NOMENCLATURE OF CRANBERRY DEVELOPMENT

The cranberry industry has long needed a uniform nomenclature to describe the stages of crop development. Each region of the country and even each marsh has used different language to describe crop development. Having uniform names will assist with discussions between marshes and between advisors and researchers. Pictures of cranberry bud development were publishes in the February 1997 issue of Cranberries Magazine. That issue is out of print. We ordered a number of reprints of the "centerfold" to share with growers. We have included a copy of the reprint with this newsletter issue. You should consider taking this reprint to an office supply store and having it laminated so it will stand up to usage over time. We hope this is a valuable resource to you.

Some funds came available to me to have these same stages of bud development produced as a black and white line drawing. I have included a copy of this illustration in this newsletter issue as well. Since this document can be readily photocopied we thought it would have additional value. This illustration is not copyrighted so you can copy it as you need.

Science is an integral part of culture. It's not this foreign thing, done by an arcane priesthood. It's one of the glories of the human intellectual tradition.

Stephen Jay Gould

GYPSY MOTH UPDATE

In 1995 trapping results in Wisconsin showed 104,918 moths and 87,749 moths in 1996. Take a look at each county and see the decline in eastern counties, but note the increase in cranberry growing areas. Keep a watchful eye for this pest, for even though it is easily controlled with *Bacillus thuringiensis* var. *Kurstaki* (Bt.k.) it can do a great deal of damage to our vines if left unattended.

Like many of our cranberry pests, the gypsy moth has four stages: egg, larva, pupa and adult. Only the larvae damage our crop and trees. The hatch seems to coincide with budding of most hardwood trees. Larvae emerge from the egg masses from early spring through mid-May. Because the eggs are laid in masses usually on the trunks of trees they would fee upon the leaves first, but if this food supply would cease to exist they would seek out another. Our plants are beginning to grow at this same time, thus they would be prey. The damage is similar to spanworm injury.

The larvae reach maturity between mid-June and early July. The older Gypsy Moth Larvae is very defined with five pairs of raised blue spots and six pairs of raised brick-red spots on its back. The adult female is much larger and lighter in color, brown with yellowish overlay and the male is yellowish to reddish brown. Reniform (kidney shaped) spots consist of 3 black spots, black orbicular dots are also present. Wings are whitish in color with deeply scalloped gray lines and black spots. Should you come across anything that fits this description please put it in a jar and give it to someone for accurate identification.

Jayne Sojka, Lady Bug IPM

CALIBRATING GRANULAR BOOM APPLICATORS

In the last issue we presented an overview of the variables involved in calibrating granular boom applicators. This article will present some actual data and go through the process of calibrating a boom applicator.

The grower desired to apply 50 pounds of material per acre. The boom was 84 feet long and had 32 nozzles. Fabric bags were tied on all the nozzles and the boom applicator was operated for one minute. The bags were retrieved and the contents weighed. The nozzle outputs are shown in Table 1.

The formula for calibration is:

$$\text{Output} = \frac{\text{Spread width x (rate/A)}}{5\ (\textit{constant})}$$

For this example the numbers are:

$$840\text{ oz} = \frac{84\text{ ft. x }50\text{ lbs/A}}{5}$$

840 oz ÷ 32 nozzles = 26.3 oz per nozzle.

Each nozzle should be releasing 26.3 oz of product. Since it would be impossible to obtain this accuracy we normally allow ±5%. So the maximum output would be 28.1 oz and the minimum would be 25.4 oz. If we look at Table 1 there are 4 nozzles outside of this range (see asterisks). Corrective action such as checking the rollers and checking for obstructions in the lines should be taken to make the output fall within the acceptable range.

Total output of the boom's 32 nozzles was 856 oz. This is within 5% of the calculated value of 840 oz. Overall the boom is applying the proper amount of material, but corrections need to be made to prevent "striping" in the bed.

When this information is combined with information in the article in the last newsletter you should be able to calibrate your boom applicator accurately. Accurate calibration is vital to applying proper amounts of fertilizer and pesticides uniformly across bed surfaces. If you have not calibrated your boom applicator this year please do so before your next application. The time it takes to calibrate will be quickly repaid in both the safety and efficacy of the material you are applying.

Teryl Roper, UW-Madison Extension Horticulturist
I thank Tim Dittl and Leroy Kummer of Ocean Spray Cranberries, Inc. for the data used in this article.

Table 1. Nozzle output from 32 nozzles on a granular applicator, 1997.

Nozzle	Weight of output (oz)
1	26.9
2	25.5
3	26.5
4	27.4
5	28.5 **
6	26.6
7	26.1
8	27.6
9	25.8
10	25.7
11	28.0
12	27.3
13	27.2
14	27.3
15	27.6
16	24.2 **
17	26.9
18	25.5
19	26.5
20	27.4
21	28.5 **
22	26.6
23	27.6
24	25.8
25	25.7
26	28.0
27	27.3
28	27.2
29	27.3
30	27.6
31	24.2 **
32	26.9
Total	**856 oz.**

CRANBERRY MINI-CLINICS PLANNED

Fruit mini-clinics for cranberry growers will be held June 10-11. On Thursday June 10 we will meet at Terry Jonjak's Minong Marsh. The clinic will begin at 10:00 am. On June 11 we will begin at 2:00 pm at the Mike Bennett cranberry marsh in Cranmoor.

Terry Jonjak's marsh is east of Minong. Take Highway 77 east of Minong to CTY G. Go north on CTY G 3 miles to Colton Road. Go about 1/2 mile on Colton Road to the marsh, which is on the north (left) side. The Bennett marsh is 9 miles west of Port Edwards on Hwy 54. (North of Gaynor marsh).

Mini-clinics are informal gatherings where Dan Mahr, Patty McManus and Teryl Roper give short presentations about current topics and the balance of the time is spent with questions, answers and discussion. Please attend the session in your area.

NEW GROWER SEMINARS PLANNED

Seminars for growers new to the cranberry industry are planned for Wednesday afternoons in June and July. Not all of the arrangements are completed yet, so further announcements will be made available to growers as the details are confirmed. The meetings will be held on different marshes in various production areas. You can attend just the sessions that are of interest to you. No registration will be required. Each meeting will begin at 3:30 and will last one to one and one-half hour. The dates and topics are listed below. If you are new to the cranberry industry please plan to attend the seminars.

Date	Topic
6/18	Erosion control
6/25	Diseases
7/2	Insect management
7/9	Chemigation
7/16	Mineral nutrition

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