

Wildflower Pollinator Meadows

by Geoff Brunsden
Wildflower World

‘Helping you Help the Land’

Background

The United States Department of Agriculture in its passing of the 2008 Farm Bill included with its policies on sustainable farming the necessity to preserve and maintain pollinator plants within the environment.

This was in recognition of a dramatic decline of pollinator animals, both locally and global. Animal pollinators are essential for the reproduction of approximately 90% of flowering plants and 33% of human food crops and they include bees, butterflies, moths, beetles, flies and birds.

The food crops we eat alone require abundant and healthy populations of pollinators to ensure fruit set, quality and size. In farming and orcharding the goal is to achieve the maximum production per hectare and unquestionably pollinators are a key component in achieving this.

Pollination is the act of transferring pollen grains from the anther (male part) of a flower to the pistil (female part) of either the same flower or another one. Plants, like every living organism, live to create offspring. They do this by producing flowers to attract animal pollinators to obtain food from them in the form of energy rich nectar and /or protein rich pollen.

One major pollinator, the honey bee is suffering from a critical decline known as colony collapse disorder. In the USA alone honey bee colony losses nationwide were approximately 29% Sept.2008 to April 2009 (Science Daily May 2009). This problem is also recognised in New Zealand but it is difficult to find statistics as to what the percentage decline is here. What is known is that many food plants in this country such as Kiwifruit, tomatoes pip and stone fruit require pollination assistance from honey bees. The resultant export revenue from this service can be measured in the billions of dollars.

There are many theories put forward as to why the pollinators are in decline. One is that many experts believe it is as a result of poor nutrition. There is simply not the variety or the number of flowers out there in the environment to feed the pollinators a varied diet.

In the quest to neaten our environment humankind has planted crops without weedy, flower-filled borders or hedgerows. Lawns are devoid of clovers or dandelions, parks kept neat, weed free and trimmed. Clean and tidy to us – deserts to pollinators.

“Humankind needs to act quickly to ensure the ancient pact between flowers and pollinators stays intact, to safeguard our food supply and protect our environment for generations to come”
(Scientific American, April 2009)

Here is where Wildflowers come in as perhaps a number one rescue remedy for the pollinators.

What are Wildflowers ?

- # Flowering annuals and perennials unchanged from their original wild habitat.
- # True plant survivors being able to grow and flourish in extreme climatic conditions and poor inhospitable soils.
- # Plants that be able to be established with ease and when growing be virtually pest and disease free.
- # Plants that flower for long periods of time and set seeds down for generations to come

Wildflowers are perhaps the most cost effective yet easy form of landscaping in the gardening industry. They achieve all this in an attractive effect.

History of Wildflowers Attracting Pollinators

There is nothing new about certain wildflowers species having the ability to produce large quantities of pollen and nectar and so attract lots of beneficial insects. There is a lot of research history, both globally and here on this subject. However most of the research has concentrated on individual species such as alyssum, purple tansy and buckwheat to name a few.

Wildflower World has been producing an organic orchard seed mix for some years and that incorporated a number of the above species together with other wildflowers. Degrees of success with this mix have been simply measured by growers observing seemingly higher populations of insects and some reductions in chemical spraying.

What is new though is the concept of having a pollinator preservation mix of wildflowers to feed all types of animal pollinators to bring back their wellbeing and population counts, so to economically put food on our tables. This time we have put a lot more thought into how the species and mix composite will best satisfy the feeding needs of the pollinators. Factors such as volumes of pollen and nectar a species produces, length of flowering from the mixes, etc. We have prepared a species mix ready for sowing now . Bio-security wise there is no new species that is not already here. All are allowable tried and true perennials and annuals.

The Wildflower Pollinator Mix

Wildflower World's Pollinator mix comprises of 16 species. It has been designed to be in active flower for at least 3 months with the possibility under some conditions to be up to 5 months.

The mix contains 14 wildflower species plus one clover and one lotus. The lotus and clover are added to provide a ground cover or winter refuge for beneficial insects such as beetles, slaters, centipedes and spiders once the bed has finished active flowering.

Species in the Mix.

