, it is difficult for anyone to just “predict the weather”. However, by watching for trends in atmospheric changes and having a basic understanding of the different component weather indicators, it is possible for people to recognize potential weather events, predict weather changes (in the short term) and, in theory, prepare for those that might negatively affect their lifestyle.

The following content will discuss some of the basic weather indicators and some of the general weather that might be expected before, during or following particular weather signs. A number of general and/or traditional weather signs will also be discussed, with reference to the weather they “predict”.

Note: Producers should rely on professional weather forecasts for specific decisions and weather information. These weather signs represent general guidelines that may apply in some situations, but do not represent hard and fast rules for predicting weather events.

Atmospheric or Air Pressure

Air pressure affects weather as it changes in an area. Air pressure changes are caused by heating or cooling of the air in the atmosphere due to the effect of the sun's radiation on the earth's surface. Heating or cooling air rises or sinks, changing the pressure. Differences in air pressure between areas create pressure systems.

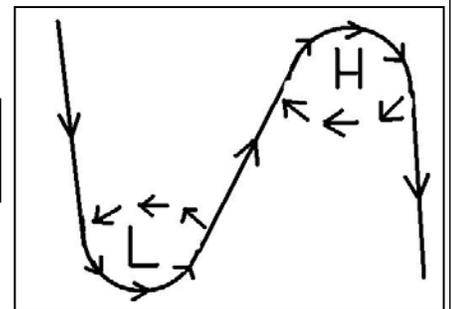
The Jet Streams are a narrow band of strong, high level (upper atmosphere) winds which move from west to east (in the Northern Hemisphere). These winds wave or bend in variable amounts, resulting in areas or systems of high and low pressure. These systems move west to east, which result in differences in the weather.

Low Pressure Systems are areas where atmospheric pressure is lower than that of the areas around it. Winds rotate in a counter clockwise rotation around a low pressure system. Low pressure systems (also known as Lows) are associated with unsettled weather.

In general, you will observe the following conditions in a LP system:

- High winds
- Warm air (relative to other areas)
- Cloudy conditions
- Precipitation
- Less diurnal (day/night) variations in temperature
 - a. This is because the clouds block solar radiation during the day (results in less heating) and trap heat like a blanket at night (results in less cooling)

Low & high pressure systems and rotational direction of winds



“The trouble with weather forecasting is that it's right too often for us to ignore it and wrong too often for us to rely on it.” – Patrick Young

High Pressure Systems are areas where atmospheric pressure is higher than that of the areas around it. Winds rotate in a clockwise direction around a high pressure system. High pressure systems (a.k.a. Highs) are associated with clear skies and calm weather. High pressure systems generally have higher temperature extremes and greater diurnal variation, resulting in higher highs and lower lows.

As air pressure systems move, you will see the weather change. The greater the rate of change, the faster the system is moving. Many times, where the high pressure system originates affects what the approaching weather will be. If a HP system moves in from the south, you can expect warm and clear weather in summer. If a HP system moves in from the north, you can expect cold weather in winter.

Other signs that come with high pressure systems include:

- Winds blow away from HP systems
- Weather is usually drier in HP systems

Red sky at sunset / evening

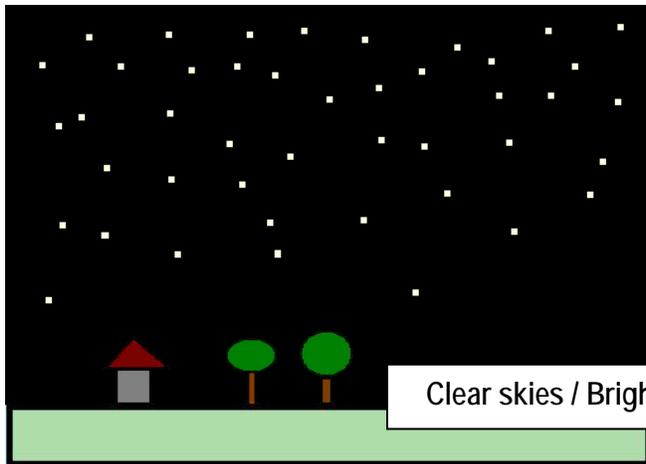


Weather Signs:

Since weather systems move, there is a continual replacement of weather systems. This allows you to predict how weather will develop based on what you observe in the present. Similarly, throughout history, there have been many rhymes, poems and tips and tricks handed down to help the population predict the weather. Here are some examples grouped by type.

