# Alaska Forage Manual



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Department of Natural Resources Division of Agriculture

Plant Materials Center 5310 S. Bodenburg Spur Rd. Palmer, AK 99645





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Front Cover: Hay field near Palmer, Alaska

## <u>Alaska Forage Manual</u>

Ву

## Casey L. Dinkel & Philip K. Czapla

Layout and Design: Brennan Veith Low



Above: Casey Dinkel at the Arctic Circle monument on the Dalton Highway

## Foreword

## Alaska Garden & Pet Supply Inc.

## њ, Alaska Mill & Feed Co.

114 North Orca P.O. Box 101246 Anchorage, Alaska 99510 Phone (907) 279-4519 FAX (907) 276-7416

May 1, 2012

Dear Alaskans,

When I turned the page on my Potash Corporation calendar today, there was a quote by President Eisenhower printed next to the date. The quote read: "Farming looks mighty easy when your plow is a pencil and you're a thousand miles from the corn field." Anyone who has been involved in Alaska agriculture for the last thirty years can easily relate to President Eisenhower's comment!

Farming isn't easy. Farming in Alaska can be very difficult. Alaskan farmers face challenges that are unique to Alaska. The list is long and varied: unpredictable weather, cold soils, nutritional deficiencies, acidic soils, short seasons, limited infra-structure, limited expertise, long supply lines, higher costs, and smaller markets. Those are the challenges that come to mind and I know there are more. We can't do anything about the weather, the short season, and the cold soils, but many of the other issues can and will be resolved.

I'm a big fan of the Plant Materials Center. The PMC is a good example of a government entity that actually does what it was intended to do and does it well. The PMC really does promote the agricultural industry in Alaska through the work and research of the staff. Their publications are top notch. The Staff at the Plant Materials Center in Palmer is providing practical, useful expertise and services in areas that will benefit local farmers. They are not a thousand miles from the farmer's field; they are in the field and they are talking to farmers. The new Forage Publication produced by the Plant Materials Center is another excellent publication providing the information that will help farmers make the best possible management decisions relating to their specific area, climate, and soil. Everyone who is involved with raising forage crops and hay will benefit from using this current publication as a reference.

Take advantage of the resources offered by the Plant Materials Center and let them know that you appreciate all the fine work that they have done.

Sincerely,

Ken Sherwood

CEO

The <u>Alaska Forage Manual</u> was released by the Alaska Plant Materials Center, a part of the Department of Natural Resources, Division of Agriculture. This publication is intended for use by forage producers, users and the general public. It was produced at a cost of \$15.45 per copy, and printed in Anchorage, Alaska. This publication is also available online, at <u>plants.alaska.gov</u>.

| Temperature |     | Temperature |     | Volume |        | Length |      | Length |      |
|-------------|-----|-------------|-----|--------|--------|--------|------|--------|------|
| C           | F   | С           | F   | Liters | Quarts | cm     | inch | cm     | feet |
| 100         | 212 | 5           | 41  | 1      | 1.1    | 2.5    | 1    | 300    | 10   |
| 90          | 194 | 0           | 32  | 2      | 2.1    | 5      | 2    | 400    | 13   |
| 80          | 176 | -5          | 23  | 3      | 3.2    | 10     | 4    | 500    | 16   |
| 70          | 158 | -10         | 14  | 4      | 4.2    | 20     | 8    | 1,000  | 33   |
| 60          | 140 | -15         | 5   | 5      | 5.3    | 30     | 12   |        |      |
| 50          | 122 | -20         | -4  | 6      | 6.3    | 40     | 16   |        |      |
| 40          | 104 | -25         | -13 | 7      | 7.4    | 50     | 20   |        |      |
| 35          | 95  | -30         | -22 | 8      | 8.5    | 60     | 24   |        |      |
| 30          | 86  | -40         | -40 | 9      | 9.5    | 70     | 28   |        |      |
| 25          | 77  |             |     |        |        | 80     | 32   |        |      |
| 20          | 68  |             |     |        |        | 90     | 36   |        |      |
| 15          | 59  |             |     |        |        | 100    | 39   |        |      |
| 10          | 50  |             |     |        |        | 200    | 79   |        |      |

#### Metric Conversions

hectares.....acres

| <b>-</b>                                      | 10. 1 1            |                                                                                                    |  |
|-----------------------------------------------|--------------------|----------------------------------------------------------------------------------------------------|--|
| To convert this to this                       | multiply by        |                                                                                                    |  |
| Length                                        |                    |                                                                                                    |  |
| inches millimeters (mm)                       | 25.4               |                                                                                                    |  |
| feetcentimeters (cm)                          | 39                 |                                                                                                    |  |
| yards meters (m)                              | .91                |                                                                                                    |  |
| miles kilometers (km)                         | 1.61               |                                                                                                    |  |
| millimeters inches                            | .04                |                                                                                                    |  |
| centimetersinches                             | .4                 |                                                                                                    |  |
| metersinches                                  | 39.37              |                                                                                                    |  |
| meters                                        | 1.1                |                                                                                                    |  |
| kilometers, miles                             | .6                 |                                                                                                    |  |
| Temperature                                   |                    |                                                                                                    |  |
| Fahrenheit Celsius                            | .56 (afte          | er subtracting 31)                                                                                 |  |
| Celsius Fahrenheit                            | 1.82 (then add 32) |                                                                                                    |  |
| Farm products                                 | ,                  | ,                                                                                                  |  |
| pounds per acre kilograms per hectare         | 1.14               |                                                                                                    |  |
| short tons per acre kilograms per hectare     | 2.25               |                                                                                                    |  |
| kilograms per hectare metric tons per hectare | .001               |                                                                                                    |  |
| kilograms per hectare pounds per acre         | .88                |                                                                                                    |  |
| tons per hectareshort tons per acre           | .44                |                                                                                                    |  |
| tons per hectare kilograms per hectare        | 1,000              |                                                                                                    |  |
|                                               | ,                  |                                                                                                    |  |
| Area                                          | 0.5                |                                                                                                    |  |
| square inches square centimeters              | 6.5                |                                                                                                    |  |
| square feet square meters                     | .09                | Back cover photos:                                                                                 |  |
| square miles square kilometers                | 2.6                | Upper left: A swather mows grass near Palmer;<br>Upper right: A tedderer lays down hay for drying; |  |
| acreshectares                                 | .4                 | Center: Horses feed on pastureland in Palmer;                                                      |  |
| square centimeters square inches              | .16                | Bottom left: A mower-conditioner working a hay crop;                                               |  |
| square meters square yards                    | 1.2                | Bottom right: Pasture field near Palmer;                                                           |  |
| square kilometers square miles                | .4                 |                                                                                                    |  |
|                                               |                    | Photos, Casay Dinkal AK DMC                                                                        |  |

2.5

Photos: Casey Dinkel, AK PMC