Ammi majus-Queen Anne's Lace, Achillea millefolium-yarrow, Calendula – English marigold, Centaurea-Blue cornflower, Cheiranthus-Siberian wallflower, Coreopsis-Plains coreopsis, Echinacea – purple coneflower, Eschscholzia – Californian poppy, Linaria-Toadflax, Lobularia-Sweet alyssum, Lotus barsilvia, Papaver rhoeas – red soldier poppy, Phacelia-Purple tansy, Silene-Catchfly, Tagetes-French marigold, Trifolium- Crimson clover

Standard Size Packs Available:

- 15 grams: Covers around 15 square metres- \$12.50
 - 50 grams: Covers around 50 square metres \$35.00
 - 100 grams: Covers around 100 square metres \$60.00
 - 250 grams: Covers around 250 square metres \$130.00
 - 500 grams: Covers around 500 square metres \$200.00
- Larger sizes available on request

Establishing an Area In Our Pollinator Mix

Please also refer to our annual Wildflower World catalogue for more cultural notes on growing wildflowers.

- 1) We suggest the pollinator animals, at least the flying kind, will work effectively within a radius of 10 x the total size of the flowering bed. eg. a 100m² (10x10m) bed should have satisfactory effectiveness up to 100m away in any line of sight direction.
- 2) In rectangular food production blocks such as vineyards or Kiwifruit orchards, pollinator strips can be established on sidelands or headlands or as internal strips down rows (not under canopy structures like kiwifruit pergolas).

An example layout for a one hectare production block, say 200m long by 50m wide would be to sow a 2 x 200m strip down the central row ideally orientated as close to a north/south alignment as possible. Wildflowers will thrive where they get at least 4 to 5 hours of full sun a day, the more the better.

- 3) For free standing canopy crops, such as avocados, establish circular beds out in full light pool areas at strategic intervals

Sowing Time

Optimum germination temperature for most seed is 15 degrees Celsius consistently at soil surface level. Seed can be sown in most regions from September to December then again March to end of April. Autumn sown beds will start flowering early spring. Spring sown beds will start flowering about 10 to 12 weeks after sowing.

Site preparation

Weeds and grasses must be completely removed, soil lightly cultivated for seed to be sown onto bare earth. A recommended site preparation regime is as follows;

- # Spray off all weeds and grasses with a non hormonal herbicide. (glyphosate based products are suitable)
- Note there are a number of organically approved herbicides on the market if your operation is organic.
- # If dead grass is long or rank cut it down to ground level and remove.
- # Cultivate soil to a maximum depth of 100mm for all soil types.
- # Allow weeds to grow back again and once 10 to 20mm high respray whole area.
- # Once weeds are dead or obviously dying lightly surface cultivate the soil again.

Sowing seed.

To ensure the very fine wildflower seed is evenly distributed and covers the required area it is essential to use a "carrier agent." Suitable carrier agents are coarse river sand, coarse pumice or potting mix and must be dry. In some cases a very low nutrient- rated general purpose granular fertilizer is suitable eg N6,P6, K6. Do not apply high rates of nitrogenous fertilizers as this will encourage excessive weed growth. Mix carrier agents on a ratio basis of one part seed mix to twenty parts carrier by volume. A breakfast cup is a good measure to work with.

When sowing larger areas it is recommended that a hand held cyclone seed spreader is used to ensure uniform distribution. If there is a breeze blowing sow in its direction. Avoid very windy days. Lightly rake or roll seed into the soil after sowing.

Aftercare

Ensure the soil remains moist after sowing and until germination is well under way.

Remember most wildflowers are broadleaves and can look like weeds to begin with. However very obvious weeds can be removed by hand early on.

Once flowering is finished and the bed looks scruffy mow it down to a stubble about 50mm high. This will provide an overwintering refuge for many beneficial insects and pollinators.

From the mown stubble a second generation of wildflowers will begin to grow. Some species that return may dominate therefore we recommend an oversow of around 50% of the original seed application rate is completed.

You Are Helping The Land.

Your establishment of a pollinator mix will benefit the health and wellbeing of our beneficial pollinators. This we can categorically say beyond intuition. Even that aside if you are in the business of growing food crops to make money this is surely natures way of how you can do it better. Better pollination means better and bigger crops and the more the beneficial insects your have around the lesser the pests. Its that simple. And with natures own wildflowers what could be a more attractive way to do this ?

We are here to help!

If you have any questions please contact us.

Wildflower World
Private Bag 12050
Tauranga
Ph: 07 9284517 Fax. 07 9284518

www.wildflowerworld.com

© Wildflower World 2009