Changes in Air pressure

- The speed of changes in air pressure can indicate the duration of a particular weather system. For examples, if air pressure increases rapidly you can expect calm and clear conditions to pass over quickly.
- If a barometer rises (increases in air pressure), expect fair weather, decreased cloudiness, calmer winds and clear skies, all associated with a high pressure system.
- Clear skies will result in no clouds and cool/cold conditions. The following adages would apply in this case:
"Cold is the night when the stars shine bright" or *"When stars shine clear and bright, we will have a very cold night"*



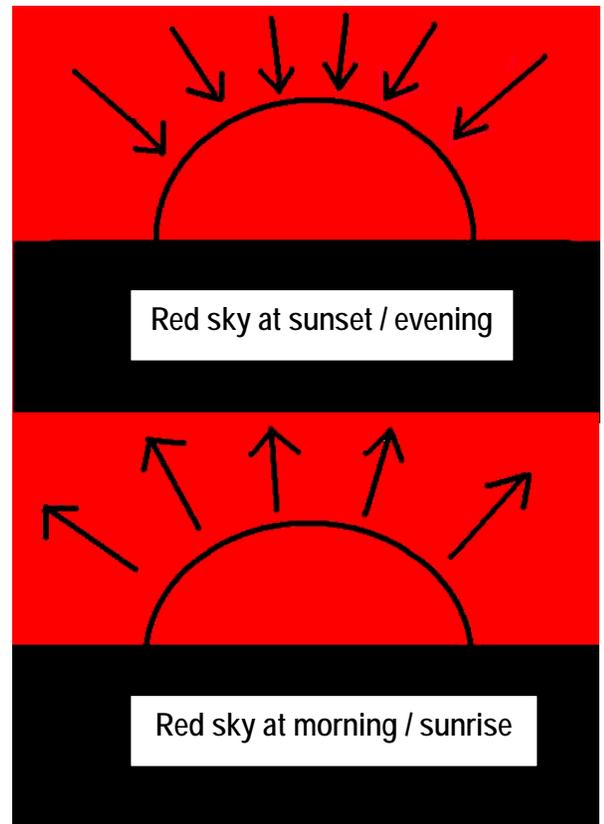
Clear skies / Bright stars

- There are a couple rhymes that predict the arrival of a high or low pressure system.
 - A red sky during sunset suggests a high pressure system is approaching, bringing clear, dry air. A red sky at sunrise suggests a low pressure system is coming, bringing moisture.

*"Evening red and morning gray, helps the traveler on his way.
 Evening gray and morning red, brings down rain upon his head"*

"Red sky at night, sailor's delight; Red sky at morning, sailors take warning"

- A red, hazy or pale moon signals high pressure



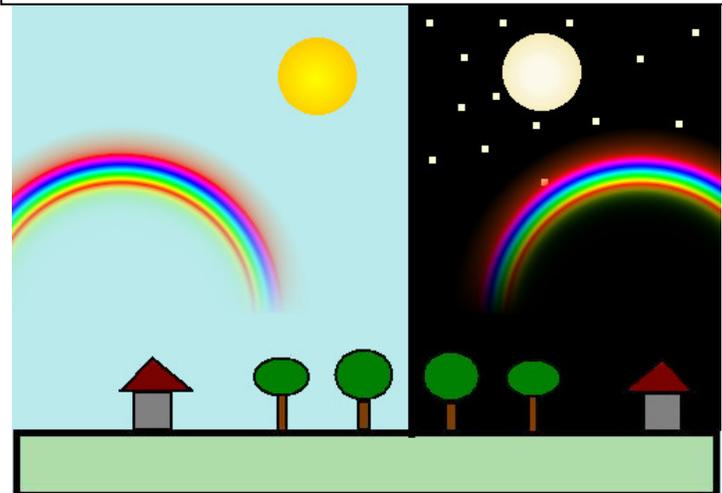
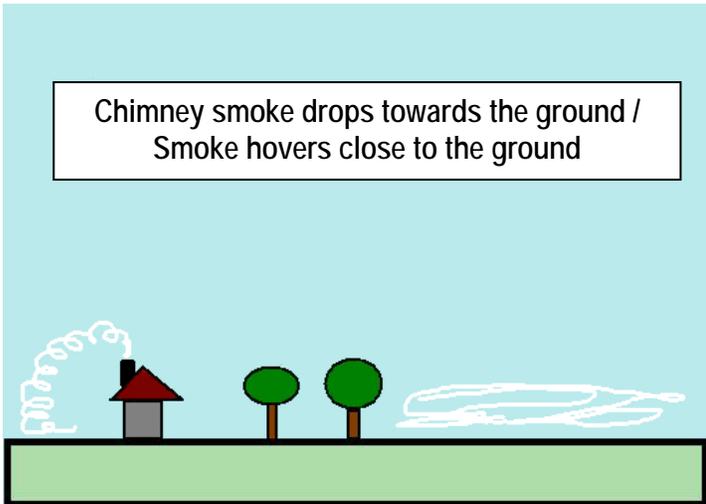
Red sky at sunset / evening

Red sky at morning / sunrise

"A rainbow afternoon, Good weather coming soon"

- Dropping air pressure will cause smoke to drop or stay close to the ground
"Chimney smoke descends, our nice weather ends"

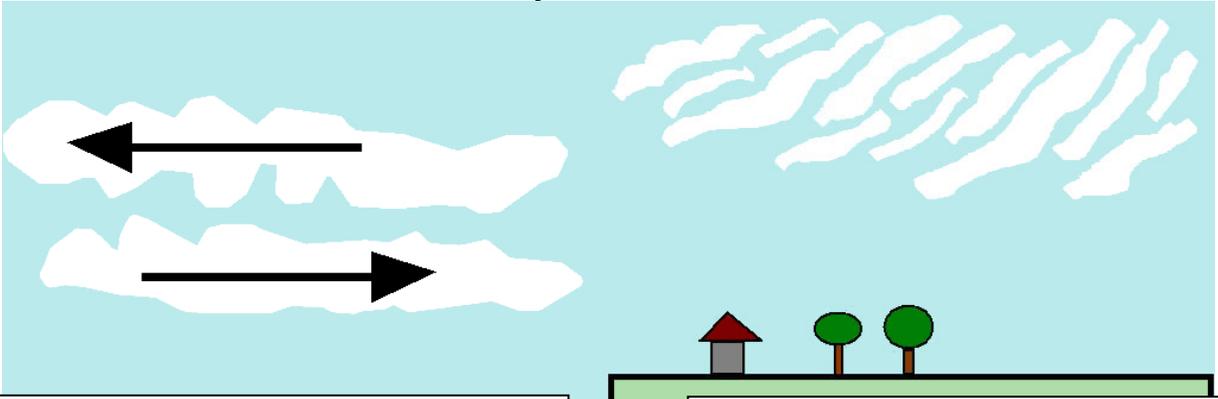
*"A rainbow in the morning, is the shepherd's warning
A rainbow at night is the shepherd's delight"*



Sky Watchers Guide to Cloud ID - Environment Canada

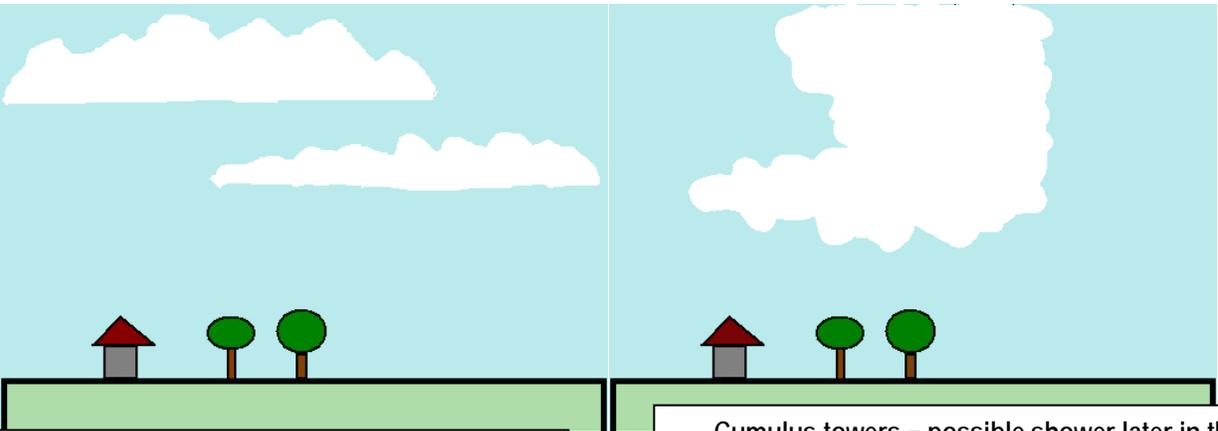
Cloud Formations

Different types of clouds are associated with different types of weather. The way that clouds are moving or changing can signal a shift in the weather and the arrival of different weather systems.



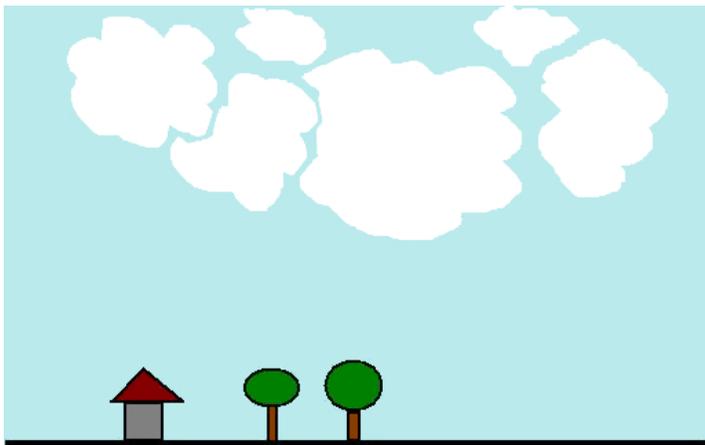
Multiple layers of clouds going in different directions suggests bad weather is on the way (probably hail)

Cirrocumulus (high, thin layers of clouds that look like waves on a beach) = continued good weather

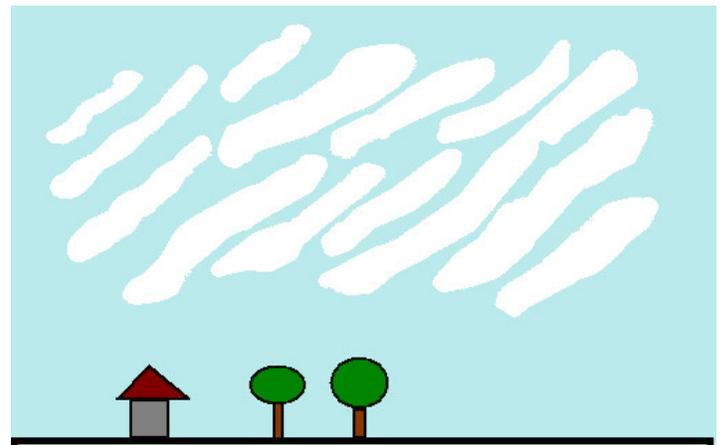


Cumulus clouds - Fluffy white clouds with rounded tops, small and float slowly = continued good weather

Cumulus towers = possible shower later in the day
Thunderhead - cloud that is shaped like a mushroom = big thunderstorm

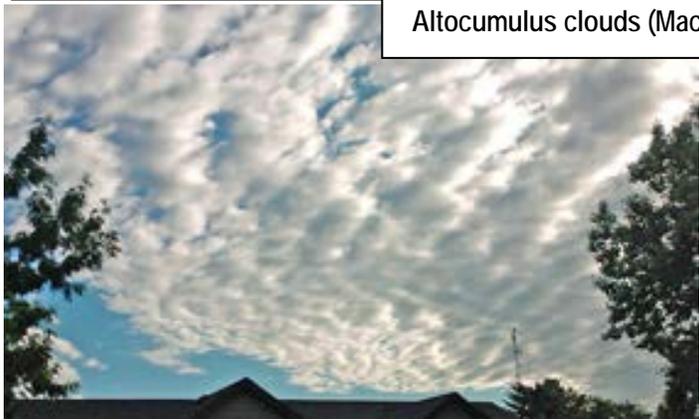


High layer of many tightly packed little clouds
= rain is likely in 8-12 hours



Cirrus clouds (Mare's tails - long streamers)

Alto cumulus clouds (Mackerel scales)



Alto cumulus clouds (mackerel scales - scaly appearance)
Cirrus clouds (Mare's tails - long streamers)

"Mare's tails and mackerel scales, tall ships carry short sails"
"Mackerel scales and mare's tails, sailors furl their sails"

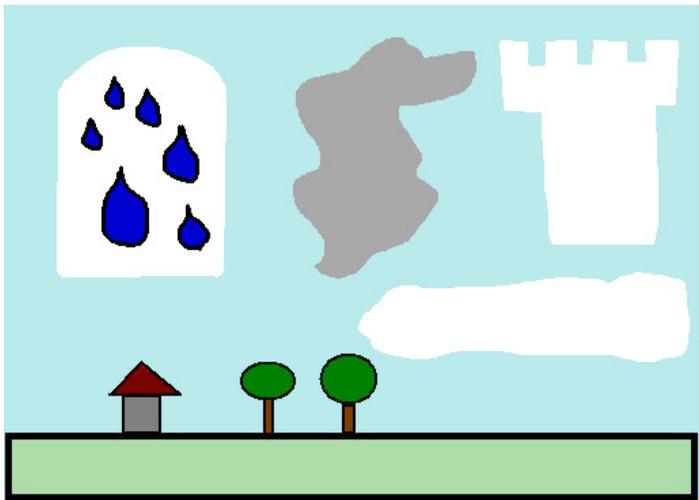
If covers the whole sky = 80% chance of rain in next 24 hours;
Bad weather in 36 hours

"Clouds with round tops and a flat base has rain upon its face"

"When clouds look like black smoke as wise man will put on his cloak"

"When smoke hovers close to the ground, there will be a weather change"

"When clouds appear like rocks and towns, The Earth's refreshed by frequent showers"



- Early and developing cumulonimbus clouds = increased chance of severe weather
- Cloud cover on a winter night = warmer weather
- Fog in the fields = will be sunny
- Slow / gradual wind direction change = weather will be fair

Other Signs

There are many adages or weather signs that may be used to indicate weather changes or predict how long current weather will last. Most relate to the arrival or duration of precipitation.

Some weather adages that relate to the sound of things (indicating for the most part changes in humidity or a decrease in pressure) include:

- *"When the chairs squeak, it's of rain they speak"*
- *"Catchy drawer and sticky door, coming rain will pour and pour"*

- *"The squeak of snow will the temperature show"*

Other adages relate to watching conditions during precipitation. Signs include:

- *"Rain before seven, fine before eleven"*
- *"When leaves show their undersides, be very sure that rain betides"*
- *"When night goes to bed with a fever, it will awake with a wet head"*
- *"When the sun shines while raining, it will rain the same time tomorrow"*

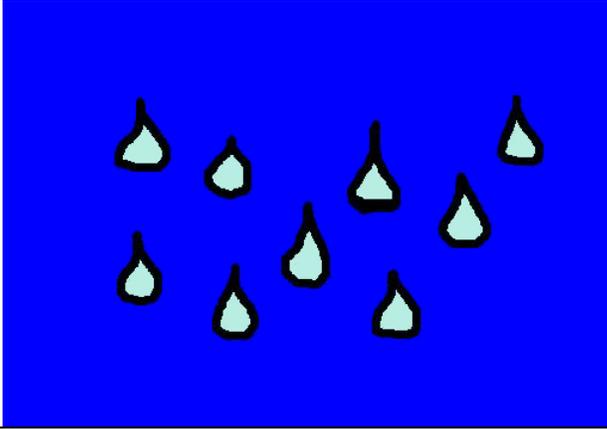
"Sea gull, sea gull, sit on the sand, it's never good weather while you're on the land"

"When sea-gulls fly to land, a storm is at hand"

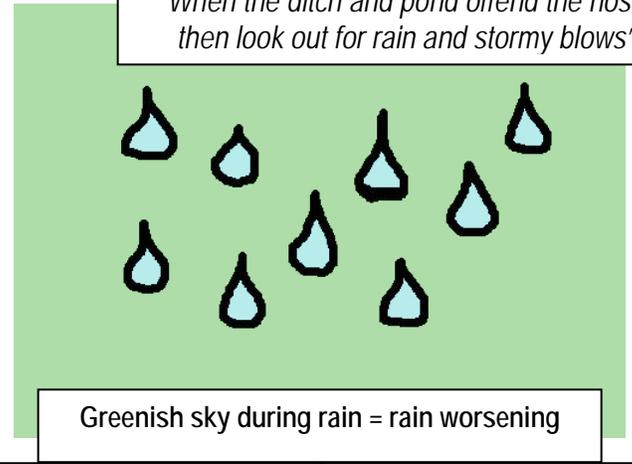
"Summer fog for fair, a winter fog for rain. A fact most everywhere, in valley or on plain"

"If bees stay at home, rain will soon come, if they fly away, fine will be the day"

"When the ditch and pond offend the nose, then look out for rain and stormy blows"



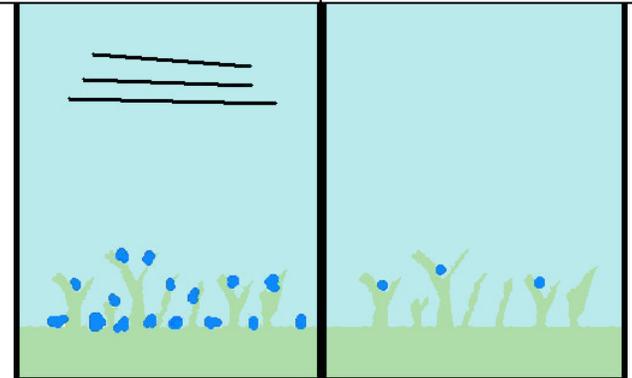
Deep blue sky during rain = showers will continue



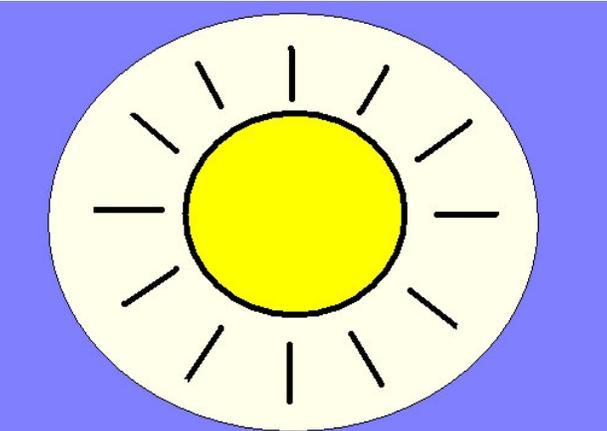
Greenish sky during rain = rain worsening

Heavy dew = day will be nice

Light dew and no wind = expect rain

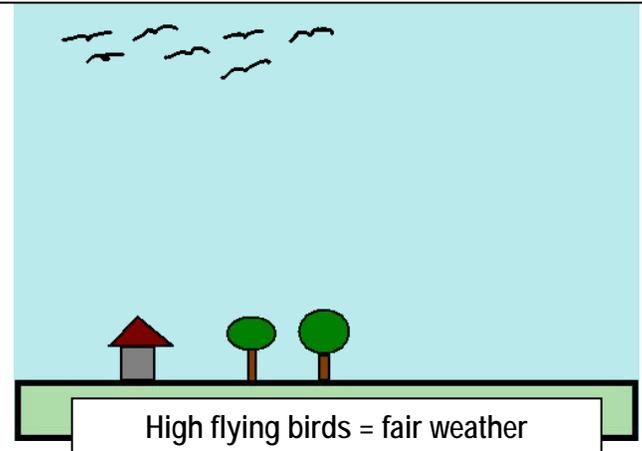
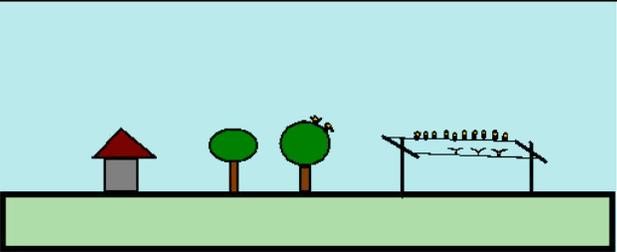


"When the dew is on the grass, Rain will never come to pass. When grass is dry at morning light, Look for rain before the night"



Circle around the moon = rain or snow soon;
Halo around the sun = rain in 10-12 hours
Caused by cirrostratus clouds = warm fronts and moisture

Low flying or roosting birds - decreased air pressure = hurts their ears
Animals cluster together if bad weather approaching



High flying birds = fair weather

